REQUEST FOR BID

NATIONAL DEPARTMENT OF HEALTH

BID DETAILS: BOOK 2 OF 2: CONTRACT

BID NUMBER: NDoHF 07/2019-20

CLOSING Date: 22 OCTOBER 2019
Time: 11:00

REFURBISHMENTS AND UPGRADES AT PACALTSDORP
AND PARKDENE CLINICS IN WESTERN CAPE PROVINCE,
EDEN DISTRICT MUNICIPALITY

BRIEFING SESSION: YES ☑ NO

DETAILS OF BIDDER

Organisation/individual: -----------------------------------------------
Contact person: ------------------------------------------------------
Date: ---------------------------------------------------------------
Email address: -------------------------------------------------------
Telephone Number: ---------------------------------------------------
Cellular Number: -----------------------------------------------------
Fax Number: ----------------------------------------------------------

Procurement process administered by National Department of Health
# 2. THE CONTRACT

## PART C1: AGREEMENT AND CONTRACT DATA
- C1.1: CONTRACT PARTICIPATION GOAL (CPG) DECLARATION  
- C1.2: CONTRACT DATA  
- C1.3: FIXED CONSTRUCTION GUARANTEE  
- C1.4: VARIABLE CONSTRUCTION GUARANTEE  
- C1.5: AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

## PART C2: PRICING DATA
- C2.1: PRICING INSTRUCTIONS  
- C2.2: PRICED DOCUMENT COMPRISING BILLS OF QUANTITIES  
- C2.3: FINAL TENDER SUMMARY

## PART C3: SCOPE OF WORK
- C3.1: DESCRIPTION OF THE WORKS  
- C3.2: LIST OF DRAWINGS  
- C3.3: PRO FORMAS

## PART C4: SITE INFORMATION
- C4.1: SITE INFORMATION

## PART C5: HEALTH AND SAFETY SPECIFICATION

## PART C6: ANNEXURES
- ANNEXURE A: HEALTH & SAFETY SPECIFICATION  
- ANNEXURE B: HIV/AIDS REQUIREMENTS  
- ANNEXURE C: CONTRACT PARTICIPATION GOAL REQUIREMENTS  
- ANNEXURE D: ELECTRICAL TECHNICAL SPECIFICATIONS  
- ANNEXURE E: HVAC TECHNICAL SPECIFICATIONS

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2. THE CONTRACT
PART C1: AGREEMENT AND CONTRACT DATA
C1.1: CONTRACT PARTICIPATION GOAL (CPG) DECLARATION

Contract Participation Goals (CPG) Targets

The Contractor shall allow in his pricing for the implementation of the CPG targets in accordance with specification SO included in this document. The Contractor must also allow for the provision of monthly reports to specify their achievements with regards to the CPG targets.

The table below to be completed by Bidder

<table>
<thead>
<tr>
<th>Subset</th>
<th>Main Contract Participation Goal</th>
<th>Subsets of Main Contract Participation Goal</th>
<th>Minimum % (D)</th>
<th>Bidders proposed % (Do)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Targeted Enterprise BBBEE - Subcontractor</td>
<td>SMME / QSE Enterprise (Subcontractor)</td>
<td>25,0%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Targeted Enterprise BEE-Supplier &amp; Manufacturer</td>
<td>SMME / QSE Supplier and Manufacturer</td>
<td>2,0%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Targeted Local Labour</td>
<td>Unskilled, Semi-skilled and Skilled Labour</td>
<td>3,0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total CPG Target</td>
<td>Subsets 1,2 &amp; 3</td>
<td>30,0%</td>
<td></td>
</tr>
</tbody>
</table>

The penalty applied would be calculated and follows:

\[
\text{Penalty} = 0.5 \times \frac{(D - Do) \times N_A}{100}
\]

\( D \) = Minimum CPG Target
\( Do \) = Achieved CPG Target
\( N_A \) = Net amount being the Tender Sum excluding VAT and Preliminary and General Amounts

Declaration

I/We hereby offer to undertake and implement the proposed CPG targets in accordance with the requirements as set out in the BID. We confirm that this proposal will remain binding upon us for the duration of the contract.

Signature of Bidder: _______________________________________________________

Date: __________________________________________________________________

Are you duly authorised to commit the Bidder: YES / NO

Capacity under which this proposal is signed __________________________________

Failure on the part of the Bidder to complete and sign this form in accordance with the minimum requirements will invalidate the proposal.
C1.2: CONTRACT DATA:  
JBCC 2000 PRINCIPAL BUILDING AGREEMENT  
(Edition 4.1 of March 2005)  
CONTRACT DATA FOR:  
NDoHF 07/2019-20: WC 9.B.B2:  
REFURBISHMENTS AND UPGRADES AT PACALTSDORP AND PARKDENE CLINICS IN WESTERN CAPE PROVINCE, EDEN DISTRICT MUNICIPALITY


Copies may be obtained from the Association of South African Quantity Surveyors (011-3154140, 021 4626431), Master Builders Association (011-205-9000; 021 6852625,) South African Association of Consulting Engineers (011-4632022) or South African Institute of Architects (011-4860684; 021 424 7128)

CONTRACT VARIABLES

THE SCHEDULE

The schedule, as referred to in the contract agreement, is fully contained in this contract data section, contains all variables referred to in this document and is divided into pre-tender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of this agreement

Spaces requiring information must be filled in, shown as ‘not applicable’ or deleted but not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in [ ] brackets

42.0 PRE-TENDER INFORMATION

42.1 CONTRACTING AND OTHER PARTIES

42.1.1 Employer:

NATIONAL DEPARTMENT OF HEALTH

Postal address:
Private bag X828
Pretoria
001

Tel: 012 312 000

Physical address:
Civitas Building, Cnr Andries and Struben Streets, Pretoria
<table>
<thead>
<tr>
<th>42.1.2</th>
<th>Principal Agent:</th>
</tr>
</thead>
<tbody>
<tr>
<td>{1.1, 5.1}</td>
<td>MEDIPLAN</td>
</tr>
</tbody>
</table>
| **Postal address:** | **P.O. Box 2188**  
| | **Brooklyn Square**  
| | **0075**  
| Tel: 012 343 8064 | Fax: 012 343 8069 |

<table>
<thead>
<tr>
<th>{1.1}</th>
<th>Representative of the Employer:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VIRTUAL CONSULTING ENGINEERS</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **Physical Address** | **Suite 1, Groenkloof Forum Office Park**  
| | **57 George Storrar Drive**  
| | **Groenkloof**  
| | **0181**  
| **Postal Address** | **PO Box 1730**  
| | **Brooklyn Square**  
| | **8305**  
| Tel: 021 685 0789 | Fax: 086 655 2690 |

<table>
<thead>
<tr>
<th>{1.1, 5.2}</th>
<th>Agent (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEDIPLAN</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Agent’s service:</strong></td>
<td><strong>Architect</strong></td>
</tr>
</tbody>
</table>
| **Postal address:** | **P.O. Box 2188**  
| | **Brooklyn Square**  
| | **0075**  
| Tel: 012 343 8064 | Fax: 012 343 8069 |
| 42.1.4 [1.1, 5.2] | Agent (2)  
MNGOMA SEEDAT AND ASSOCIATES CC  
t/a AKHA IZWE QUANTITY SURVEYORS  
Agent’s service: Quantity Surveyor  
Postal address:  
P.O. Box 24152  
Lansdowne  
7779  
Tel: 021 697 0166  
Fax: 086 662 1300 |
| 42.1.5 [1.1, 5.2] | Agent (3)  
Agent’s service:  
Postal address:  
Tel:  
Fax: |
| 42.1.6 [1.1, 5.2] | Agent (4)  
Agent’s service:  
Postal address:  
Tel:  
Fax: |
| 42.1.7 [1.1, 5.2] | Agent (5)  
Agent’s service:  
Postal address:  
Tel:  
Fax: |
| 42.1.8 [1.1, 5.2] | Agent (6)  
Agent’s service:  
Postal address:  
Tel:  
Fax: |
| 42.1.9 [1.1, 5.2] | Agent (7)  
Agent’s service:  
Postal address:  
Tel:  
Fax: |

### CONTRACT DETAILS

| 42.2.1 [1.1] | Works description: Refer to Part C3: Scope of Work. |
| 42.2.2 [1.1] | Site description: Refer to Part C4: Site Information. |
| 42.2.4 [41.0] | Specific options that are applicable to a State organ only  
Where so |
1) Interest rate legislation: The interest rate applicable will be as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999)

2) Lateral support insurance to be effected by the contractor: Yes ☐ No ☑

3) Payment will be made for materials and goods: Yes ☐ No ☑

4) Dispute resolution by litigation: Yes ☐ No ☑

5) Extended defects liability period applicable to the following elements: **12 Months on electrical, electronic & mechanical installations**

Possession of the site is to be given within ten (10) working days of the contractor providing the employer with the documents as required in terms of 15.1

Period for the commencement of the works after the contractor takes possession of the site: Ten (10) working days.

For the works as a whole:

The date for practical completion shall be N/A from the commencement date and the penalty per calendar day shall be R N/A.

For the works in sections:

The date for practical completion from the commencement date and the penalty per calendar day:

**Section 1:** Pacaltsdorp Clinic
18 Working months from site handover date.
5 Cent per R100, 00 of the total Contract value

**Section 1:** Parkdene Clinic
15 Working months from site handover date.
5 Cent per R100, 00 of the total Contract value

**Working months** shall:
1. Exclude the period between letter of acceptance and site handover
2. Exclude any annual builders holiday periods if applicable.
3. Include completing the works in sections in order that decanting of patients, staff and equipment can take place.
4. Include standing time of 5 working days between completion of one section and commencement of another section. No extension of time or additional Preliminaries will be paid for these standing times. It is envisaged that the work will be completed in 4 sections. The contractor may be requested to assist with labour for the decanting processes.

The overall contract period is 18 working months.

The law applicable to this agreement shall be that of the: Republic of South Africa

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**INSURANCES**

Contract works insurance to be effected by the contractor

- To the minimum value of the contract sum plus 10%

For the minimum sum of R N/A (N/A )
42.3.2 [10.1#, 10.2 #, 12.1 #] Supplementary insurance is required: Yes
To the minimum value of the contract sum plus 10%

42.3.3 [11.1#, 12.1 #] Public liability insurance to be effected by the contractor
☐ For the sum of R 5 million
☐ For the sum of R N/A (N/A )

42.3.4 [11.2 #, 12.1 #] Support insurance to be effected by the contractor
For the sum of R N/A (N/A )
With a deductible of R N/A (N/A )

42.4 DOCUMENTS

42.4.2 [3.7] Three (3) copies of the construction documents will be supplied to the contractor free of charge

42.4.3 Priced Document drawn up in accordance with:
Standard System of Measuring Building Work (sixth edition as amended)

42.4.5 [3.4] JBCC Engineering General Conditions are to be included in the contract documents: No

42.4.6 [31.5.3] [32.13] The contract value is to be adjusted using CPAP indices: Yes ☒ No ☐

Where CPAP is applicable, the contract sum will be adjusted in accordance with the JBCC Contract Price Adjustment Provisions (CPAP) as set out in the CPAP Indices Application Manual as prepared by the JBCC Series 2000, code 2118, dated January 2013 and any amendments thereto:

1) Glass etc. measured in specialist section Metalwork, will be adjusted in terms of the index for that work group unless specifically stated otherwise in the Priced Document.

2) All electrical installations in buildings and power distribution systems shall be adjusted in terms of the index for Work Group 160 Electrical Installation. In case of uninterruptible power supplies, elevators, escalators and hoists, generating sets, motor-alternator sets and intercommunication systems shall be in accordance with Work Group 170

3) With reference to Work Group 190 a proportion of the value related preliminaries pro rata to the amount of work excluded from adjustment, shall be excluded from Contract Price Adjustment Provisions, if Option A has been selected for the adjustment of preliminaries

4) Further to clause 3.4.4 of the CPAP Indices Application Manual, the listing of additional items for exclusion by bidders, will not be permitted

5) Where V results in a negative amount after application of the formula in clause 8.3 of the CPAP Indices Application Manual the factor of 0,55 shall be substituted by 1,45

Alternative Indices: Not Applicable

42.4.7 [3.10] Details of changes made to the provisions of JBCC standard documentation
<table>
<thead>
<tr>
<th>Clause</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1 COMMENCEMENT DATE</strong> – means the date that the agreement, made in terms of the Form of Offer and Acceptance, comes into effect</td>
</tr>
<tr>
<td><strong>“CONSTRUCTION GUARANTEE”</strong> means a guarantee at call obtained by the contractor from an institution approved by the employer in terms of the employer’s construction guarantee form as selected in the schedule</td>
</tr>
<tr>
<td><strong>CONSTRUCTION PERIOD</strong> – means the period commencing on the commencement date and ending on the date of practical completion</td>
</tr>
<tr>
<td><strong>CORRUPT PRACTICE</strong> – means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution</td>
</tr>
<tr>
<td><strong>FRAUDULENT PRACTICE</strong> – means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any tenderer, and includes collusive practice among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition</td>
</tr>
<tr>
<td><strong>INTEREST</strong> – means the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be the rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999)</td>
</tr>
<tr>
<td><strong>“PRICED DOCUMENT”</strong> means bills of quantities, provisional bills of quantities, schedule of rates or other documents as are appropriate to this agreement</td>
</tr>
</tbody>
</table>

| Amend by replacing the words “prepaid registered post, telefax or e-mail” with “prepaid registered post or telefax” |
| 1.6.4 No clause |
| Amend by replacing “14.1” with “14.0” |
| Replace with the following clause: |
| The principal agent shall supply the number of copies of drawings, unpriced bills of quantities/lump sum document and documents as stated in the schedule at no cost to the contractor. The contractor shall keep a copy of all drawings, schedules, unpriced bills of quantities/lump sum document and contract instructions on the site and shall supply and keep a copy of the JBCC Series 2000 Principal Building Agreement and Preliminaries applicable to this contract on the site. The employer, principal agent and agents shall have access to these documents at all times. |
| Replace the second reference to “principal agent” with the word “employer” |
| 4.3 No clause |
5.1.2 Amend reference to “32.6.1/3” to “32.6.2/3” and include reference to “34.4” and “38.5.8”, in terms of which the employer has retained its authority and has not given a mandate to the principal agent and in terms of which the employer shall sign all documents.

Add the following as 10.5

10.5 Damage to the works

10.5.1 Without any way limiting the contractor’s obligations in terms of the contract, the contractor shall bear the full risk of damage to and/or destruction of the works by whatever cause during construction of the works and hereby indemnifies and holds harmless the employer against any such damage. The contractor shall take such precautions and security measures and other steps for the protection and security of the works as the contractor may deem necessary.

10.5.2 The contractor shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works.

10.5.3 The employer shall carry the risk of damage to or destruction of the works and materials paid for by the employer that is the result of the excepted risks as set out in 10.6.

10.5.4 Where the employer bears the risk in terms of this contract, the contractor shall, if requested to do so, reinstate any damage or destroyed portions of the works and the costs of such reinstatement shall be measured and valued in terms of 32.0 hereof.

Add the following as 10.6

10.6 Injury to Persons or loss of or damage to Properties

10.6.1 The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or caused by the execution of the works unless due to any act or neglect of any person for whose actions the employer is legally liable.

10.6.2 The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person, arising out of or in the course of or by reason of the execution of the works unless due to any act or neglect of any person for whose actions the employer is legally liable.

10.6.3 The contractor shall, upon receiving a contract instruction from the principal agent, cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the employer shall be entitled to cause it to be made good and to recover the cost thereof from the contractor or to deduct the same from amounts due to the contractor.

10.6.4 The contractor shall be responsible for the protection and safety of such portions of the premises placed under his control by the employer for the purpose of executing the works until the issue of the certificate of practical completion.

10.6.5 Where the execution of the works involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the contractor, shall and will remain adequately insured or insured against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the works has been completed.

10.6.6 The contractor shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the works.

Add the following as 10.7

10.7 High risk insurance

In the event of the project being executed in a geological area classified as a “High Risk Area”, that is an area which is subject to highly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:
### 10.7.1 Damage to the works

**10.7.1.1** The contractor shall, from the **commencement date** of the works until the date of the **certificate of practical completion**, bear the full risk of and hereby indemnifies and holds harmless the employer against any damage to and/or destruction of the works consequent upon a catastrophic ground movement as mentioned above. The contractor shall take such precautions and security measures and other steps for the protection of the works as he may deem necessary.

**10.7.1.2** When so instructed to do so by the principal agent, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works, at the contractor’s own costs.

### 10.7.2 Injury to persons or loss of or damage to property

**10.7.2.1** The contractor shall be liable for and hereby indemnifies and holds harmless the employer against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground movement as mentioned above.

**10.7.2.2** The contractor shall be liable for and hereby indemnifies the employer against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract.

### 10.7.3 It is the responsibility of the contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2.

Without limiting the contractor’s obligations in terms of the contract, the contractor shall, within twenty-one (21) calendar days of the commencement date but before commencement of the works, submit to the employer proof of such insurance policy, if requested to do so.

### 10.7.4 The employer shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the contractor’s default of his obligations as set out in 10.7.1; 10.7.2 and 10.7.3.

Such losses or damages may be recovered from the contractor or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the employer and the contractor and for this purpose all these contracts shall be considered one indivisible whole.

### 14.0 Replace the entire clause 14.0 with the following:

#### 14.0 SECURITY

**14.1** In respect of contracts with a contract sum up to R1 million, the security to be provided by the contractor to the employer will be a payment reduction of ten per cent (10%) of the value certified in the payment certificate (excluding VAT) up to a maximum of five per cent (5%) of the value of the contract (excluding VAT).

**14.1.1** The payment reduction of the value certified in a payment certificate shall be in terms of 31.8(A).

**14.1.2** The employer shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the employer complies with the provisions of 33.4 in which event the employer's entitlement shall take precedence over his obligations to refund the payment reduction security or portions thereof to the contractor.
14.2 In respect of contracts with a **contract sum** above R1 million, the **contractor** shall have the right to select the **security** to be provided in terms of 14.3, 14.4, 14.5 or 14.6 as stated in the **schedule**. Such **security** shall be provided to the **employer** within twenty-one (21) **calendar days** from **commencement date**. Should the **contractor** fail to select the **security** to be provided or should the **contractor** fail to provide the **employer** with the selected **security** within twenty-one (21) **calendar days** from **commencement date**, the **contractor** shall be deemed to be in default and the **employer** may cancel the contract in terms of 36.0

14.3 Where the **security** as a cash deposit of ten per cent (10%) of the **contract sum** (excluding VAT) has been selected:

14.3.1 The **contractor** shall furnish the **employer** with a cash deposit equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.3.2 Within twenty-one (21) **calendar days** of the date of **practical completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to three per cent (3%) of the **contract value** (excluding VAT), and refund the balance to the **contractor**

14.3.3 Within twenty-one (21) **calendar days** of the date of **final completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to one per cent (1%) of the **contract value** (excluding VAT) and refund the balance to the **contractor**

14.3.4 On the date of payment of the amount in the **final payment certificate**, the **employer** shall refund the remainder of the cash deposit to the **contractor**

14.3.5 The **employer** shall be entitled to recover expense and loss from the cash deposit in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the cash deposit **security** or portions thereof to the **contractor**

14.3.6 The parties expressly agree that neither the **employer** nor the **contractor** shall be entitled to cede the rights to the deposit to any third party

14.4 Where **security** as a variable **construction guarantee** of ten per cent (10%) of the **contract sum** (excluding VAT) has been selected:

14.4.1 The **contractor** shall furnish the **employer** with an acceptable variable **construction guarantee** equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.4.2 The variable **construction guarantee** shall reduce and expire in terms of the Variable **Construction Guarantee** form included in the invitation to tender

14.4.3 The **employer** shall return the variable **construction guarantee** to the **contractor** within fourteen (14) **calendar days** of it expiring

14.4.4 Where the **employer** has a right of recovery against the **contractor** in terms of 33.0, the **employer** shall issue a written demand in terms of the variable **construction guarantee**
14.5 Where security as a fixed construction guarantee of five per cent (5%) of the contract sum (excluding VAT) and a five per cent (5%) payment reduction of the value certified in the payment certificate (excluding VAT) has been selected:

14.5.1 The contractor shall furnish a fixed construction guarantee to the employer equal in value to five per cent (5%) of the contract sum (excluding VAT)

14.5.2 The fixed construction guarantee shall come into force on the date of issue and shall expire on the date of the last certificate of practical completion

14.5.3 The employer shall return the fixed construction guarantee to the contractor within fourteen (14) calendar days of it expiring

14.5.4 The payment reduction of the value certified in a payment certificate shall be in terms of 31.8(B) and 34.8

14.5.5 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer shall be entitled to issue a written demand in terms of the fixed construction guarantee or may recover from the payment reduction or may do both

14.6 Where security as a cash deposit of five per cent (5%) of the contract sum (excluding VAT) and a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT) has been selected:

14.6.1 The contractor shall furnish the employer with a cash deposit equal in value to five per cent (5%) of the contract sum (excluding VAT) within twenty-one (21) calendar days from commencement date

14.6.2 Within twenty-one (21) calendar days of the date of practical completion of the works the employer shall refund the cash deposit in total to the contractor

14.6.3 The payment reduction of the value certified in a payment certificate shall be mutatis mutandis in terms of 31.8(B)

14.6.4 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer may issue a written notice in terms of 33.4 or may recover from the payment reduction or may do both

14.7 Payments made by the guarantor to the employer in terms of the fixed or variable construction guarantee shall not prejudice the rights of the employer or contractor in terms of this agreement

Replace clauses 15.1, 15.1.1 and 15.1.2 with the following:

15.1 On acceptance of the tender or negotiated amount, the contractor shall submit:

15.1.1 The Priced Document within twenty-one (21) calendar days of commencement date, to the quantity surveyor as identified in the contract data and where such quantity surveyor has not been identified, the principal agent. Such document shall have all items properly priced, extended and cast. Priced items are deemed to include all costs, overheads and profit. The quantity surveyor/principal agent may instruct the contractor to adjust prices which are considered to be imbalanced or unreasonable and to eliminate errors or discrepancies. Such adjustments shall be effected to the approval of the quantity surveyor/principal agent and shall not change the contract sum

15.1.2 In respect of contracts with a contract sum above R1 million, the security selected in terms of 14.3, 14.4, 14.5 or 14.6, to the employer

Add 15.1.4 as follows:

15.1.4 An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within twenty-one (21) calendar days of commencement date

15.2.1 Amend to read as follows:

“Give the contractor possession of the site within ten (10) working days of the contractor complying with the terms of 15.1.1, 15.1.2 and 15.1.4”
Add 15.5 and 15.6 as follows:

15.5 Construction programme and “milestone dates”

15.5.1 The **contractor** shall prepare and submit a detailed programme of the **works** within fourteen (14) calendar days from the site handover date, to the **principal agent** and **employer**, to enable the **principal agent** and **employer** to assess the progress of the **works**. The **contractor** shall coordinate n/s **subcontractors’** and **direct contractors’** programmes with his own and implement and modify the programme should any significant deviation take place. Copies of the programme and all supporting documents and all updates shall be issued timeously and at each monthly progress meeting to the **principal agent**, **employer** and other relevant parties.

15.5.2 The **principal agent** shall determine a number of significant “milestones” in the construction progress of the **works** and the **contractor** shall provide dates to the **employer** on which these milestones are to be achieved. Failure to achieve these “milestone dates” may result in the employer cancelling the contract in terms of 36.1.1.

15.6 The circumstances for which the **contractor** is entitled to a revision of “milestone dates” are delays to “milestone” achievement caused by delays as listed under clauses 29.1.1 to 29.1.6 and 29.2.1 to 29.2.11 and 29.3 that shall be applied *mutatis mutandis*.

Add 15.7 as follows:

15.7 The **contractor** shall submit a verified “Poverty Alleviation and Job Creation” form at each monthly progress meeting, providing details of the number of employees on site for the preceding month, which shall be inclusive of details for **direct contractors’** and/or **subcontractors’** employees.

17.1.11 Delete both occurrences of the words “and selected”

20.1.3 No clause

21.0 No clause

25.4 Amend by replacing “31.10” with “31.11.2”

26.1.2 Amend by replacing “bills of quantities” with “priced document and contract data”

29.2.5 No clause

31.8 Amend as follows:

31.8 Payment reduction according to security selection in terms of 14.0

31.8(A) Where a **security** is selected in terms of 14.1, the value of the **works** in terms of 31.4.1 and of the **materials and goods** in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:

31.8(A).1 Ninety per cent (90%) of such value in interim **payment certificates** issued up to the date of **practical completion**, subject to a maximum reduction of interim **payment certificates** to a value of ninety-five per cent (95%) of the **contract sum**. Once the maximum payment reduction has been reached, the **principal agent** shall determine the appropriate percentage of reduction to maintain the **security** at the maximum payment adjustment level until the percentage of reduction is reduced in terms of 31.8(A).2

31.8(A).2 Ninety-seven per cent (97%) of such value in interim **payment certificates** issued on the date of **practical completion** and up to, but excluding, the date of **final completion**

31.8(A).3 Ninety-nine per cent (99%) of such value in interim **payment certificates** issued on the date of **final completion** and up to but excluding the final **payment certificate** in terms of 34.6

31.8(A).4 One hundred per cent (100%) of such value in the final **payment certificate** in terms of 34.6 except where the amount certified is in favour of the **employer**. In such an
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.8(B)</td>
<td>Where a security is selected in terms of 14.5 or 14.6, the value of the works in terms of 31.4.1 and of the materials and goods in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:</td>
</tr>
<tr>
<td>31.8(B).1</td>
<td>Ninety-five per cent (95%) of such value in interim payment certificates issued up to the date of practical completion</td>
</tr>
<tr>
<td>31.8(B).2</td>
<td>Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to, but excluding, the date of final completion</td>
</tr>
<tr>
<td>31.8(B).3</td>
<td>Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 34.6</td>
</tr>
<tr>
<td>31.8(B).4</td>
<td>One hundred per cent (100%) of such value in the final payment certificate in terms of 34.6 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate.</td>
</tr>
</tbody>
</table>

31.12 Delete the following: “Payment shall be subject to the employer giving the contractor a tax invoice for the amount due.”

31.16 / 31.16.3 No clause

32.5.1 / 32.5.4 / 32.5.7 Add the following to the end of each of these clauses: “...due to no fault of the contractor”

32.6.2 / 32.6.3 / 32.15 Replace “principal agent” with “employer”

33.1.7 / 33.2.4 Delete the following “in terms of 14.5”

33.2.8 Delete the words “or selected”

33.2 Add the following clauses 33.2.9 to 33.2.13:

33.2.9 the contractor’s failure or neglect to commence with the works on the dates prescribed in the contract

33.2.10 the contractor’s failure or neglect to proceed with the works in terms of the contract

33.2.11 the contractor’s failure or neglect for any reason to complete the works in accordance with the contract

33.2.12 the contractor’s refusal or neglect to comply strictly with any of the conditions of contract or any contract instructions and/or orders in writing given in terms of the contract

33.2.13 the contractor’s estate being sequestrated; liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa

33.4 replace “in terms of 14.4.5” with “in terms of 14.5 or 14.6”

34.3 / 34.4 Replace “principal agent” with “employer”

34.8 The principal agent shall certify one hundred per cent (100%) of the amount of the final account in the final payment certificate where security in terms of 14.5 or 14.6 has been selected and where payment reduction has been applied

34.13 Replace “seven (7) calendar days” with “twenty one (21) calendar days” and delete the words: “subject to the employer giving the contractor a tax invoice for the amount due”

36.1.3 refuses or neglects to comply strictly with any of the conditions of contract

36.1.4 estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa
36.1.5 in the judgement of the employer, has engaged in corrupt or fraudulent practices in competing for or in executing the contract

36.3 Replace “principal agent” with “employer”

36.5.11 Replace “27.2.1” with “27.2”

Add the following clause:

36.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor, or for any reason whatsoever, and the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

37.3.5 Replace “ninety (90)” with “one hundred and twenty (120)”

37.3.8 Replace “27.2.2” with “27.2”

Add the following clause:

37.5 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor, or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

38.5.4 Replace “ninety (90)” with “one hundred and twenty (120)”

38.5.8 Replace “principal agent” with “employer”

38.5.9 Replace “27.2.2” with “27.2”

Add the following clause:

38.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor, or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

39.3.5 Add the following words at the end thereof: “within one hundred and twenty (120) working days of completion of such a report”

39.3.9 Replace “27.2.1” with “27.2”

40.2.2 Replace “one (1) year” with “three (3) years”

Remove the reference to “no clause” in clause 40.6 and replace with:

40.6 The provision of 40.2 shall not be construed as a waiver of the parties’ entitlement to resolve a dispute by mediation at any time

40.7.1 Change “ten (10)” to “fifteen (15)” and by the addition of the following to the end thereof:

Whether or not mediation resolves the dispute, the parties shall bear their own costs concerning the mediation and equally share the costs of the mediator and related costs.

**NOTIFICATION OF THE REQUIREMENT FOR CONTRACTOR PERFORMANCE REPORT**

The principal agent shall issue to the Contractor together with the certificate of practical completion a completed CIDB Contractor Performance Report (See Annex A). Unless the contractor within one week of receiving such report disputes its findings, the report shall deem to reflect the performance of the contractor.
Disputes relating to the findings of the report shall be dealt with in accordance with the provisions of Clause 40.

<table>
<thead>
<tr>
<th>42.0</th>
<th>POST-TENDER INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Note:</strong> All information for this section requires consultation with the contractor. The principal agent shall not pre-select any of the alternatives available to the contractor</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>42.5</th>
<th>CONTRACT DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contractor:</strong></td>
<td></td>
</tr>
<tr>
<td>Postal address:</td>
<td></td>
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<tr>
<td>________________</td>
<td></td>
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<td>________________</td>
<td></td>
</tr>
<tr>
<td>Tel: ________________ Fax: ________________</td>
<td></td>
</tr>
<tr>
<td>TAX / VAT Registration No: ________________</td>
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<tr>
<td>Physical address:</td>
<td></td>
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<td>________________</td>
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<td>________________</td>
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<td>________________</td>
<td></td>
</tr>
</tbody>
</table>

| 42.5.2 | The accepted contract sum inclusive of tax is R ________________ |
| Amount in words: ________________ |

| 42.5.3 | [31.3] The latest day of the month for the issue of an interim payment certificate: ________________ |

| 42.5.4 | [32.12] The preliminaries amounts shall be paid in terms of: Alternative A ☐ Alternative B ☐ |

| 42.5.5 | [32.12] The preliminaries amounts shall be adjusted in terms of: Alternative A ☐ Alternative B ☐ |
The security to be provided by the contractor:

14.1 the Bidder accepts that in respect of contracts up to R1 million, a payment reduction** of 10% of the value certified in payment certificates (excluding VAT) up to a maximum of 5% of the contract value will be applicable and will be deducted by the Employer in terms of the applicable conditions of contract

14.2 in respect of contracts above R1 million, the Bidder offers to provide security as indicated below:

14.3 cash deposit of 10 % of the Contract Sum (excluding VAT)  

14.4 variable construction guarantee of 10 % of the Contract Sum (excluding VAT) (WCTD-10.3)  

14.5 fixed construction guarantee of 5% of the Contract Sum (excluding VAT) (WCTD-10.1) and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT)  

14.6 cash deposit of 5% of the Contract Sum (excluding VAT) and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT)  

NB. Guarantees submitted must be issued by either an insurance company duly registered in terms of the Short-Term Insurance Act, 1998 (Act 35 of 1998) or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

The annual building holiday period after the commencement of the construction period:

From: ____________________________ to ____________________________
## SIGNATURES OF THE CONTRACTING PARTIES

Thus done and signed at ________________________________ on __________________________

__________________________
Name of signatory for and behalf of the Employer who by signature hereof warrants authorisation hereto

__________________________
Capacity of signatory as Witness

Thus done and signed at ________________________________ on __________________________

__________________________
Name of signatory for and behalf of the Contractor who by signature hereof warrants authorisation hereto

__________________________
Capacity of signatory as Witness
C1.3: FIXED CONSTRUCTION GUARANTEE
JBCC 2000 PRINCIPAL BUILDING AGREEMENT
(Edition 4.1 of March 2005)

To: National Department of Health
Private Bag X828
PRETORIA
0001

Sir,

FIXED CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS
OF JBCC 2000 (4.1 EDITION MARCH 2005)

1 With reference to the contract between ______________________________________________________
__________________________________(hereinafter referred to as the "contractor") and the Provincial
Government of the Western Cape in its Department of Transport and Public Works, (hereinafter referred to as the
"employer"), Tender No: NDoHF 07/2019-20, for the REFURBISHMENTS AND UPGRADES AT PACALTSDORP
AND PARKDENE CLINICS IN WESTERN CAPE PROVINCE, EDEN DISTRICT MUNICIPALITY: GROUP B.
CONTRACT: WC 9.B.B2 (hereinafter referred to as the "contract")
in the amount of R ___________________________________________, (in words ______________________
________________________________________________________________________) (hereinafter referred to
as the contract sum), I / We, ____________________________________________________________________
in my/our capacity as ________________________________________________________________and hereby
representing _____________________________________________ (hereinafter referred to as the "guarantor")
advise that the guarantor holds at the employer’s disposal the sum of R ______________________________,
(in words __________________________________________________________________________) being
five (5) % of the contract sum (excluding VAT), for the due fulfilment of the contract.

2 The guarantor hereby renounces the benefits of the exceptions non numeratae pecunia; non causa debiti;
excussionis et divisionis; and all other exceptions which could be pleaded against the enforcement of this
guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to
pay the employer the amount guaranteed, during the period when the claim is received by the guarantor, on
receipt of a written demand from the employer to do so, and which demand the employer may make  if the
employer has a right of recovery against the contractor in terms of 33.0 of the contract.

3 Subject to the above, but without in any way detracting from the employer’s rights to adopt any of the procedures
provided for in the contract, the said demand can be made by the employer, at any stage prior to the expiry of this
guarantee.

4 The amount paid by the guarantor in terms of this guarantee may be retained by the employer on condition that
upon the issue of the last final payment certificate, the employer shall account to the guarantor showing how
this amount has been expended and refund any balance due to the guarantor.

5 The employer shall have the absolute right to arrange his affairs with the contractor in any manner, which the
employer deems, fit and the guarantor shall not have the right to claim his release on account of any conduct
alleged to be prejudicial to the guarantor. Without derogating from the a foregoing, any compromise, extension
of the construction period, indulgence, release or variation of the contractor's obligation shall not affect the validity of this guarantee.

6 This undertaking is neither negotiable nor transferable, and

6.1 must be surrendered to the guarantor at the time when the employer accounts to the guarantor in terms of clause 4 above, or

6.2 shall lapse on the date of the last certificate of practical completion; and

6.3 shall not be interpreted as extending the guarantor's liability to anything more than payment of the amount guaranteed

SIGNED AT ___________________________ ON THIS ____________________________ DAY OF ____________________________ 200__

AS WITNESSES

1. ____________________________ ____________________________

2. ____________________________ ____________________________

(insert the name and physical address of the guarantor)

NAME: ____________________________

CAPACITY: ____________________________

(duly authorised thereto by resolution attached marked Annexure A)

DATE: ____________________________

A. No alterations and/or additions of the wording of this form will be accepted.

B. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor's domicilium citandi et executandi, for all purposes arising from this guarantee.

C. This GUARANTEE must be returned to: ____________________________

____________________________________
C1.4: VARIABLE CONSTRUCTION GUARANTEE
JBCC 2000 PRINCIPAL BUILDING AGREEMENT
(Edition 4.1 of March 2005)

To: National Department of Health
Private Bag X828
PRETORIA
0001

Sir,

VARIABLE CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF JBCC 2000 (4.1 EDITION MARCH 2005)

1 With reference to the contract between ______________________________________________________
__________________________________(hereinafter referred to as the “contractor”) and the Provincial
Government of the Western Cape in its Department of Transport and Public Works, (hereinafter referred to as the
“employer”), Tender No: NDoHF 07/2019-20, for the REFURBISHMENTS AND UPGRADES AT PACALTSDORP AND PARKDENE CLINICS IN WESTERN CAPE PROVINCE, EDEN DISTRICT MUNICIPALITY: GROUP B. CONTRACT: WC 9.B.B2 (hereinafter referred to as the “contract”) in the amount of R ____________________________________________, (in words ______________________
____________________________________________________________________)(hereinafter referred as
the contract sum), I / We, _____________________________________________________________________
in my/our capacity as ________________________________________________________________and hereby
representing _____________________________________________ (hereinafter referred to as the “guarantor”)
advise that the guarantor holds at the employer’s disposal the sum of R _______________________________,
(in words ___________________________________________________________________________) being
ten (10) % of the contract sum (excluding VAT), for the due fulfilment of the contract.

2 I / We advise that the guarantor’s liability in terms of this guarantee shall be reduced as follows:

2.1 From and including the date on which this guarantee is issued and up to and including the date of payment
of the amount in the practical completion certificate, the guarantor will be liable in terms of this guarantee
to the maximum amount of 10% of the contract sum (excluding VAT);

2.2 From and including the day after the date of the certificate of practical completion and up to and including
the date of the final completion certificate, the guarantor’s liability will be reduced to 3% of the value of the
works (excluding VAT);

2.3 From and including the day after the date of the final completion certificate and up to and including the
date of settlement of the amount in the final payment certificate, the guarantor’s liability will be reduced to
1% of the value of the works (excluding VAT);

2.4 This guarantee shall expire on the date of payment of the amount in the last final payment certificate

3 The guarantor hereby renounces the benefits of the exceptions non numeratae pecunia; non causa debiti;
excussionis et divisionis; and all other exceptions which could be pleaded against the enforcement of this
guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake
to pay the employer the amount guaranteed, during the period when the claim is received by the guarantor, on
receipt of a written demand from the employer to do so, and which demand the employer may make if the
employer has a right of recovery against the contractor in terms of 33.0 of the contract.
Subject to the above, but without in any way detracting from the employer’s rights to adopt any of the procedures provided for in the contract, the said demand can be made by the employer at any stage prior to the expiry of this guarantee.

The amount paid by the guarantor in terms of this guarantee may be retained by the employer on condition that upon the issue of the last final payment certificate, the employer shall account to the guarantor showing how this amount has been expended and refund any balance due to the guarantor.

The employer shall have the absolute right to arrange his affairs with the contractor in any manner which the employer deems fit and the guarantor shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the guarantor. Without derogating from the aforegoing, any compromise, extension of the construction period, indulgence, release or variation of the contractor’s obligation shall not affect the validity of this guarantee.

This undertaking is neither negotiable nor transferable, and

1. must be surrendered to the guarantor at the time when the employer accounts to the guarantor in terms of clause 5 above, or
2. shall lapse in accordance with clause 2.4 above; and
3. shall not be interpreted as extending the guarantor’s liability to anything more than the payment of the amount guaranteed.

SIGNED AT ____________________________ ON THIS ____________________________ DAY OF ____________________________ 200__

AS WITNESSES

1. ____________________________________ ____________________________________

2. ____________________________________ ____________________________________

(insert the name and physical address of the guarantor)

NAME: ____________________________________

CAPACITY: ____________________________________

(duly authorised thereto by resolution attached marked Annexure A)

DATE: ____________________________

D. No alterations and/or additions of the wording of this form will be accepted.

E. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor’s domicilium citandi et executandi, for all purposes arising from this guarantee.

F. This GUARANTEE must be returned to: ____________________________________
C1.5 AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

THIS AGREEMENT made at ................................................................. on this the day of .................................... in the year ……

between ........................................................................ [hereinafter called "the Employer"] of the one part, herein represented by ..........................................................................................................................

and ........................................................................ [hereinafter called "the Mandatary"] of the other part, herein represented by ..........................................................................................................................

WHEREAS the Employer is desirous that certain works be constructed, viz


and has accepted a Tender by the Mandatary for the construction, completion and maintenance of such Works and whereas the Employer and the Mandatary have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatary with the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1.  The Mandatary shall execute the work in accordance with the Contract Documents pertaining to this Contract.

2.  This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or Principal Agent requiring him to commence the execution of the Works, to either

   a)  the date of the Final Completion Certificate issued in terms of 26.0 of the JBCC 2000 PRINCIPAL BUILDING AGREEMENT (Edition 4.1 of March 2005)

   or,

   b)  the date of termination of the Contract in terms of Clauses 36.0, 37.0 or 38.0 of the JBCC 2000 PRINCIPAL BUILDING AGREEMENT (Edition 4.1 of March 2005);

   whichever is the earlier event.
3. The Mandatary declares himself to be conversant with the following:

a) All the requirements, regulations and standards of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following sections of The Act:

   (i) Section 8: General duties of employers to their employees;
   (ii) Section 9: General duties of employers and self-employed persons to persons other than employees;
   (iii) Section 37: Acts or omissions by employees or mandataries, and
   (iv) Subsection 37(2) relating to the purpose and meaning of this Agreement.

b) The procedures and safety rules of the Employer as pertaining to the Mandatary and to all his subcontractors.

4. In addition to the requirements of Clause 9.0 of the JBCC 2000 PRINCIPAL BUILDING AGREEMENT (Edition 4.1 of March 2005) and all relevant requirements of the Contract, the Mandatary agrees to execute all the Works forming part of this Contract and to operate and utilise all machinery, plant and equipment in accordance with the Act.

5. The Mandatary is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.

6. The Mandatory warrants that all his and his subcontractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 which cover shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.

7. The Mandatary undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:

a) The Mandatary shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatary shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatary obtains such approval and delegates any duty in terms of Section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.

b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.

c) The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of Section 32 of the Occupational Health and Safety Act into any incident involving the Mandatory and/or his employees and/or his subcontractors.
In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

**SIGNED FOR AND ON BEHALF OF THE EMPLOYER:** .................................................................

WITNESS 1 ........................................ 2 .................................................................

NAME (IN CAPITALS) 1 ........................................ 2 .................................................................

**SIGNED FOR AND ON BEHALF OF THE MANDATORY:** .................................................................

WITNESS 1 ........................................ 2 .................................................................

NAME (IN CAPITALS) 1 ........................................ 2 .................................................................
CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF OCCUPATIONAL
HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

The signatory for the company that is the Contractor in terms of the above-mentioned Contract and the
Mandatary in terms of the above-mentioned Act shall confirm his or her authority thereto by attaching to this
page a duly signed and dated copy of the relevant resolution of the Board of Directors.
An example is given below:

"By resolution of the Board of Directors passed at a meeting held on 20……,
Mr/Ms ..........................................................................................................................................................whose signature
appears below, has been duly authorised to sign the AGREEMENT in terms of THE OCCUPATIONAL
HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993) on behalf of ..........................................................
................................................................................................................................................................................
................................................................................................................................................................................

SIGNED ON BEHALF OF THE COMPANY : .................................................................................................

IN HIS/HER CAPACITY AS : ............................................................................................................................

DATE : ...........................................................................................................................................................

SIGNATURE OF SIGNATORY : ...........................................................................................................................

WITNESS: 1. ........................................................................................................................................ 2. ............................................................................................................................

NAME (IN CAPITALS): 1. ................................................................................................................................ 2. ............................................................................................................................
PART C2: PRICING DATA
C2.1 Pricing Instructions

1 GENERAL

1.1 The Standard for Uniformity in Construction Procurement published in terms of the Construction Industry Development Board (CIDB) Act, 2000 (Act no. 38 of 2000), the Standardized Construction Procurement Documents for Engineering and Construction Works as issued by the CIDB and any other relevant documentation pertaining thereto must be studied and all principles in this regard must be applied to all procurement documentation, practices and procedures.

1.2 The consultant(s)/project manager must acquaint themselves fully with all relevant matters pertaining to this section in order to enable prospective bidders to price for all eventualities.

2 PRICED DOCUMENT

2.1 The Priced Document, including specialist trades i.e. electrical installation, mechanical installation and civil and structural engineering work, has been drawn up in accordance with the Standard System of Measuring Building Work (as amended) published and issued by the Association of South African Quantity Surveyors (Sixth Edition (Revised)), 1999. The Priced Document forms part of and must be read and priced in conjunction with all the other documents forming part of the contract documents, the Standard Conditions of Tender, Conditions of Contract, Specifications, Drawings and all other relevant documentation.

2.2 It will be assumed that prices included in the Priced Document are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards)

2.3 The Priced Document is not intended for the ordering of materials. Any ordering of materials, based on the Priced Document, is at the Contractor's risk

3 VALUE ADDED TAX

3.1 The tender price must include for Value Added Tax (VAT). All rates, provisional sums, etc. in the Priced Document must however be net (exclusive of VAT) with VAT calculated and added to the Total Value thereof in the Final Summary.

4 CONTRACT DOCUMENT

4.1 The agreement is based on the JBCC Series 2000 Principal Building Agreement, prepared by the Joint Building Contracts Committee, Edition 4.1, March 2005. The additions, deletions and alterations to the JBCC Principal Building Agreement as well as the contract specific variables are as stated in the Contract Data. Only the headings and clause numbers for which allowance must be made in the Priced Document are recited.

4.2 Preliminary and general requirements are based on the JBCC Series 2000 Preliminaries, prepared by the Joint Building Contracts Committee, May 2005. The additions, deletions and alterations to the various parts of these
JBCC Preliminaries as well as the contract specific variables are as stated in the Contract Data in the Scope of Work. Only the headings and clause numbers for which allowance must be made in the Priced Document are recited.

4.3 The Contract Data and the standard form of contract referenced therein must be studied for the full extent and meaning of each and every clause set out in Section 1 (Preliminary and General) of the Priced Document. Where any item is not relevant to this specific contract, such item is marked N/A (signifying “not applicable”).

5 DRAWINGS

5.1 The drawings listed in the Scope of Works, used for the setting up this Priced Document, are kept by the quantity surveyor and can be viewed at any time during office hours up until the completion of the works.
# NATIONAL DEPARTMENT OF HEALTH

**NDoHF 07/2019-20: WC 9.B.B2:**
REFURBISHMENTS AND UPGRADES AT PACALTSDORP AND PARKDENE CLINICS IN WESTERN CAPE PROVINCE, EDEN DISTRICT MUNICIPALITY

**C2.2: PRICED DOCUMENT COMPRISING BILLS OF QUANTITIES**

## PRICED DOCUMENT INDEX

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SECTION 3

BILL No. 1

MEANING OF TERMS "TENDER / TENDERER"

Any reference to the words "Tender" or "Tenderer" herein and/or in any other documentation shall be construed to have the same meaning as the words "Bid" or "Bidder"

PRELIMINARIES

The JBCC Preliminaries Code 2103, May 2005 edition for use with the JBCC Principal Building Agreement Edition 4.1 Code 2101, March 2005 is taken to be incorporated herein. The tenderer is deemed to have referred to these documents for the full intent and meaning of each clause. These clauses are referred to by number and heading only. Where standard clauses or options are not applicable to the contract such modifications or corrections as are necessary are given under each relevant clause. Where an item is not relevant to this specific contract such item is marked. "N/A" signifying "Not Applicable".

PRICING OF PRELIMINARIES

Should Option A, as set out in clause B10.3.1 hereinafter be used for the adjustment of preliminaries then each item priced is to be allocated to one or more of the three categories Fixed, Value Related or Time Related and the respective amounts entered in the spaces provided under each item

Items not priced in these Preliminaries shall be deemed to be included elsewhere in these Bills of Quantities.

SECTION A: JBCC PRINCIPAL BUILDING AGREEMENT

DEFINITIONS

A1 DEFINITIONS AND INTERPRETATION

Clause 1.0 Clause

1.1 Definition of "Commencement Date" is added:

"COMMENCEMENT DATE" means the date that the agreement, made in terms of the Form of Offer and Acceptance, comes into effect

Clause 1.1 Definition of "Construction Guarantee" is amended by replacing it with the following:

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"CONSTRUCTION GUARANTEE" means a guarantee at call obtained by the contractor from an institution approved by the employer in terms of the employer's construction guarantee form as selected in the schedule.

Clause 1.1 Definition of "Construction Period" is amended by replacing it with the following:

"CONSTRUCTION PERIOD" means the period commencing on the commencement date and ending on the date of practical completion.

Clause 1.1 Definition of "Corrupt Practice" is added:

"CORRUPT PRACTICE" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

Clause 1.1 Definition of "Fraudulent Practice" is added:

"FRAUDULANT PRACTICE" means a misrepresentation of facts in order to influence a procurement process in the execution of a contract to the detriment of any tenderer and includes collusive practice among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition.

Clause 1.1 Definition of "Interest" is amended by replacing it with the following:

“INTEREST” means the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be the rate determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999).

Clause 1.1 Definition of "Principal Agent" is amended by replacing it with the following:

"PRINCIPAL AGENT" means the person or entity appointed by the employer and named in the schedule. In the event of a principal agent not being appointed, then all the duties and obligations of a principal agent as detailed in the agreement shall be fulfilled by a representative of the employer as named in the schedule.

Clause 1.1 Definition of "Security" is amended by replacing it with the following:

"SECURITY" means the form of security provided by the employer or contractor, as stated in the schedule, from which the contractor or employer may recover expense or loss.

Clause 1.6 is amended by replacing the words "prepaid registered post, telefax or e-mail" with "prepaid registered post or telefax".

Clause 1.6.4 is amended by replacing it with the following:
A2 OFFER, ACCEPTANCE AND PERFORMANCE

Clause 2.0

F:.............................. V:.............................. T:..............................

A3 DOCUMENTS

Clause 3.0

Clause 3.2.1 is amended by replacing "14.1" with "14.0"

Clause 3.7 is amended by the addition of the following:

The contractor shall supply and keep a copy of the JBCC Series 2000 Principal Building Agreement and Preliminaries applicable to this contract on the site, to which the employer, principal agent and agents shall have access at all times.

Clause 3.10 is amended by replacing the second reference to "principal agent" with the word "employer"

F:.............................. V:.............................. T:..............................

A4 DESIGN RESPONSIBILITY

Clause 4.0

Clause 4.3 is amended by replacing it with the following:

No clause

F:.............................. V:.............................. T:..............................

A5 EMPLOYER’S AGENTS

Clause 5.0

Clause 5.1.2 is amended to include clauses 32.6.3, 34.3, 34.4 and 38.5.8

F:.............................. V:.............................. T:..............................
A6 SITE REPRESENTATIVE

Clause 6.0

F:.............................. V:.............................. T:..............................

A7 COMPLIANCE WITH REGULATIONS

Clause 7.0

Note: A separate clause has been included in Section C: Specific Preliminaries of the bills of quantities / lump sum document for the contractor to have the opportunity to price for all the requirements of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification

F:.............................. V:.............................. T:..............................

A8 WORKS RISK

Clause 8.0

F:.............................. V:.............................. T:..............................

A9 INDEMNITIES

Clause 9.0

F:.............................. V:.............................. T:..............................

A10 WORKS INSURANCES

Clause 10.0

Clause 10.0 is amended by the addition of the following clauses:

10.5 Damage to the Works

(a) Without in any way limiting the contractor's obligations in terms of the contract, the contractor shall bear the full risk of damage to and/or destruction of the works by whatever cause during construction of the works and hereby indemnifies and holds harmless the employer against any such damage. The contractor shall take such precautions and security measures and other steps for the protection and security of the works as the contractor may deem necessary

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(b) The **contractor** shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the **works** and to rebuild, restore, replace and/or repair the **works**.

(c) The **employer** shall carry the risk of damage to or destruction of the **works** and material paid for by the **employer** that is the result of the excepted risks as set out in 10.6.

(d) Where the **employer** bears the risk in terms of this contract, the **contractor** shall, if requested to do so, reinstate any damage or destroyed portions of the **works** and the costs of such reinstatement shall be measured and valued in terms of 32.0 hereof.

**10.6 Injury to Persons or loss of or damage to Properties**

(a) The **contractor** shall be liable for and hereby indemnifies the **employer** against any liability, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or caused by the execution of the **works** unless due to any act or negligence of any person for whose actions the **employer** is legally liable.

(b) The **contractor** shall be liable for and hereby indemnifies the **employer** against any liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the **site**, whether belonging to or under the control of the **employer** or any other body or person, arising out of or in the course of or by reason of the execution of the **works** unless due to any act or negligence of any person for whose actions the **employer** is legally liable.

(c) The **contractor** shall, upon receiving a **contract instruction** from the **principal agent**, cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the **employer** shall be entitled to cause it to be made good and to recover the cost thereof from the **contractor** or to deduct the same from amounts due to the **contractor**.

(d) The **contractor** shall be responsible for the protection and safety of such portions of the premises placed under his control by the **employer** for the purpose of executing the **works** until the issue of the **certificate of practical completion**.

(e) Where the execution of the **works** involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the **contractor** shall obtain adequate insurance and will remain adequately insured or insured to the specific limit stated in the contract against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the **works** has been completed.
(f) The contractor shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the works.

10.7 High risk insurance

In the event of the project being executed in a geological area classified as a “High Risk Area”, that is an area which is subject to highly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:

10.7.1 Damage to the works

The contractor shall, from the commencement date of the works until the date of the certificate of practical completion bear the full risk of and hereby indemnifies and holds harmless the employer against any damage to and/or destruction of the works consequent upon a catastrophic ground movement as mentioned above. The contractor shall take such precautions and security measures and other steps for the protection of the works as he may deem necessary.

When so instructed to do so by the principal agent, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works, at the contractor’s own costs.

10.7.2 Injury to persons or loss of or damage to property

The contractor shall be liable for and hereby indemnifies and holds harmless the employer against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground movement as mentioned above.

The contractor shall be liable for and hereby indemnifies the employer against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract.

10.7.3 It is the responsibility of the contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2. Without limiting the contractor's obligations in terms of the contract, the contractor shall, within twenty-one (21) calendar days of the commencement date but before commencement of the works, submit to the employer proof of such insurance policy, if requested to do so.

Carried to Collection
10.7.4 The **employer** shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the **contractor’s** default of his obligations as set out in 10.7.1; 10.7.2 and 10.7.3. Such losses or damages may be recovered from the **contractor** or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the **employer** and the **contractor** and for this purpose all these contracts shall be considered one indivisible whole.

F:.............................. V:..............................T:..............................

11 **A11  LIABILITY INSURANCES**

Clause 11.0

F:.............................. V:..............................T:..............................

12 **A12  EFFECTING INSURANCES**

Clause 12.0

F:.............................. V:..............................T:..............................

13 **A13.0  No clause**

14 **A14  SECURITY**

Clause 14.0

Clauses 14.1 - 14.8 are amended by replacing them with the following:

14.1 In respect of contracts with a **contract sum** up to R1 million, the **security** to be submitted by the **contractor** to the **employer** will be as a payment reduction of five per cent (5%) of the value certified in the **payment certificate** (excluding VAT)

14.1.1 The payment reduction of the value certified in a **payment certificate** shall be *mutatis mutandi* in terms of 31.8(A)

14.1.2 The **employer** shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer’s** entitlement shall take precedence over his obligations to refund the payment reduction **security** or portions thereof to the **contractor**

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Section No. 1
PRELIMINARY - PACALTSDORP
Bill No. 1
PRELIMINARIES
14.2 In respect of contracts with a **contract sum** above R1 million, the **contractor** shall have the right to select the **security** to be provided in terms of 14.3, 14.4, 14.5, 14.6, or 14.7 as stated in the **schedule**. Such **security** shall be provided to the **employer** within twenty-one (21) **calendar days** from **commencement date**. Should the **contractor** fail to select the **security** to be provided or should the **contractor** fail to provide the **employer** with the selected **security** within twenty-one (21) **calendar days** from **commencement date**, the **security** in terms of 14.7 shall be deemed to have been selected.

14.3 Where **security** as a cash deposit of ten per cent (10%) of the **contract sum** (excluding VAT) has been selected:

14.3.1 The **contractor** shall furnish the **employer** with a cash deposit equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.3.2 Within twenty-one (21) **calendar days** of the date of **practical completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to three per cent (3%) of the **contract value** (excluding VAT), and refund the balance to the **contractor**

14.3.3 Within twenty-one (21) **calendar days** of the date of **final completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to one per cent (1%) of the **contract value** (excluding VAT) and refund the balance to the **contractor**

14.3.4 On the date of payment of the amount in the final **payment certificate**, the **employer** shall refund the remainder of the cash deposit to the **contractor**

14.3.5 The **employer** shall be entitled to recover expense and loss from the cash deposit in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the cash deposit **security** or portions thereof to the **contractor**

14.3.6 The parties expressly agree that neither the **employer** nor the **contractor** shall be entitled to cede the rights to the deposit to any third party

14.4 Where **security** as a variable construction guarantee of ten percent (10%) of the **contract sum** (excluding VAT) has been selected:

14.4.1 The **contractor** shall furnish the **employer** with an acceptable variable construction guarantee equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.4.2 The variable construction guarantee shall reduce and expire in terms of the Variable Construction Guarantee form included in the invitation to tender

14.4.3 The **employer** shall return the variable construction guarantee to the **contractor** within fourteen (14) **calendar days** of it expiring
14.4.4 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer shall issue a written demand in terms of the variable construction guarantee.

14.5 Where security as a fixed construction guarantee of five per cent (5%) of the contract sum (excluding VAT) and a five per cent (5%) payment reduction of the value certified in the payment certificate (excluding VAT) has been selected:

14.5.1 The contractor shall furnish a fixed construction guarantee to the employer equal in value to five per cent (5%) of the contract sum (excluding VAT).

14.5.2 The fixed construction guarantee shall come into force on the date of issue and shall expire on the date of the last certificate of practical completion.

14.5.3 The employer shall return the fixed construction guarantee to the contractor within fourteen (14) calendar days of it expiring.

14.5.4 The payment reduction of the value certified in a payment certificate shall be in terms of 31.8 (A) and 34.8.

14.5.5 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer shall be entitled to issue a written demand in terms of the fixed construction guarantee or may recover from the payment reduction or may do both.

14.6 Where security as a cash deposit of five per cent (5%) of the contract sum (excluding VAT) and a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT) has been selected:

14.6.1 The contractor shall furnish the employer with a cash deposit equal in value to five per cent (5%) of the contract sum (excluding VAT) within twenty-one (21) calendar days from commencement date.

14.6.2 Within twenty-one (21) calendar days of the date of practical completion of the works the employer shall refund the cash deposit in total to the contractor.

14.6.3 The payment reduction of the value certified in a payment certificate shall be mutatis mutandis in terms of 31.8(A).

14.6.4 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer may issue a written notice in terms of 33.4 or may recover from the payment reduction or may do both.

14.7 Where security as a payment reduction of ten per cent (10%) of the value certified in the payment certificate (excluding VAT) has been selected:

14.7.1 The payment reduction of the value certified in a payment certificate shall be mutatis mutandis in terms of 31.8(B).
14.7.2 The employer shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the employer complies with the provisions of 33.4 in which event the employer’s entitlement shall take precedence over his obligations to refund the payment reduction or portions thereof to the contractor.

14.8 Payments made by the guarantor to the employer in terms of the fixed or variable construction guarantee shall not prejudice the rights of the employer or contractor in terms of this agreement.

14.9 Should the contractor fail to furnish the security in terms of 14.2, the employer, in his sole discretion and without notification to the contractor, is entitled to change the contractor’s selected form of security to that of a ten percent (10%) payment reduction of the value certified in the payment certificate (excluding VAT), whereafter 14.7 shall be applicable.

EXECUTION

15 A15 PREPARATION FOR AND EXECUTION OF THE WORKS

Clause 15.0

Clause 15.1.1 is amended by replacing it with:

No Clause

Clause 15.1.2 is amended by replacing it with:

The security selected in terms of 14.0

Clause 15.1 is amended by the addition of the following clause:

15.1.4 An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within twenty-one (21) calendar days of commencement date

Clause 15.2.1 is amended by replacing it with the following clause:

Give the contractor possession of the site within ten (10) working days of the contractor complying with the terms of 15.1.2 and 15.1.4

16 A16 ACCESS TO THE WORKS

Clause 16.0

 carriage_errors
A17 CONTRACT INSTRUCTIONS

Clause 17.0

Clause 17.1.11 is amended by deleting the words "and the appointment of nominated and selected subcontractors"

F:.............................. V:.............................. T:..............................

A18 SETTING OUT OF THE WORKS

Clause 18.0

F:.............................. V:.............................. T:..............................

A19 ASSIGNMENT

Clause 19.0

F:.............................. V:.............................. T:..............................

A20 NOMINATED SUB-CONTRACTORS

Clause 20.0

Clause 20.1.3 is amended by replacing it with the following:

No Clause

Note: See item B9.1 hereinafter for adjustment of attendance on nominated subcontractors executing work allowed for under provisional sums

F:.............................. V:.............................. T:..............................

Carried to Collection R
21  A21  SELECTED SUBCONTRACTORS

Clause 21.0

Clause 21 is amended by replacing it with:

No Clause

F:............................  V:............................  T:............................

22  A22  EMPLOYER'S DIRECT CONTRACTORS

Clause 22.0

F:............................  V:............................  T:............................

23  A23  CONTRACTOR'S DOMESTIC SUBCONTRACTORS

Clause 23.0

F:............................  V:............................  T:............................

COMPLETION

24  A24  PRACTICAL COMPLETION

Clause 24.0

F:............................  V:............................  T:............................

25  A25  WORK'S COMPLETION

Clause 25.0

F:............................  V:............................  T:............................

26  A26  FINAL COMPLETION

Clause 26.0

Clause 26.1.2 is amended by inserting "#" next to 26.1.2

F:............................  V:............................  T:............................

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Section No. 1
PRELIMINARY - PACALTS DORP
Bill No. 1
PRELIMINARIES
27 A27 LATENT DEFECTS LIABILITY PERIOD
Clause 27.0
F:.................................. V:.................................. T:.................................. Item

28 A28 SECTIONAL COMPLETION
Clause 28.0
F:.................................. V:.................................. T:.................................. Item

29 A29 REVISION OF DATE FOR PRACTICAL COMPLETION
Clause 29.0
Clause 29.2.5 is amended by replacing it with:
No clause
F:.................................. V:.................................. T:.................................. Item

30 A30 PENALTY FOR NON-COMPLETION
Clause 30.0
F:.................................. V:.................................. T:.................................. Item

PAYMENT

31 A31 INTERIM PAYMENT TO THE CONTRACTOR
Clause 31.0
Clause 31.5.2 is amended by replacing "14.7.1"t with "14.0"
Clause 31.8 is amended by replacing it with the following two alternative clauses:

Alternative A

31.8(A) Where a security is selected in terms of 14.1; 14.5 or 14.6, the value of the works in terms of 31.4.1 and materials and goods in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:

31.8(A).1 Ninety-five per cent (95%) of such value in interim payment certificates issued up to the date of practical completion
 Carried to Collection

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31.8(A).2 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to but excluding the date of final completion.

31.8(A).3 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 34.6.

31.8(A).4 One hundred per cent (100%) of such value in the final payment certificate in terms of 34.6 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate.

Alternative B

31.8(B) Where security is a payment reduction in terms of 14.7 the value of the works in terms of 31.4.1 and materials and goods in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:

31.8(B).1 Ninety per cent (90%) of such value in interim payment certificates issued up to the date of practical completion.

31.8(B).2 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to but excluding the date of final completion.

31.8(B).3 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 34.6.

31.8(B).4 One hundred per cent (100%) of such value in the final payment certificate in terms of 34.6 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate.

Clause 31.12 is amended by deleting the following:

Payment shall be subject to the employer giving the contractor a tax invoice for the amount due.

F:........................................V:....................................T:................................
A32 ADJUSTMENT TO THE CONTRACT VALUE

Clause 32.0

Clauses 32.5.1, 32.5.4 and 32.5.7 are amended by the addition of the following at the end of the sentence:

"due to no fault of the contractor"

F:.............................. V:.............................. T:..............................

A33 RECOVERY OF EXPENSE AND LOSS

Clause 33.0

F:.............................. V:.............................. T:..............................

A34 FINAL ACCOUNT AND FINAL PAYMENT

Clause 34.0

Clause 34.1 is amended by removing "#" next to 34.1

Clause 34.2 is amended by removing "#" next to 34.2

Clause 34.8 is amended by deleting the words "where security as a fixed construction guarantee in terms of 14.4 has been selected or where payment reduction has been applied in terms of 14.7.1"

Clause 34.13 is amended by replacing “seven (7) calendar days” with “twenty-one (21) calendar days” and deleting the words “subject to the employer giving the contractor a tax invoice for the amount due”

F:.............................. V:.............................. T:..............................

A35 PAYMENT TO OTHER PARTIES

Clause 35.0

F:.............................. V:.............................. T:..............................
CANCELLATION

A36 CANCELLATION BY EMPLOYER - CONTRACTOR’S DEFAULT

Clause 36.0

Clause 36.1 is amended by the addition of the following clauses:

36.1.3 refuses or neglects to comply strictly with any of the conditions of contract

36.1.4 estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa

36.1.5 in the judgement of the employer, has engaged in corrupt or fraudulent practices in competing for or in executing the contract

Clause 36.3 is amended by removing the reference to “No clause” and replacing the words “principal agent” with “employer”

Clause 36.0 is amended by the addition of the following clause:

36.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

F:.............................. V:.............................. T:..............................

A37 CANCELLATION BY EMPLOYER - LOSS AND DAMAGE

Clause 37.0

Clauses 37.3.5 is amended by replacing "ninety (90) with "one hundred and twenty (120)"

Clause 37.0 is amended by the addition of the following clause:

37.5 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

F:.............................. V:.............................. T:..............................

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Section No. 1
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A38  CANCELLATION BY CONTRACTOR - EMPLOYER'S DEFAULT

Clause 38.0

Clauses 38.5.4 is amended by replacing "ninety (90) with "one hundred and twenty (120)"

Clause 38.0 is amended by the addition of the following clause:

38.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever.

F:.............................. V:.............................. T:..............................

A39  CESSATION - CANCELLATION OF THE WORKS

Clause 39.0

Clauses 39.3.5 is amended by the addition of the following at the end of the sentence "within one hundred and twenty (120) working days of completion of such a report"

F:.............................. V:.............................. T:..............................

A40  DISPUTE SETTLEMENT

Clause 40.0

Clause 40.2.2 is amended by replacing "one (1) year" with "three (3) years"

Clause 40.6 is amended by removing the reference to:

No clause

Clause 40.7.1 is amended by replacing "(10)" with "(15)" and by the addition of the following:

Whether or not mediation resolves the dispute, the parties shall bear their own cost concerning the mediation and equally share the costs of the mediator and related costs.

F:.............................. V:.............................. T:..............................

Carried to Collection
SUBSTITUTE PROVISIONS

A41 STATE CLAUSES

Clause 41.0

F:.............................. V:.............................. T:..............................

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CONTRACT VARIABLES

THE SCHEDULE (DPW04EC)

A42 PRE-TENDER INFORMATION

Clause 42.0

Tenderers are referred to the Contract Data DPW-04(EC) for variables pertaining to this contract

F:.............................. V:.............................. T:..............................

SECTION B: JBCC PRELIMINARIES

1: DEFINITIONS AND INTERPRETATION

Definitions and interpretation

See also clause A1.0 of Section A for additional an/or amended definitions which shall apply to this Section

F:.............................. V:.............................. T:..............................

2: DOCUMENTS

Checking of documents

F:.............................. V:.............................. T:..............................

Provisional bills of quantities

F:.............................. V:.............................. T:..............................

Availability of construction documentation

F:.............................. V:.............................. T:..............................

Interests of agents

F:.............................. V:.............................. T:..............................

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Section No. 1
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**Priced documents**
F:.............................. V:.............................. T:..............................

**Tender submission**
Clause 2.6 is amended by replacing "JBCC Form of Tender" with "Form of Offer and Acceptance DPW-07(EC)"
F:.............................. V:.............................. T:..............................

3: THE SITE

**Defined works area**
F:.............................. V:.............................. T:..............................

**Geotechnical investigation**
F:.............................. V:.............................. T:..............................

**Inspection of the site**
F:.............................. V:.............................. T:..............................

**Existing premises occupied**
F:.............................. V:.............................. T:..............................

**Previous work – dimensional accuracy**
F:.............................. V:.............................. T:..............................

**Previous work – defects**
F:.............................. V:.............................. T:..............................

**Services – known**
F:.............................. V:.............................. T:..............................

Carried to Collection
<table>
<thead>
<tr>
<th>Item</th>
<th>Services – unknown</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>F:.............................. V:.............................. T:..............................</td>
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<tr>
<th>Item</th>
<th>Protection of trees</th>
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<tr>
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<td>F:.............................. V:.............................. T:..............................</td>
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<thead>
<tr>
<th>Item</th>
<th>Articles of value</th>
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<tr>
<th>Item</th>
<th>Inspection of adjoining properties</th>
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<td>F:.............................. V:.............................. T:..............................</td>
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<thead>
<tr>
<th>Item</th>
<th>4: MANAGEMENT OF CONTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Management of the works</td>
</tr>
<tr>
<td></td>
<td>F:.............................. V:.............................. T:..............................</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Programme for the works</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>F:.............................. V:.............................. T:..............................</td>
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<thead>
<tr>
<th>Item</th>
<th>Progress meetings</th>
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<tbody>
<tr>
<td></td>
<td>F:.............................. V:.............................. T:..............................</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Item</th>
<th>Technical meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F:.............................. V:.............................. T:..............................</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Labour and plant records</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F:.............................. V:.............................. T:..............................</td>
</tr>
</tbody>
</table>
### 5: SAMPLES, SHOP DRAWINGS AND MANUFACTURERS’ INSTRUCTIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>F:</th>
<th>V:</th>
<th>T:</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
<td>Samples of materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Workmanship samples</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Shop drawings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Compliance with manufacturer’s instructions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6: TEMPORARY WORKS AND PLANT

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>F:</th>
<th>V:</th>
<th>T:</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Deposits and fees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Enclosure of the works</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Advertising</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>Plant, equipment, sheds and offices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>Main notice board</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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PRELIMINARIES
### 7: TEMPORARY SERVICES

#### Subcontractors’ notice board

<table>
<thead>
<tr>
<th>Item</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F:.........</td>
<td>V:...........</td>
</tr>
</tbody>
</table>

#### 8: PRIME COST AMOUNTS

#### Responsibility for prime cost amounts

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F:.........</td>
</tr>
</tbody>
</table>

#### 9: ATTENDANCE ON N/S SUBCONTRACTORS

#### General attendance

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F:.........</td>
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</table>

#### Special attendance

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F:.........</td>
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</tbody>
</table>

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**Section No. 1**
**PRELIMINARY - PACALTS DORP**
**Bill No. 1**
**PRELIMINARIES**
10: FINANCIAL ASPECTS

Statutory taxes, duties and levies

Payment for preliminaries

Adjustment of preliminaries

Clauses B10.3.1 and B10.3.2 are amended by replacing "within fifteen (15) working days of taking possession of the site" with "when submitting his priced bills of quantities / lump sum document"

Payment certificate cash flow

11: GENERAL

Protection of the works

Protection / isolation of existing / sectionally occupied works

Security of the works

Notice before covering work

Carried to Collection
Disturbance
F:.......................... V:.......................... T:.......................... Item

Environmental disturbance
F:.......................... V:.......................... T:.......................... Item

Works cleaning and clearing
F:.......................... V:.......................... T:.......................... Item

Vermin
F:.......................... V:.......................... T:.......................... Item

Overhand work
F:.......................... V:.......................... T:.......................... Item

Instruction manuals and guarantees
F:.......................... V:.......................... T:.......................... Item

As built information
F:.......................... V:.......................... T:.......................... Item

Tenant installations
F:.......................... V:.......................... T:.......................... Item

12: SCHEDULE OF VARIABLES

Schedule of Variables
F:.......................... V:.......................... T:.......................... Item

This schedule contains all variables referred to in this document and is divided into pretender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of these Preliminaries.
Spaces requiring information must be filled in, shown as “not applicable” or deleted and not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross-referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in [ ] brackets.

12.1 PRE TENDER INFORMATION

12.1.1 Provisional Bills of Quantities
[2.2] The quantities are provisional

YES

12.1.2 Availability of construction documentation
[2.3] Construction of documentation is complete

YES

12.1.3 Interest of agents
[2.4] Details:

12.1.4 Defined works area
[3.1] Details:

12.1.5 Geotechnical investigation
[3.2] Details:

12.1.6 Existing premises occupied
[3.4] Specific requirements:

12.1.7 Previous work - dimensional accuracy
[3.5] Details:

12.1.8 Previous work - defects
[3.6] Details:

12.1.10 Protection of trees
[3.9] Specific requirements:

12.1.11 Inspection of adjoining properties
[3.11] Specific requirements:

12.1.12 Enclosure of the works
[6.2] Specific requirements:

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12.1.13 **Offices**
[6.4.3] Specific requirements:
The contractor shall provide, maintain and remove on completion of the works an office for the exclusive use of the principal agent, minimum size 4 x 3 x 3m high internally, suitably insulated and ventilated, provided with electric lighting and fitted with boarded floor, desk, chair, drawing stool, drawing board and lock-up drawers for drawings. The office shall be kept clean and fit for use at all times.

12.1.14 **Main notice board**
[6.5] Specific requirements:
The contractor shall provide, erect where directed, maintain and remove on completion of the works a notice board size 3 x 3m as type Drawing GEN 063, constructed of suitable boarding with flat smooth surface and with edging bead 19mm thick round outer edges and projecting 12mm from face of boarding and rounded on front edge. The board shall be securely fixed to hoarding, where hoarding is provided, or fixed to and including a suitable supporting structure of timber or tubular posts and braces. The board is to be painted ivory white and the bead and 12mm wide dividing lines dark green. All wording shall be inscribed in dark green as per the coat of arms for SA. All wording shall be inscribed in dark green painted sans serif lettering.

12.1.15 **Subcontractors’ notice board**
[6.6] A notice board is required YES
Specific requirements:

12.1.16 **Water**
[7.2] Option A (by contractor) YES

12.1.17 **Electricity**
[7.3] Option A (by contractor) YES

12.1.18 **Telecommunications**
[7.4] Telephone
Facsimile YES
E-mail YES

12.1.19 **Ablution facilities**
[7.5] Option A (by contractor) YES

12.1.20 **Protection of existing/sectionally occupied works**
[11.2] Protection is required YES

---

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-60-
12.1.21 **Special attendance**  
[9.2] Subcontractor (1) details:

Subcontractor (2) details:

Subcontractor (3) details:

Subcontractor (4) details:

12.1.22 **Protection of works**  
[11.1] Specific requirements:

12.1.23 **Disturbance**  
[11.5] Specific requirements:  
The contractor shall keep the site, structures, etc well watered during operations to prevent dust and shall provide and erect and remove on completion of the works all necessary temporary dust screens all to the satisfaction of the principal agent

12.1.24 **Environmental disturbance**  
[11.6] Specific requirements:

12.2 **POST-TENDER INFORMATION**

12.2.1 **Payment of preliminaries**  
[10.2] Option A (prorated)  
Option B (calculates)  

12.2.2 **Adjustment of preliminaries**  
[10.3] Option A (three categories)  
Option B (detailed breakdown)  

12.2.3 **Additional agreed preliminaries items**  
Details:

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SECTION C: SPECIFIC PRELIMINARIES

Section C contains specific preliminary items which apply to this contract except where N/A (Not Applicable) appears against an item

C1 CONTRACT DRAWINGS

The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the works and the manner in which they are to be executed.

Should any part of the drawings not be clearly intelligible to the tenderer he shall, before submitting his tender, obtain clarification in writing from the principal agent.

F:.............................. V:.............................. T:..............................

C2 GENERAL PREAMBLES

The document “Specification of Materials and Methods to be used (PW371)” is obtainable on the Department’s website <http://www.publicworks.gov.za/> under “Consultants Guidelines”), and shall be read in conjunction with the bills of quantities / lump sum document and be referred to for the full descriptions of work to be done and materials to be used.

F:.............................. V:.............................. T:..............................

C3 TRADE NAMES

Wherever a trade name for any product has been described in the bills of quantities, the tenderer’s attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders.

If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for

F:.............................. V:.............................. T:..............................

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105 C4 IMPORTED MATERIALS AND EQUIPMENT

Where imported items are listed in the tender documents, the tenderer shall provide all
the information called for, failing which the price of any such item, materials or
equipment shall be excluded from currency fluctuations. (refer to Schedule of
Imported Materials and Equipment DPW-23(EC) to be completed by tenderer

Notwithstanding any provisions elsewhere regarding the adjustment of contract
prices, the price of any item, material or equipment listed in terms of this clause shall be
excluded from the Contract Price Adjustment Provisions (if applicable)

F:.............................. V:.............................. T:..............................

106 C5 VIEWING THE SITE IN SECURITY AREAS

The **site** is situated in a security area and the tenderer must arrange with the unit
commander or other responsible officer to obtain permission to enter the **site** for
tendering purposes

F:.............................. V:.............................. T:..............................

107 C6 COMMENCEMENT OF WORKS IN SECURITY AREAS

As the **works** falls within a security area the **contractor** must give the unit
commander or other responsible officer notice before commencement of the
**works**. Should the **contractor** fail to make such arrangements, admission to the
**site** may be refused and any additional costs will be for the **contractor’s**
account

F:.............................. V:.............................. T:..............................

108 C7 ENTRANCE PERMITS TO SECURITY AREAS

As the **works** falls within a security area the **contractor** shall obtain entrance
permits for his personnel and workmen entering the area and shall comply with
all regulations and instructions which may be issued from time to time regarding
the protection of persons and property under the control of the Defence Force,
Police or chief security officer

F:.............................. V:.............................. T:..............................

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PRELIMINARIES
C8 SECURITY CHECK OF PERSONNEL

The principal agent may require the contractor to have his personnel and workmen, or a certain number of them, security classified.

In the event of the principal agent requesting the removal of a person or persons from the works for security reasons, the contractor shall do so forthwith and shall thereafter ensure that such person or persons are denied access to the works and the site and/or to any document or information relating to the works.

C9 PROHIBITION ON TAKING OF PHOTOGRAPHS

In terms of article 119 of the Defence Act, 44 of 1957, it is prohibited to sketch or to take photographs of any military site or installation or any building or civil works thereon or to be in possession of a camera or other apparatus used for taking of photographs except when authorized thereto by or on behalf of the Minister.

The same prohibition is also applicable to all correctional institutions in terms of article 44.1(e) of the Correctional Services Act 8 of 1959.

C10 HIV/AIDS AWARENESS

It is required of the contractor to thoroughly study the HIV/AIDS Specification (PW 1544) of the Department that must be read together with and is deemed to be incorporated under this Section of the Bills of Quantities. Provision for pricing of HIV/AIDS awareness is made under items C10.1 to C10.5 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained.

The contractor must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of Clause A 31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.
C10.1 AWARENESS CHAMPION
Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification

F:......................... V:............................ T:.........................

C10.2 AWARENESS WORKSHOPS
Selection and appointment of a competent Service Provider approved by the principal agent, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multi-media techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification

F:......................... V:............................ T:.........................

C10.3 POSTERS, BOOKLETS, VIDEOS, ETC.
Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc. for the duration of the construction period, all in accordance with the HIV/AIDS Specification

F:......................... V:............................ T:.........................

C10.4 ACCESS TO CONDOMS
Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the construction period, all in accordance with the HIV/AIDS Specification

F:......................... V:............................ T:.........................
C10.5  MONITORING

Monitoring HIV/AIDS awareness of workers, providing the principal agent with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the construction period and close out, all in accordance with the HIV/AIDS Specification.

F:.................................. V:..................................T:..................................
C11.2 HEALTH AND SAFETY PLAN  
(Construction Regulation 5.4)

The Contractor shall provide and demonstrate to the Principal Agent a suitable and sufficiently documented health and safety plan based on the Act, Construction Regulations and the health and safety specification, which shall be applied from the date of commencement of and for the duration of the construction work. The Contractor shall ensure that a copy of the health and safety plan is available on request to an employee, inspector, sub contractor or principal agent all in terms of Regulation 5

F:.................................. V:.............................. T:..............................

C11.3 REGISTRATION WITH THE COMPENSATION FUND  
(Construction Regulation 5.3 (f))

The Contractor shall provide proof of his registration and good standing with the Compensation Fund or a licensed compensation insurer prior to the commencement of work

F:.................................. V:.............................. T:..............................

C11.4 HEALTH AND SAFETY FILE  
(Construction Regulation 5.7)

The Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the health and safety specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Principal Agent or Inspector upon request. Upon completion of the works, the Contractor shall hand over a consolidated health and safety file to the principal agent

F:.................................. V:.............................. T:..............................
C11.5 SUPERVISION OF CONSTRUCTION WORK (SAFETY OFFICER)
(Construction Regulation 6)

The Contractor shall appoint a full-time competent employee in writing as the construction supervisor, with the duty of supervising the construction work. The Contractor shall appoint a full-time or part-time construction safety officer in writing to assist in the control of all safety related aspects on the site. Such appointments are required to ensure that at all times the requirements of the Act and Construction Regulations are adhered to. Refer to Regulation 6.

F:.............................. V:.............................. T:..............................

C11.6 RISK ASSESSMENT AND SAFETY POLICY
(Construction Regulation 7)

Before commencing work the Contractor shall cause a risk assessment to be performed by a competent person appointed in writing and the risk assessment shall form part of the health and safety plan. A copy of the risk assessment shall be available on site at all times for inspection. The Contractor shall at all time carry out the works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. He shall take all precautions regarding training of employees in any hazards and the related work procedures, health and safety induction training of employees, visitors or any other persons entering the site and provide personal protective equipment to all employees and visitors to site which are necessary and adequate to eliminate any conditions which contribute to the risk of injury to persons or damage to property in terms of Regulation 7.

F:.............................. V:.............................. T:..............................

C11.7 SIGNIFICANT HAZARD IDENTIFICATION
RISK ASSESSMENT PREPARED BY THE DESIGN CONSULTANTS

The Contractor shall allow for additional financial provision, if any, to take the necessary precautions regarding the significant hazards and risks identified and assessed by the design consultants.

F:.............................. V:.............................. T:..............................

Carried to Collection R
C11.8 ADDITIONAL FINANCIAL PROVISION

The Contractor shall allow for additional financial provision, if any, to comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993) and the Construction Regulations issued there under which have not been specifically elsewhere provided.

F:.............................. V:..............................T:..............................

C11.9 FALL PROTECTION PLAN
(Construction Regulation 8)

The contractor shall, before commencing any construction work submit a fall protection plan identified all steps to be taken in order to ensure the continued adherence to the fall protection plan and shall include a risk assessment of all work carried out from an relevant position. The fall protection plan shall form part of the health and safety plan and file.

F:.............................. V:..............................T:..............................

C11.10 PHYSICAL AND PSYCHOLOGICAL FITNESS
(Construction Regulation 8.2(b)

The contractor and sub-contractors shall before commencing any construction work submit proof of his employees that shall carry out work from an elevated position, physical and psychological fitness. This shall be recorded in the health and safety file.

F:.............................. V:..............................T:..............................

C11.11 CONSTRUCTION VEHICLES AND MOBILE PLANT (Construction Regulation 21)

The contractor and sub-contractors shall ensure that all machine operators received training and has been certified competent to operate such vehicle, and are physical and psychological fit to operate such construction vehicles and mobile plants. This shall be recorded in the health and safety file.

F:.............................. V:..............................T:..............................
C11.12 TRAINING  
(Construction Regulation 8 (c))

The contractor and sub-contractors shall, before commencing any construction work, submit the training program of all his employees. This program shall form part of the health and safety plan.

F:.............................. V:.............................. T:..............................  

Item

C11.13 DEMOLITION WORK  
(Construction Regulation 12)

The contractor shall, before any demolition work are carried out, submit all method of demolition to be used. This method shall form part of the health and safety plan and file.

F:.............................. V:.............................. T:..............................  

Item

C11.14 REMOVAL AND DISPOSAL OF ASBESTOS MATERIAL  
(Asbestos Regulation)

The principle contractor shall appoint a contractor that is registered with the Department of Labour as an AIA. The contractor must allow for;

NOTIFICATION OF ASBESTOS PROCESSING
PERSONAL PROTECTIVE EQUIPMENT
PACKAGING AND TRANSPORT AND STORAGE TO DISPOSAL SITE DEMOLITION WORK OF SHEETS
LABELLING AND INFORMATION

F:.............................. V:.............................. T:..............................  

Item

COMMUNITY LIAISON OFFICER (IF REQUIRED)

131 Allow the amount of R50 000.00 (Fifty Thousand Rand) for the appointment of a Community Liaison Officers (CLO) for all facilities for the duration of the project (Clause SO.10.04)  

Item

132 Allow for attendance and profit on the item above  

Item

133 Allow for 5 000km (Five Thousand Kilometres) Transport for a CLO (Clause SO.11.05)  

Item

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PAYMENT FOR EMPLOYMENT AND TRAINING OF LOCAL UNSKILLED WORKERS (CLAUSE SO 11.06)

The following work will only be executed upon instruction from the Professional Service Provider if and when required in accordance with Provincial Government Requirements:

134 Orientation and Life Skills development training for local unskilled workers for an average of 10 days per worker (Clause SO 10.06.01)

135 Technical skills training for local unskilled for an average of 20 days per worker (Clause SO 10.06.02)

IMPLEMENTATION OF CONTRACT PARTICIPATION GOALS

136 The Contractor shall allow in his pricing for the implementation of the CPG targets in accordance with the specifications SO and CPG Declaration included in this document. The Contractor must also allow for the provision of monthly reports to specify their achievements with regards to the CPG targets.

Sanctions for not achieving the required targets will be calculated as per Specification SO

CONTRACT VARIABLES

THE SCHEDULE

Information necessary for completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder.

42.0 PRE-TENDER INFORMATION

42.1 CONTRACTING AND OTHER PARTIES

42.1.1 Employer: NATIONAL DEPARTMENT OF HEALTH

[1.2] Physical address: Civitas Building, Cnr Andries and Struben Streets, Pretoria 001

Telephone: (012) 312 000

42.1.2 Agent (1) MEDIPLAN

[5.2] Agent’s service: Principal Agent

Postal address: PO Box 2188
Postal address: PO Box 2188 Brooklyn Square 0075
Telephone: (012) 343 8064
Fax: (012) 343 8069

42.1.3 Agent (2)
Agent’s service: MEDIPLAN
Postal address: Architects
PO Box 2188
Brooklyn Square 0075
Telephone: (012) 343 8064
Fax: (012) 343 8069

42.1.4 Agent (3)
Agent’s service: AKHA IZWE QUANTITY SURVEYORS
Postal address: Quantity Surveyors
PO Box 24152
Lansdowne 7779

Cell: 083 298 3220
Telephone: (087) 700 8601
Fax: (086) 662 1300
Contact person: Ahmed Seedat
Email: seedata@aiqs.co.za

42.1.4 Agent (4)
Agent’s service: TBA
Postal address:
Telephone:
Fax:
Contact person:
Email:

42.1.5 Agent (5)
Agent’s service: TBA
Postal address:
Telephone:
Fax:
Contact person:
Email:

42.1.6 Agent (6)
Agent’s service: TBA
Postal address:
Telephone:

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42.1.7 Agent (6) TBA
[5.2] Agent's service:
Postal address:
Telephone:
Fax:
Contact person:
Email:

42.1.8 Interest of Principal Agent or other agents in the project
[5.5] No

42.1.9 The principal agent named in 42.1.2 above is responsible for the
preparation of the contract data schedule and must be contacted should the
contractor be uncertain of the information provided or to be provided. Failure to
complete the contract data schedule in full may result in the tender being
disqualified

42.2 CONTRACT DETAILS

42.2.1 Works description:
The Works comprise; refurbishment and upgrades at Pacaltsdorp
clinic in the Western Cape Province

42.2.2 Site description:
Exiting Pacaltsdorp Clinic : 22.45944 Longitude, -34.01611 Latitude

42.2.3 Work or installations by direct contractors:
[22.2] N/A

42.2.4 Specific options that are applicable to a State organ only
[41.0] Where so:
[31.11.2#] (1) Interest rate legislation will be in terms of the legislation of the
Republic of South Africa

[11.2#] (2) Lateral support insurance to be effected by the contractor

[31.4.2#] (3) Payment will be made for materials and goods
Yes

[40.2.2.#] (4) Dispute resolution and Adjudication

42.2.5 Possession of the site is intended to be given on
[15.2.1#] To be announced

42.2.6 Period for the commencement of the works after the
[15.3] contractor takes possession of the site: Five working days

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42.2.7 For the works as a whole:

[24.3.1] The date for practical completion:

18 Months after date of acceptance exclusive of all statutory builders
Holidays

[30.1] The penalty per calendar day:

0,05 Percent of the contract sum per calendar days

42.2.8 For the works in sections

Section 1

[24.3.1] The date for practical completion

N/A

[28.1] The penalty per calendar day:

N/A

Section 2

[24.3.1] The date for practical completion

N/A

[28.1] The penalty per calendar day:

Section 3

[24.3.1] The date for practical completion

N/A

[28.1] The penalty per calendar day:

N/A

42.2.9 The law applicable to this agreement shall be that of

[1.2] South Africa
42.3 INSURANCES AND SECURITIES

42.3.1 Contract works insurance to be effected by the Contractor for a sum not less that the contract sum with a deductible in an amount that the contractor deems appropriate.

42.3.2 Supplementary insurance to be effected by the Contractor.

42.3.3 Public Liability Insurance to be effected by Contractor for the amount of R5,000,000 (Five Million Rands) With deductible in an amount that the contractor deems appropriate.

42.3.4 Support Insurance N/A
42.4 DOCUMENTS AND GENERAL

42.4.2 Waiver of the contractor's lien or right of continuing possession is required  [3.3, 15.1.3, 31.16.2#]  Yes

42.4.2 Construction document copies to be supplied to the contractor free of charge  [3.7]
3 copies

42.4.3 Bills of quantities schedule of rates drawn up in accordance with Standards System of Measuring Building Works- Sixth Edition with all Amendments

42.4.4 On acceptance of the tender  [15.1.1] bills of quantities must be submitted within ______ working days
Complete priced bills of quantities must be submitted with the tender

42.4.5 JBCC Engineering General Conditions are to be included in the contract documents  [3.4]
No

42.4.6 The contract value is to be adjusted using CPAP indices  [31.5.3]
Yes

[32.13] Where CPAP is to be used, the base month for the application of CPAP is the month prior to the closing of the tender.

Alternative indices (if applicable)

42.4.7 Details of changes made to the provisions of JBCC standard documentation

42.4.8 Clause A31 Has been amended to read that payment be made within [A31] 30 days

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Carried to C2.3: Final Tender Summary

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PRELIMINARIES
SECTION 3

BILL No. 1

MEANING OF TERMS "TENDER / TENDERER"

Any reference to the words "Tender" or "Tenderer" herein and/or in any other documentation shall be construed to have the same meaning as the words "Bid" or "Bidder"

PRELIMINARIES

The JBCC Preliminaries Code 2103, May 2005 edition for use with the JBCC Principal Building Agreement Edition 4.1 Code 2101, March 2005 is taken to be incorporated herein. The tenderer is deemed to have referred to these documents for the full intent and meaning of each clause. These clauses are referred to by number and heading only. Where standard clauses or options are not applicable to the contract such modifications or corrections as are necessary are given under each relevant clause. Where an item is not relevant to this specific contract such item is marked. "N/A" signifying "Not Applicable".

PRICING OF PRELIMINARIES

Should Option A, as set out in clause B10.3.1 hereinafter be used for the adjustment of preliminaries then each item priced is to be allocated to one or more of the three categories Fixed, Value Related or Time Related and the respective amounts entered in the spaces provided under each item

Items not priced in these Preliminaries shall be deemed to be included elsewhere in these Bills of Quantities.

SECTION A: JBCC PRINCIPAL BUILDING AGREEMENT

DEFINITIONS

A1 DEFINITIONS AND INTERPRETATION

Clause 1.0 Clause

1.1 Definition of "Commencement Date" is added:

"COMMENCEMENT DATE" means the date that the agreement, made in terms of the Form of Offer and Acceptance, comes into effect

Clause 1.1 Definition of "Construction Guarantee" is amended by replacing it with the following:

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"CONSTRUCTION GUARANTEE" means a guarantee at call obtained by the contractor from an institution approved by the employer in terms of the employer's construction guarantee form as selected in the schedule.

Clause 1.1 Definition of "Construction Period" is amended by replacing it with the following:

"CONSTRUCTION PERIOD" means the period commencing on the commencement date and ending on the date of practical completion.

Clause 1.1 Definition of "Corrupt Practice" is added:

"CORRUPT PRACTICE" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

Clause 1.1 Definition of "Fraudulent Practice" is added:

"FRAUDULANT PRACTICE" means a misrepresentation of facts in order to influence a procurement process in the execution of a contract to the detriment of any tenderer and includes collusive practice among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition.

Clause 1.1 Definition of "Interest" is amended by replacing it with the following:

"INTEREST" means the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be the rate determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999).

Clause 1.1 Definition of "Principal Agent" is amended by replacing it with the following:

"PRINCIPAL AGENT" means the person or entity appointed by the employer and named in the schedule. In the event of a principal agent not being appointed, then all the duties and obligations of a principal agent as detailed in the agreement shall be fulfilled by a representative of the employer as named in the schedule.

Clause 1.1 Definition of "Security" is amended by replacing it with the following:

"SECURITY" means the form of security provided by the employer or contractor, as stated in the schedule, from which the contractor or employer may recover expense or loss.

Clause 1.6 is amended by replacing the words "prepaid registered post, telefax or e-mail" with "prepaid registered post or telefax".

Clause 1.6.4 is amended by replacing it with the following:

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OBJECTIVE AND PREPARATION

2 A2 OFFER, ACCEPTANCE AND PERFORMANCE
Clause 2.0

3 A3 DOCUMENTS
Clause 3.0
Clause 3.2.1 is amended by replacing “14.1” with “14.0”
Clause 3.7 is amended by the addition of the following:

The contractor shall supply and keep a copy of the JBCC Series 2000 Principal Building Agreement and Preliminaries applicable to this contract on the site, to which the employer, principal agent and agents shall have access at all times

Clause 3.10 is amended by replacing the second reference to “principal agent” with the word “employer”

4 A4 DESIGN RESPONSIBILITY
Clause 4.0
Clause 4.3 is amended by replacing it with the following:

5 A5 EMPLOYER’S AGENTS
Clause 5.0
Clause 5.1.2 is amended to include clauses 32.6.3, 34.3, 34.4 and 38.5.8
A6 SITE REPRESENTATIVE

Clause 6.0

F:.............................. V:.............................. T:..............................

A7 COMPLIANCE WITH REGULATIONS

Clause 7.0

Note: A separate clause has been included in Section C: Specific Preliminaries of the bills of quantities / lump sum document for the contractor to have the opportunity to price for all the requirements of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification

F:.............................. V:.............................. T:..............................

A8 WORKS RISK

Clause 8.0

F:.............................. V:.............................. T:..............................

A9 INDEMNITIES

Clause 9.0

F:.............................. V:.............................. T:..............................

A10 WORKS INSURANCES

Clause 10.0

Clause 10.0 is amended by the addition of the following clauses:

10.5 Damage to the Works

(a) Without in any way limiting the contractor's obligations in terms of the contract, the contractor shall bear the full risk of damage to and/or destruction of the works by whatever cause during construction of the works and hereby indemnifies and holds harmless the employer against any such damage. The contractor shall take such precautions and security measures and other steps for the protection and security of the works as the contractor may deem necessary
(b) The contractor shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works.

(c) The employer shall carry the risk of damage to or destruction of the works and material paid for by the employer that is the result of the excepted risks as set out in 10.6.

(d) Where the employer bears the risk in terms of this contract, the contractor shall, if requested to do so, reinstate any damage or destroyed portions of the works and the costs of such reinstatement shall be measured and valued in terms of 32.0 hereof.

10.6 Injury to Persons or loss of or damage to Properties

(a) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or caused by the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable.

(b) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person, arising out of or in the course of or by reason of the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable.

(c) The contractor shall, upon receiving a contract instruction from the principal agent, cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the employer shall be entitled to cause it to be made good and to recover the cost thereof from the contractor or to deduct the same from amounts due to the contractor.

(d) The contractor shall be responsible for the protection and safety of such portions of the premises placed under his control by the employer for the purpose of executing the works until the issue of the certificate of practical completion.

(e) Where the execution of the works involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the contractor shall obtain adequate insurance and will remain adequately insured or insured to the specific limit stated in the contract against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the works has been completed.
(f) The contractor shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the works.

10.7 High risk insurance

In the event of the project being executed in a geological area classified as a “High Risk Area”, that is an area which is subject to highly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:

10.7.1 Damage to the works

The contractor shall, from the commencement date of the works until the date of the certificate of practical completion bear the full risk of and hereby indemnifies and holds harmless the employer against any damage to and/or destruction of the works consequent upon a catastrophic ground movement as mentioned above. The contractor shall take such precautions and security measures and other steps for the protection of the works as he may deem necessary.

When so instructed to do so by the principal agent, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works, at the contractor’s own costs.

10.7.2 Injury to persons or loss of or damage to property

The contractor shall be liable for and hereby indemnifies and holds harmless the employer against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground movement as mentioned above.

The contractor shall be liable for and hereby indemnifies the employer against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract.

10.7.3 It is the responsibility of the contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2. Without limiting the contractor’s obligations in terms of the contract, the contractor shall, within twenty-one (21) calendar days of the commencement date but before commencement of the works, submit to the employer proof of such insurance policy, if requested to do so.

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10.7.4 The **employer** shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the **contractor's** default of his obligations as set out in 10.7.1; 10.7.2 and 10.7.3. Such losses or damages may be recovered from the **contractor** or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the **employer** and the **contractor** and for this purpose all these contracts shall be considered one indivisible whole.

F:.............................. V:.............................. T:..............................

11 A11 LIABILITY INSURANCES

Clause 11.0

F:.............................. V:.............................. T:..............................

12 A12 EFFECTING INSURANCES

Clause 12.0

F:.............................. V:.............................. T:..............................

13 A13.0 No clause

N/A

14 A14 SECURITY

Clause 14.0

Clauses 14.1 - 14.8 are amended by replacing them with the following:

14.1 In respect of contracts with a **contract sum** up to R1 million, the **security** to be submitted by the **contractor** to the **employer** will be as a payment reduction of five per cent (5%) of the value certified in the **payment certificate** (excluding VAT)

14.1.1 The payment reduction of the value certified in a **payment certificate** shall be **mutatis mutandi** in terms of 31.8(A)

14.1.2 The **employer** shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the payment reduction **security** or portions thereof to the **contractor**

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14.2 In respect of contracts with a **contract sum** above R1 million, the **contractor** shall have the right to select the **security** to be provided in terms of 14.3, 14.4, 14.5, 14.6, or 14.7 as stated in the **schedule**. Such **security** shall be provided to the **employer** within twenty-one (21) **calendar days** from **commencement date**. Should the **contractor** fail to select the **security** to be provided or should the **contractor** fail to provide the **employer** with the selected **security** within twenty-one (21) **calendar days** from **commencement date**, the **security** in terms of 14.7 shall be deemed to have been selected.

14.3 Where **security** as a cash deposit of ten per cent (10%) of the **contract sum** (excluding VAT) has been selected:

14.3.1 The **contractor** shall furnish the **employer** with a cash deposit equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.3.2 Within twenty-one (21) **calendar days** of the date of **practical completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to three per cent (3%) of the **contract value** (excluding VAT), and refund the balance to the **contractor**

14.3.3 Within twenty-one (21) **calendar days** of the date of **final completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to one per cent (1%) of the **contract value** (excluding VAT) and refund the balance to the **contractor**

14.3.4 On the date of payment of the amount in the final **payment certificate**, the **employer** shall refund the remainder of the cash deposit to the **contractor**

14.3.5 The **employer** shall be entitled to recover expense and loss from the cash deposit in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the cash deposit **security** or portions thereof to the **contractor**

14.3.6 The parties expressly agree that neither the **employer** nor the **contractor** shall be entitled to cede the rights to the deposit to any third party

14.4 Where **security** as a variable construction guarantee of ten percent (10%) of the **contract sum** (excluding VAT) has been selected:

14.4.1 The **contractor** shall furnish the **employer** with an acceptable variable construction guarantee equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.4.2 The variable construction guarantee shall reduce and expire in terms of the Variable Construction Guarantee form included in the invitation to tender

14.4.3 The **employer** shall return the variable construction guarantee to the **contractor** within fourteen (14) **calendar days** of it expiring

---

**Carried to Collection**

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14.4.4 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer shall issue a written demand in terms of the variable construction guarantee

14.5 Where security as a fixed construction guarantee of five per cent (5%) of the contract sum (excluding VAT) and a five per cent (5%) payment reduction of the value certified in the payment certificate (excluding VAT) has been selected:

14.5.1 The contractor shall furnish a fixed construction guarantee to the employer equal in value to five per cent (5%) of the contract sum (excluding VAT)

14.5.2 The fixed construction guarantee shall come into force on the date of issue and shall expire on the date of the last certificate of practical completion

14.5.3 The employer shall return the fixed construction guarantee to the contractor within fourteen (14) calendar days of it expiring

14.5.4 The payment reduction of the value certified in a payment certificate shall be in terms of 31.8 (A) and 34.8

14.5.5 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer shall be entitled to issue a written demand in terms of the fixed construction guarantee or may recover from the payment reduction or may do both

14.6 Where security as a cash deposit of five per cent (5%) of the contract sum (excluding VAT) and a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT) has been selected:

14.6.1 The contractor shall furnish the employer with a cash deposit equal in value to five per cent (5%) of the contract sum (excluding VAT) within twenty-one (21) calendar days from commencement date

14.6.2 Within twenty-one (21) calendar days of the date of practical completion of the works the employer shall refund the cash deposit in total to the contractor

14.6.3 The payment reduction of the value certified in a payment certificate shall be mutatis mutandi in terms of 31.8(A)

14.6.4 Where the employer has a right of recovery against the contractor in terms of 33.0, the employer may issue a written notice in terms of 33.4 or may recover from the payment reduction or may do both

14.7 Where security as a payment reduction of ten per cent (10%) of the value certified in the payment certificate (excluding VAT) has been selected:

14.7.1 The payment reduction of the value certified in a payment certificate shall be mutatis mutandi in terms of 31.8(B)

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14.7.2 The employer shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the employer complies with the provisions of 33.4 in which event the employer's entitlement shall take precedence over his obligations to refund the payment reduction or portions thereof to the contractor.

14.8 Payments made by the guarantor to the employer in terms of the fixed or variable construction guarantee shall not prejudice the rights of the employer or contractor in terms of this agreement.

14.9 Should the contractor fail to furnish the security in terms of 14.2, the employer, in his sole discretion and without notification to the contractor, is entitled to change the contractor's selected form of security to that of a ten percent (10%) payment reduction of the value certified in the payment certificate (excluding VAT), whereafter 14.7 shall be applicable.

EXECUTION

A15 PREPARATION FOR AND EXECUTION OF THE WORKS

Clause 15.0

Clause 15.1.1 is amended by replacing it with:

No Clause

Clause 15.1.2 is amended by replacing it with:

The security selected in terms of 14.0

Clause 15.1 is amended by the addition of the following clause:

15.1.4 An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within twenty-one (21) calendar days of commencement date.

Clause 15.2.1 is amended by replacing it with the following clause:

Give the contractor possession of the site within ten (10) working days of the contractor complying with the terms of 15.1.2 and 15.1.4.

A16 ACCESS TO THE WORKS

Clause 16.0

Carried to Collection
A17  CONTRACT INSTRUCTIONS

Clause 17.0

Clause 17.1.11 is amended by deleting the words "and the appointment of nominated and selected subcontractors"

F:.............................. V:.............................. T:..............................

A18  SETTING OUT OF THE WORKS

Clause 18.0

F:.............................. V:.............................. T:..............................

A19  ASSIGNMENT

Clause 19.0

F:.............................. V:.............................. T:..............................

A20  NOMINATED SUB-CONTRACTORS

Clause 20.0

Clause 20.1.3 is amended by replacing it with the following:

No Clause

Note: See item B9.1 hereinafter for adjustment of attendance on nominated subcontractors executing work allowed for under provisional sums

F:.............................. V:.............................. T:..............................
A21  SELECTED SUBCONTRACTORS
Clause 21.0
Clause 21 is amended by replacing it with:
No Clause
F:........................ V:........................ T:........................

A22  EMPLOYER'S DIRECT CONTRACTORS
Clause 22.0
F:........................ V:........................ T:........................

A23  CONTRACTOR'S DOMESTIC SUBCONTRACTORS
Clause 23.0
F:........................ V:........................ T:........................

COMPLETION
A24  PRACTICAL COMPLETION
Clause 24.0
F:........................ V:........................ T:........................

A25  WORK'S COMPLETION
Clause 25.0
F:........................ V:........................ T:........................

A26  FINAL COMPLETION
Clause 26.0
Clause 26.1.2 is amended by inserting "#" next to 26.1.2
F:........................ V:........................ T:........................

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R
A27  LATENT DEFECTS LIABILITY PERIOD

Clause 27.0

F: ................................ V: ................................ T: ..............................

A28  SECTIONAL COMPLETION

Clause 28.0

F: ................................ V: ................................ T: ..............................

A29  REVISION OF DATE FOR PRACTICAL COMPLETION

Clause 29.0

Clause 29.2.5 is amended by replacing it with:

No clause

F: ................................ V: ................................ T: ..............................

A30  PENALTY FOR NON-COMPLETION

Clause 30.0

F: ................................ V: ................................ T: ..............................

PAYMENT

A31  INTERIM PAYMENT TO THE CONTRACTOR

Clause 31.0

Clause 31.5.2 is amended by replacing "14.7.1"t with "14.0"

Clause 31.8 is amended by replacing it with the following two alternative clauses:

Alternative A

31.8(A) Where a security is selected in terms of 14.1; 14.5 or 14.6, the value of the works in terms of 31.4.1 and materials and goods in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:

31.8(A).1 Ninety-five per cent (95%) of such value in interim payment certificates issued up to the date of practical completion

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31.8(A).2 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to but excluding the date of final completion

31.8(A).3 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 34.6

31.8(A).4 One hundred per cent (100%) of such value in the final payment certificate in terms of 34.6 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate

Alternative B

31.8(B) Where security is a payment reduction in terms of 14.7 the value of the works in terms of 31.4.1 and materials and goods in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:

31.8(B).1 Ninety per cent (90%) of such value in interim payment certificates issued up to the date of practical completion

31.8(B).2 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to but excluding the date of final completion

31.8(B).3 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 34.6

31.8(B).4 One hundred per cent (100%) of such value in the final payment certificate in terms of 34.6 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate

Clause 31.12 is amended by deleting the following:

Payment shall be subject to the employer giving the contractor a tax invoice for the amount due

F:...................................... V:........................................T:.................................

Carried to Collection
A32  ADJUSTMENT TO THE CONTRACT VALUE

Clause 32.0

Clauses 32.5.1, 32.5.4 and 32.5.7 are amended by the addition of the following at the end of the sentence:

"due to no fault of the contractor"

F:.................................. V:.............................. T:..............................

A33  RECOVERY OF EXPENSE AND LOSS

Clause 33.0

F:.................................. V:.............................. T:..............................

A34  FINAL ACCOUNT AND FINAL PAYMENT

Clause 34.0

Clause 34.1 is amended by removing "#" next to 34.1

Clause 34.2 is amended by removing "#" next to 34.2

Clause 34.8 is amended by deleting the words "where security as a fixed construction guarantee in terms of 14.4 has been selected or where payment reduction has been applied in terms of 14.7.1"

Clause 34.13 is amended by replacing “seven (7) calendar days” with “twenty-one (21) calendar days” and deleting the words “subject to the employer giving the contractor a tax invoice for the amount due”

F:.................................. V:.............................. T:..............................

A35  PAYMENT TO OTHER PARTIES

Clause 35.0

F:.................................. V:.............................. T:..............................

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A36 CANCELLATION BY EMPLOYER - CONTRACTOR'S DEFAULT

Clause 36.0

Clause 36.1 is amended by the addition of the following clauses:

36.1.3 refuses or neglects to comply strictly with any of the conditions of contract

36.1.4 estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa

36.1.5 in the judgement of the employer, has engaged in corrupt or fraudulent practices in competing for or in executing the contract

Clause 36.3 is amended by removing the reference to “No clause” and replacing the words “principal agent” with “employer”

Clause 36.0 is amended by the addition of the following clause:

36.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

F:.............................. V:.............................. T:..............................

A37 CANCELLATION BY EMPLOYER - LOSS AND DAMAGE

Clause 37.0

Clauses 37.3.5 is amended by replacing "ninety (90)" with "one hundred and twenty (120)"

Clause 37.0 is amended by the addition of the following clause:

37.5 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

F:.............................. V:.............................. T:..............................

Carried to Collection
A38 CANCELLATION BY CONTRACTOR - EMPLOYER'S DEFAULT

Clause 38.0

Clauses 38.5.4 is amended by replacing "ninety (90) with "one hundred and twenty (120)"

Clause 38.0 is amended by the addition of the following clause:

38.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever.

F:........................................ V:........................................ T:........................................

A39 CESSATION - CANCELLATION OF THE WORKS

Clause 39.0

Clauses 39.3.5 is amended by the addition of the following at the end of the sentence "within one hundred and twenty (120) working days of completion of such a report".

F:........................................ V:........................................ T:........................................

A40 DISPUTE SETTLEMENT

Clause 40.0

Clause 40.2.2 is amended by replacing "one (1) year" with "three (3) years"

Clause 40.6 is amended by removing the reference to:

No clause

Clause 40.7.1 is amended by replacing "(10)" with "(15)" and by the addition of the following:

Whether or not mediation resolves the dispute, the parties shall bear their own cost concerning the mediation and equally share the costs of the mediator and related costs.

F:........................................ V:........................................ T:........................................
Clause 41.0

F:................................ V:................................ T:..............................
CONTRACT VARIABLES

THE SCHEDULE (DPW04EC)

A42 PRE-TENDER INFORMATION

Clause 42.0

Tenderers are referred to the Contract Data DPW-04(EC) for variables pertaining to this contract

SECTION B: JBCC PRELIMINARIES

1: DEFINITIONS AND INTERPRETATION

Definitions and interpretation

See also clause A1.0 of Section A for additional an/or amended definitions which shall apply to this Section

2: DOCUMENTS

Checking of documents

Provisional bills of quantities

Availability of construction documentation

Interests of agents
48  **Priced documents**

F:.............................. V:.............................. T:..............................

49  **Tender submission**

Clause 2.6 is amended by replacing "JBCC Form of Tender" with "Form of Offer and Acceptance DPW-07(EC)"

F:.............................. V:.............................. T:..............................

50  **3: THE SITE**

**Defined works area**

F:.............................. V:.............................. T:..............................

51  **Geotechnical investigation**

F:.............................. V:.............................. T:..............................

52  **Inspection of the site**

F:.............................. V:.............................. T:..............................

53  **Existing premises occupied**

F:.............................. V:.............................. T:..............................

54  **Previous work – dimensional accuracy**

F:.............................. V:.............................. T:..............................

55  **Previous work – defects**

F:.............................. V:.............................. T:..............................

56  **Services – known**

F:.............................. V:.............................. T:..............................

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57  Services – unknown
F:......................... V:.............................. T:.........................

58  Protection of trees
F:......................... V:.............................. T:.........................

59  Articles of value
F:......................... V:.............................. T:.........................

60  Inspection of adjoining properties
F:......................... V:.............................. T:.........................

4: MANAGEMENT OF CONTRACT

61  Management of the works
F:......................... V:.............................. T:.........................

62  Programme for the works
F:......................... V:.............................. T:.........................

63  Progress meetings
F:......................... V:.............................. T:.........................

64  Technical meetings
F:......................... V:.............................. T:.........................

65  Labour and plant records
F:......................... V:.............................. T:.........................

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### 5: SAMPLES, SHOP DRAWINGS AND MANUFACTURERS’ INSTRUCTIONS

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75  Subcontractors’ notice board
    F:.......................... V:.......................... T:..........................  
    Item

76  Location
    F:.......................... V:.......................... T:..........................  
    Item

77  Water
    F:.......................... V:.......................... T:..........................  
    Item

78  Electricity
    F:.......................... V:.......................... T:..........................  
    Item

79  Telecommunication facilities
    F:.......................... V:.......................... T:..........................  
    Item

80  Ablution facilities
    F:.......................... V:.......................... T:..........................  
    Item

81  8: PRIME COST AMOUNTS

82  Responsibility for prime cost amounts
    F:.......................... V:.......................... T:..........................  
    Item

83  9: ATTENDANCE ON N/S SUBCONTRACTORS

84  General attendance
    F:.......................... V:.......................... T:..........................  
    Item

85  Special attendance
    F:.......................... V:.......................... T:..........................  
    Item

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84 Commissioning – fuel, water and electricity
F:.............................. V:.............................. T:..............................

10: FINANCIAL ASPECTS

85 Statutory taxes, duties and levies
F:.............................. V:.............................. T:..............................

86 Payment for preliminaries
F:.............................. V:.............................. T:..............................

87 Adjustment of preliminaries
Clauses B10.3.1 and B10.3.2 are amended by replacing "within fifteen (15) working days of taking possession of the site" with "when submitting his priced bills of quantities / lump sum document"
F:.............................. V:.............................. T:..............................

88 Payment certificate cash flow
F:.............................. V:.............................. T:..............................

11: GENERAL

89 Protection of the works
F:.............................. V:.............................. T:..............................

90 Protection / isolation of existing / sectionally occupied works
F:.............................. V:.............................. T:..............................

91 Security of the works
F:.............................. V:.............................. T:..............................

92 Notice before covering work
F:.............................. V:.............................. T:..............................

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Disturbance
F:.............................. V:.............................. T:..............................

Environmental disturbance
F:.............................. V:.............................. T:..............................

Works cleaning and clearing
F:.............................. V:.............................. T:..............................

Vermin
F:.............................. V:.............................. T:..............................

Overhand work
F:.............................. V:.............................. T:..............................

Instruction manuals and guarantees
F:.............................. V:.............................. T:..............................

As built information
F:.............................. V:.............................. T:..............................

Tenant installations
F:.............................. V:.............................. T:..............................

12: SCHEDULE OF VARIABLES

Schedule of Variables
F:.............................. V:.............................. T:..............................

This schedule contains all variables referred to in this document and is divided into pretender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of these Preliminaries.
Spaces requiring information must be filled in, shown as “not applicable” or deleted and not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross-referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in [ ] brackets.

12.1 PRE TENDER INFORMATION
12.1.1 Provisional Bills of Quantities
[2.2] The quantities are provisional

12.1.2 Availability of construction documentation
[2.3] Construction of documentation is complete

12.1.3 Interest of agents
[2.4] Details:

12.1.4 Defined works area
[3.1] Details:

12.1.5 Geotechnical investigation
[3.2] Details:

12.1.6 Existing premises occupied
[3.4] Specific requirements:

12.1.7 Previous work - dimensional accuracy
[3.5] Details:

12.1.8 Previous work - defects
[3.6] Details:

12.19. Services - known
[3.7] Details:

12.1.10 Protection of trees
[3.9] Specific requirements:

12.1.11 Inspection of adjoining properties
[3.11] Specific requirements:

12.1.12 Enclosure of the works
[6.2] Specific requirements:

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12.1.13 **Offices**

Specific requirements:
The contractor shall provide, maintain and remove on completion of the works an office for the exclusive use of the principal agent, minimum size 4 x 3 x 3m high internally, suitably insulated and ventilated, provided with electric lighting and fitted with boarded floor, desk, chair, drawing stool, drawing board and lock-up drawers for drawings. The office shall be kept clean and fit for use at all times.

12.1.14 **Main notice board**

Specific requirements:
The contractor shall provide, erect where directed, maintain and remove on completion of the works a notice board size 3 x 3m as type Drawing GEN 063, constructed of suitable boarding with flat smooth surface and with edging bead 19mm thick round outer edges and projecting 12mm from face of boarding and rounded on front edge. The board shall be securely fixed to hoarding, where hoarding is provided, or fixed to and including a suitable supporting structure of timber or tubular posts and braces. The board is to be painted ivory white and the bead and 12mm wide dividing lines dark green. All wording shall be inscribed in dark green as per the coat of arms for SA. All wording shall be inscribed in dark green painted sans serif lettering.

12.1.15 **Subcontractors’ notice board**

Specific requirements:
A notice board is required

12.1.16 **Water**

Option A (by contractor)

12.1.17 **Electricity**

Option A (by contractor)

12.1.18 **Telecommunications**

Telephone
Facsimile
E-mail

12.1.19 **Ablution facilities**

Option A (by contractor)

12.1.20 **Protection of existing/sectionally occupied works**

Protection is required

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12.1.21 **Special attendance**

[9.2] **Subcontractor** (1) details:

Subcontractor (2) details:

Subcontractor (3) details:

Subcontractor (4) details:

12.1.22 **Protection of works**

[11.1] Specific requirements:

12.1.23 **Disturbance**

[11.5] Specific requirements:

The contractor shall keep the site, structures, etc well watered during operations to prevent dust and shall provide and erect and remove on completion of the works all necessary temporary dust screens all to the satisfaction of the principal agent

12.1.24 **Environmental disturbance**

[11.6] Specific requirements:

12.2 **POST-TENDER INFORMATION**

12.2.1 **Payment of preliminaries**

[10.2] Option A (prorated)

Option B (calculates)

YES/NO

12.2.2 **Adjustment of preliminaries**

[10.3] Option A (three categories)

Option B (detailed breakdown)

YES/NO

12.2.3 **Additional agreed preliminaries items**

Details:

---

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SECTION C: SPECIFIC PRELIMINARIES

Section C contains specific preliminary items which apply to this contract except where N/A (Not Applicable) appears against an item.

C1 CONTRACT DRAWINGS

The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the works and the manner in which they are to be executed.

Should any part of the drawings not be clearly intelligible to the tenderer he shall, before submitting his tender, obtain clarification in writing from the principal agent.

F:..................................................V:.........................................T:..............................................

C2 GENERAL PREAMBLES

The document “Specification of Materials and Methods to be used (PW371)” is obtainable on the Department's website <http://www.publicworks.gov.za/> under “Consultants Guidelines”), and shall be read in conjunction with the bills of quantities / lump sum document and be referred to for the full descriptions of work to be done and materials to be used.

F:..................................................V:.........................................T:..............................................

C3 TRADE NAMES

Wherever a trade name for any product has been described in the bills of quantities, the tenderer’s attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders.

If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for.

F:..................................................V:.........................................T:..............................................
C4 IMPORTED MATERIALS AND EQUIPMENT

Where imported items are listed in the tender documents, the tenderer shall provide all the information called for, failing which the price of any such item, materials or equipment shall be excluded from currency fluctuations. (refer to Schedule of Imported Materials and Equipment DPW-23(EC) to be completed by tenderer)

Notwithstanding any provisions elsewhere regarding the adjustment of contract prices, the price of any item, material or equipment listed in terms of this clause shall be excluded from the Contract Price Adjustment Provisions (if applicable)

F:................................ V:................................. T:.................................

C5 VIEWING THE SITE IN SECURITY AREAS

The site is situated in a security area and the tenderer must arrange with the unit commander or other responsible officer to obtain permission to enter the site for tendering purposes

F:................................ V:................................. T:.................................

C6 COMMENCEMENT OF WORKS IN SECURITY AREAS

As the works falls within a security area the contractor must give the unit commander or other responsible officer notice before commencement of the works. Should the contractor fail to make such arrangements, admission to the site may be refused and any additional costs will be for the contractor's account

F:................................ V:................................. T:.................................

C7 ENTRANCE PERMITS TO SECURITY AREAS

As the works falls within a security area the contractor shall obtain entrance permits for his personnel and workmen entering the area and shall comply with all regulations and instructions which may be issued from time to time regarding the protection of persons and property under the control of the Defence Force, Police or chief security officer

F:................................ V:................................. T:.................................
C8  SECURITY CHECK OF PERSONNEL

The principal agent may require the contractor to have his personnel and workmen, or a certain number of them, security classified. In the event of the principal agent requesting the removal of a person or persons from the works for security reasons, the contractor shall do so forthwith and shall thereafter ensure that such person or persons are denied access to the works and the site and/or to any document or information relating to the works.

C9  PROHIBITION ON TAKING OF PHOTOGRAPHS

In terms of article 119 of the Defence Act, 44 of 1957, it is prohibited to sketch or to take photographs of any military site or installation or any building or civil works thereon or to be in possession of a camera or other apparatus used for taking of photographs except when authorized thereto by or on behalf of the Minister.

The same prohibition is also applicable to all correctional institutions in terms of article 44.1(e) of the Correctional Services Act 8 of 1959.

C10  HIV/AIDS AWARENESS

It is required of the contractor to thoroughly study the HIV/AIDS Specification (PW 1544) of the Department that must be read together with and is deemed to be incorporated under this Section of the Bills of Quantities. Provision for pricing of HIV/AIDS awareness is made under items C10.1 to C10.5 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained.

The contractor must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of Clause A 31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.
C10.1 AWARENESS CHAMPION

Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification

F:.......................... V:.......................... T:..........................  

Item

C10.2 AWARENESS WORKSHOPS

Selection and appointment of a competent Service Provider approved by the principal agent, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multi-media techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification

F:.......................... V:.......................... T:..........................  

Item

C10.3 POSTERS, BOOKLETS, VIDEOS, ETC.

Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc. for the duration of the construction period, all in accordance with the HIV/AIDS Specification

F:.......................... V:.......................... T:..........................  

Item

C10.4 ACCESS TO CONDOMS

Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the construction period, all in accordance with the HIV/AIDS Specification

F:.......................... V:.......................... T:..........................  

Item
C10.5 MONITORING

Monitoring HIV/AIDS awareness of workers, providing the principal agent with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the construction period and close out, all in accordance with the HIV/AIDS Specification

C11 : OCCUPATIONAL HEALTH AND SAFETY ACT

The contractor shall comply with all the requirements set out in the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993).

It is required of the contractor to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this Section of the bills of quantities / lump sum document

The contractor must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.

Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained

C11.1 NOTIFICATION OF CONSTRUCTION WORK
(Construction Regulation 3)

The Contractor shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 3. The Contractor shall submit the notification in writing, on the appropriate form, prior to commencement of work

Section No. 2
PRELIMINARIES - PARKDENE CLINIC
Bill No. 1
PRELIMINARIES
118 C11.2 HEALTH AND SAFETY PLAN
(Construction Regulation 5.4)

The Contractor shall provide and demonstrate to the Principal Agent a suitable and sufficiently documented health and safety plan based on the Act, Construction Regulations and the health and safety specification, which shall be applied from the date of commencement of and for the duration of the construction work. The Contractor shall ensure that a copy of the health and safety plan is available on request to an employee, inspector, sub contractor or principal agent all in terms of Regulation 5

F:.............................. V:..............................T:..............................

119 C11.3 REGISTRATION WITH THE COMPENSATION FUND (Construction Regulation 5.3 (f))

The Contractor shall provide proof of his registration and good standing with the Compensation Fund or a licensed compensation insurer prior to the commencement of work

F:.............................. V:..............................T:..............................

120 C11.4 HEALTH AND SAFETY FILE
(Construction Regulation 5.7)

The Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the health and safety specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Principal Agent or Inspector upon request. Upon completion of the works, the Contractor shall hand over a consolidated health and safety file to the principal agent

F:.............................. V:..............................T:..............................
C11.5 SUPERVISION OF CONSTRUCTION WORK (SAFETY OFFICER) (Construction Regulation 6)

The Contractor shall appoint a full-time competent employee in writing as the construction supervisor, with the duty of supervising the construction work. The Contractor shall appoint a full-time or part-time construction safety officer in writing to assist in the control of all safety related aspects on the site. Such appointments are required to ensure that at all times the requirements of the Act and Construction Regulations are adhered to. Refer to Regulation 6

F:.............................. V:.............................. T:..............................

C11.6 RISK ASSESSMENT AND SAFETY POLICY (Construction Regulation 7)

Before commencing work the Contractor shall cause a risk assessment to be performed by a competent person appointed in writing and the risk assessment shall form part of the health and safety plan. A copy of the risk assessment shall be available on site at all times for inspection. The Contractor shall at all time carry out the works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. He shall take all precautions regarding training of employees in any hazards and the related work procedures, health and safety induction training of employees, visitors or any other persons entering the site and provide personal protective equipment to all employees and visitors to site which are necessary and adequate to eliminate any conditions which contribute to the risk of injury to persons or damage to property in terms of Regulation 7

F:.............................. V:.............................. T:..............................

C11.7 SIGNIFICANT HAZARD IDENTIFICATION RISK ASSESSMENT PREPARED BY THE DESIGN CONSULTANTS

The Contractor shall allow for additional financial provision, if any, to take the necessary precautions regarding the significant hazards and risks identified and assessed by the design consultants.

F:.............................. V:.............................. T:..............................

Carried to Collection
C11.8 **ADDITIONAL FINANCIAL PROVISION**

The Contractor shall allow for additional financial provision, if any, to comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993) and the Construction Regulations issued there under which have not been specifically elsewhere provided.

F:.............................. V:.............................. T:..............................

Item

C11.9 **FALL PROTECTION PLAN**  
*(Construction Regulation 8)*

The contractor shall, before commencing any construction work submit a fall protection plan identified all steps to be taken in order to ensure the continued adherence to the fall protection plan and shall include a risk assessment of all work carried out from an relevant position. The fall protection plan shall form part of the health and safety plan and file.

F:.............................. V:.............................. T:..............................

Item

C11.10 **PHYSICAL AND PSYCHOLOGICAL FITNESS**  
*(Construction Regulation 8.2(b))*

The contractor and sub-contractors shall before commencing any construction work submit proof of his employees; that shall carry out work from an elevated position, physical and psychological fitness. This shall be recorded in the health and safety file.

F:.............................. V:.............................. T:..............................

Item

C11.11 **CONSTRUCTION VEHICLES AND MOBILE PLANT**  
*(Construction Regulation 21)*

The contractor and sub-contractors shall ensure that all machine operators received training and has been certified competent to operate such vehicle, and are physical and psychological fit to operate such construction vehicles and mobile plants. This shall be recorded in the health and safety file.

F:.............................. V:.............................. T:..............................

Item

Carried to Collection
**C11.12 TRAINING**  
*(Construction Regulation 8 (c))*

The contractor and sub-contractors shall, before commencing any construction work, submit the training program of all his employees. This program shall form part of the health and safety plan.

F:.............................. V:.............................. T:..............................

**C11.13 DEMOLITION WORK**  
*(Construction Regulation 12)*

The contractor shall, before any demolition work are carried out, submit all method of demolition to be used. This method shall form part of the health and safety plan and file.

F:.............................. V:.............................. T:..............................

**C11.14 REMOVAL AND DISPOSAL OF ASBESTOS MATERIAL**  
*(Asbestos Regulation)*

The principle contractor shall appoint a contractor that is registered with the Department of Labour as an AIA. The contractor must allow for:

- Notification of Asbestos Processing
- Personal Protective Equipment
- Packaging and Transport and Storage to Disposal Site
- Demolition Work of Sheets
- Labelling and Information

F:.............................. V:.............................. T:..............................

**COMMUNITY LIAISON OFFICER (IF REQUIRED)**

131 Allow the amount of R50 000.00 (Fifty Thousand Rand) for the appointment of a Community Liaison Officers (CLO) for all facilities for the duration of the project (Clause SO.10.04)

132 Allow for attendance and profit on the item above

133 Allow for 5 000km (Five Thousand Kilometres) Transport for a CLO (Clause SO.11.05)

Carried to Collection
PAYMENT FOR EMPLOYMENT AND TRAINING OF LOCAL UNSKILLED WORKERS (CLAUSE SO 11.06)

The following work will only be executed upon instruction from the Professional Service Provider if and when required in accordance with Provincial Government Requirements:

134 Orientation and Life Skills development training for local unskilled workers for an average of 10 days per worker (Clause SO 10.06.01)

135 Technical skills training for local unskilled for an average of 20 days per worker (Clause SO 10.06.02)

IMPLEMENTATION OF CONTRACT PARTICIPATION GOALS

The Contractor shall allow in his pricing for the implementation of the CPG targets in accordance with the specifications SO and CPG Declaration included in this document. The Contractor must also allow for the provision of monthly reports to specify their achievements with regards to the CPG targets.

Sanctions for not achieving the required targets will be calculated as per Specification SO

CONTRACT VARIABLES

THE SCHEDULE

Information necessary for completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder.

42.0 PRE-TENDER INFORMATION

42.1 CONTRACTING AND OTHER PARTIES

42.1.1 Employer: NATIONAL DEPARTMENT OF HEALTH
[1.2] Physical address: Civitas Building, Cnr Andries and Struben Streets, Pretoria 001

Telephone: (012) 312 000

42.1.2 Agent (1) MEDIPLAN
[5.2] Agent's service: Principal Agent
Postal address: PO Box 2188

Carried to Collection R
42.1.3 Agent (2) MEDIPLAN
[5.2] Agent's service: Architects
Postal address: PO Box 2188
Brooklyn Square
0075
Telephone: (012) 343 8064
Fax: (012) 343 8069

42.1.4 Agent (3) AKHA IZWE QUANTITY SURVEYORS
[5.2] Agent's service: Quantity Surveyors
Postal address: PO Box 24152
Lansdowne
7779
Cell: 083 298 3220
Telephone: (087) 700 8601
Fax: (086) 662 1300
Contact person: Ahmed Seedat
Email: seedata@aiqs.co.za

42.1.4 Agent (4) TBA
[5.2] Agent's service: 
Postal address: 
Telephone: 
Fax: 
Contact person: 
Email: 

42.1.5 Agent (5) TBA
[5.2] Agent's service: 
Postal address: 
Telephone: 
Fax: 
Contact person: 
Email: 

42.1.6 Agent (6) TBA
[5.2] Agent's service: 
Postal address: 
Telephone: 
Fax: 
Contact person: 
Email: 

Carried to Collection
42.1.7 Agent (6) TBA
Agent's service: Postal address:
Telephone: Fax: Contact person: Email:

42.1.8 Interest of Principal Agent or other agents in the project
[5.5] No

42.1.9 The principal agent named in 42.1.2 above is responsible for the preparation of the contract data schedule and must be contacted should the contractor be uncertain of the information provided or to be provided. Failure to complete the contract data schedule in full may result in the tender being disqualified

42.2 CONTRACT DETAILS

42.2.1 Works description:
The Works comprise; refurbishment and upgrades at Pacaltsdorp clinic in the Western Cape Province

42.2.2 Site description:
Exiting Parkdene Clinic: 22.48639 Longitude, -33.97222 Latitude

42.2.3 Work or installations by direct contractors:
[22.2] N/A

42.2.4 Specific options that are applicable to a State organ only
[41.0] Where so:
[31.11.2#] (1) Interest rate legislation will be in terms of the legislation of the Republic of South Africa
[11.2#] (2) Lateral support insurance to be effected by the contractor
[31.4.2#] (3) Payment will be made for materials and goods Yes

[40.2.2.#] (4) Dispute resolution and Adjudication

42.2.5 Possession of the site is intended to be given on
[15.2.1#] To be announced

42.2.6 Period for the commencement of the works after the contractor takes possession of the site: Five working days

Carried to Collection

Section No. 2
PRELIMINARIES - PARKDENE CLINIC
Bill No. 1
PRELIMINARIES
42.2.7 For the works as a whole:
[24.3.1] The date for practical completion:
   18 Months after date of acceptance exclusive of all statutory builders
   Holidays

[30.1] The penalty per calendar day:
   0.05 Percent of the contract sum per calendar days

42.2.8 For the works in sections

Section 1
[24.3.1] The date for practical completion
   N/A
[28.1] The penalty per calendar day:
   N/A

Section 2
[24.3.1] The date for practical completion
   N/A
[28.1] The penalty per calendar day:

Section 3
[24.3.1] The date for practical completion
   N/A
[28.1] The penalty per calendar day:
   N/A

42.2.9 The law applicable to this agreement shall be that of
[1.2] South Africa
42.3 INSURANCES AND SECURITIES

42.3.1 Contract works insurance to be effected by the Contractor for a sum not less that the contract sum with a deductible in an amount that the contractor deems appropriate.

42.3.2 Supplementary insurance to be effected by the Contractor.

42.3.3 Public Liability Insurance to be effected by Contractor for the amount of R5,000,000 (Five Million Rands) With deductible in an amount that the contractor deems appropriate.

42.3.4 Support Insurance N/A
42.4 DOCUMENTS AND GENERAL

42.4.2 Waiver of the contractor's lien or right of continuing possession is required [3.3, 15.1.3, 31.16.2#]
Yes

42.4.2 Construction document copies to be supplied to the contractor free of charge [3.7]
3 copies

42.4.3 Bills of quantities schedule of rates drawn up in accordance with Standards System of Measuring Building Works- Sixth Edition with all Amendments

42.4.4 On acceptance of the tender [15.1.1] bills of quantities must be submitted within _____ working days

Complete priced bills of quantities must be submitted with the tender

42.4.5 JBCC Engineering General Conditions are to be included in the contract documents [3.4]
No

42.4.6 The contract value is to be adjusted using CPAP indices [31.5.3]
Yes

[32.13] Where CPAP is to be used, the base month for the application of CPAP is the month prior to the closing of the tender.

Alternative indices (if applicable)

42.4.7 Details of changes made to the provisions of JBCC standard documentation

42.4.8 Clause A31 Has been amended to read that payment be made within [A31] 30days
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Total Brought Forward from Page No.

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PRELIMINARIES

Section No. 2

Bill No. 1

PRELIMINARIES

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<td>1</td>
<td>Allowance for all necessary tarpaulins, barricades, screens, fencing, temporary waterproofing, dustproofing, etc required to isolate any sections of new or existing buildings for purposes of renovations and excluding users of the remainder of the building or any unauthorised persons, all to the satisfaction of the Principal Agent</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Temporary barricades, screens, roofs, etc including removal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Breaking down and removing brickwork etc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Gypsum plasterboard ceilings (branders left in position)</td>
<td>m2</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Hacking up/off and removing ceramic tile floor and wall finishes including removing mortar bed or backing and preparing concrete or brick surfaces for new screed, plaster or tile finishes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Taking out and removing doors, windows, etc from brickwork to be demolished</td>
<td>No</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Timber single door and steel frame exceeding 2.5m2 and not exceeding 5m2</td>
<td>No</td>
<td>2</td>
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</tbody>
</table>

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 1
ALTERATIONS
<table>
<thead>
<tr>
<th><strong>Taking out and removing doors, windows, etc.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>including thresholds, cills, etc</strong></td>
</tr>
<tr>
<td>8  Timber single door and frame not exceeding 2.5m² No 8</td>
</tr>
<tr>
<td>9  Timber double door and frame exceeding 2.5m² and not exceeding 5 m² No 2</td>
</tr>
<tr>
<td>10 Glazed steel window frame not exceeding 2.5m² No 3</td>
</tr>
</tbody>
</table>

**Taking out and removing sundry joinery work, fittings, etc**

| 11  Timber sink cupboard x 650 x 950mm high, including sink and disconnecting waste pipe No 1 |

**Taking out and removing sanitary fittings, tanks, geyser etc, including disconnecting from pipes, traps, etc and making good floor and wall finishes (making good tiling and paintwork elsewhere)**

| 12  Vitreous china wash hand basin No 1 |

**BUILDING UP OPENINGS**

**Brickwork of NFP bricks in class II mortar in building up openings**

| 13  Half brick walls m² 20 |
| 14  One brick walls m² 9 |

**MAKING GOOD OF FINISHES, ETC**

**Making good gypsum plasterboard ceilings and timber brandering**

| 15  Ceilings where half brick walls removed m 56 |
| 16  Ceilings where one bricks walls removed m 18 |

**Making good cement screeds**

| 17  Floors where half brick walls removed m 56 |
| 18  Floors where one brick walls removed m 18 |

**Making good internal cement plaster**

| 19  Walls where half brick walls removed m² 9 |

**Carried to Collection**

Section No. 3
PACALTS DORP CLINIC
Bill No. 1
ALTERATIONS
Walls where one brick walls removed m² 3

OPENING THROUGH EXISTING WALLS ETC

Altering opening

21 Altering opening in one brick wall where 964 x 2064mm high door with frame removed to form opening for new double door and frame 1277 x 2064mm high overall by breaking out brickwork on both sides and bottom, including prestressed concrete lintels, making good making good cement plaster on both sides and into reveals and with 20 Mpa concrete thresholds with steel trowelled finish (new doors and frames making good paint elsewhere) No 1

Breaking out for and forming opening through brick walls for new doors and frames including brick lintels, making good cement plaster on both sides and into reveals and with 20 Mpa concrete thresholds with steel trowelled finish (new doors and frames making good paint elsewhere)

22 Altering opening in one brick wall where 1022 x 1264mm high window removed to form opening for gate and door and frames 1277 x 2064mm high overall by breaking out brickwork on both sides and bottom, including prestressed concrete lintels, making good cement plaster on one side and into reveals and face brickwork on other side and with 20 Mpa concrete thresholds with steel trowelled finish (new gate and frames making good paint elsewhere) No 1

Opening for door with steel frame 964 x 2064mm high overall through half brick wall No 1

Breaking out for and forming opening through brick walls for new gate and frames including brick lintels, making good cement plaster on one side and into reveals and face brickwork on other side and with 20 Mpa concrete thresholds with steel trowelled finish (new gate and frames making good paint elsewhere)

24 Opening for door and gate with frames 964 x 2064mm high overall through one brick wall No 1

DECANTING

Carried to Collection R

Section No. 3
PACALTS DORP CLINIC
Bill No. 1
ALTERATIONS
Decanting in four phases

Allow for moving and temporary storage of furniture and equipment, including taking down pin boards, posters, etc. Once work in the designated area is completed then furniture, equipment, etc. is to be put back into its original position.
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Section No. 3
PACALTSDORP CLINIC
Bill No. 1
ALTERATIONS

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<tr>
<td><strong>BILL NO 2</strong></td>
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<tr>
<td><strong>EARTHWORKS (PROVISIONAL)</strong></td>
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<tr>
<td><strong>SITE CLEARANCE ETC</strong></td>
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</tr>
<tr>
<td>1</td>
<td>Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth</td>
<td>m²</td>
<td>253</td>
</tr>
<tr>
<td><strong>REMOVAL OF TREES ETC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting down and removing, grubbing up roots and filling in holes and to 98% Mod AASHTO density</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Tree stump exceeding 500mm and not exceeding 1000mm girth</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td><strong>EXCAVATION ETC</strong></td>
<td></td>
<td></td>
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<tr>
<td>Digging up topsoil to an average depth of 150mm thick layer of top soil and depositing material in prescribed stock piles on site</td>
<td>m²</td>
<td>345</td>
<td></td>
</tr>
<tr>
<td><strong>Excavation in earth not exceeding 2m deep</strong></td>
<td></td>
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<tr>
<td>4</td>
<td>Trenches</td>
<td>m³</td>
<td>128</td>
</tr>
<tr>
<td>Extra over trench and hole excavations for excavation in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Soft rock</td>
<td>m³</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Hard rock</td>
<td>m³</td>
<td>6</td>
</tr>
<tr>
<td><strong>Extra over all excavations for carting away</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor</td>
<td>m³</td>
<td>67</td>
</tr>
<tr>
<td><strong>Risk of collapse of excavations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Sides of trench and hole excavations not exceeding 1,5m deep</td>
<td>m²</td>
<td>387</td>
</tr>
</tbody>
</table>

**Carried to Collection**

Section No. 3
PACALTS DORP CLINIC
Bill No. 2
FOUNDATIONS
Keeping excavations free of water

Item

FILLING ETC

Selected material obtained from the excavations and spread, level, water and compact to not less than 95% Mod AASHTO maximum density

10 Under floors, steps, pavings, etc m3 87

11 Backfilling to trenches, holes, etc compacted to 93% Mod AASTHO density m3 61

Compaction of surfaces

12 Compaction to bottom of trench excavations to 93% mod AASHTO density m2 128

13 Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density m2 293

50mm Clean sand bed compacted to 100% Mod AASHTO density to receive damp proof membrane

14 Under floors, etc. m2 293

Prescribed density tests on filling

15 "Modified AASHTO Density" test No 3

SOIL POISONING

Soil Insecticide

16 Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming m2 293

17 To bottoms and sides of trenches etc m2 515

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PACALTSDORP CLINIC
Bill No. 2
FOUNDATIONS

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<table>
<thead>
<tr>
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<td>129</td>
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</tr>
</tbody>
</table>

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SECTION 2

BILL NO 3

CONCRETE, FORMWORK AND REINFORCEMENT

PREAMBLES
For preambles refer to "Model Preambles for Trades"

TRADE NAMES
Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or methods of similar quality may be used with the prior written approval of the Representative/Agent

SUPPLEMENTARY PREAMBLES

Cost of tests

Descriptions of formwork shall be deemed to include use and waste only (except where described as left in or permanent), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before use.

The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.

The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Principal Agent.

The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the Principal Agent. (Test cubes are measured separately)

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 3
CONCRETE, FORMWORK AND REINFORCEMENT
### UNREINFORCED CONCRETE

**10MPa/19mm concrete**

1. Surface blinding under surface beds \( m^3 \) 15
2. Surface blinding under footings and bases \( m^3 \) 7

### REINFORCED CONCRETE

**25 MPa/19mm Concrete**

3. Strip footings \( m^3 \) 29
4. Surface beds cast in panels on waterproofing \( m^3 \) 38

### TEST BLOCKS

5. Making and testing 150 x 150 x 150mm concrete strength test cube \( \text{No} \) 5

### CONCRETE SUNDRIES

**Finishing top surfaces of concrete smooth with a power float**

6. Surface beds, slabs, ramps, etc \( m^2 \) 293

### REINFORCEMENT

**Mild steel reinforcement to structural concrete work**

7. Various Diameter bars \( t \) 1

**High tensile steel reinforcement to structural concrete work**

8. Various Diameter bars \( t \) 1

**Fabric reinforcement**

9. Type 193 fabric reinforcement in concrete surface beds, slabs, ramps, etc. \( m^2 \) 293

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<table>
<thead>
<tr>
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Bill No. 3  
CONCRETE, FORMWORK AND REINFORCEMENT
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<tr>
<td><strong>SECTION 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BILL NO 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MASSONRY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FOUNDATIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>One brick walls</td>
<td>m2</td>
<td>135</td>
</tr>
<tr>
<td>2</td>
<td>Half brick walls</td>
<td>m2</td>
<td>59</td>
</tr>
<tr>
<td><strong>SUPERSTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brickwork of NFP bricks in class II mortar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Half brick walls</td>
<td>m2</td>
<td>265</td>
</tr>
<tr>
<td>4</td>
<td>Half brick walls in beamfilling</td>
<td>m2</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>One brick walls</td>
<td>m2</td>
<td>366</td>
</tr>
<tr>
<td><strong>BRICKWORK SUNDRIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting toothings and bonding new brickwork to existing</td>
<td>m2</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Brickwork reinforcement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>75mm Wide reinforcement built in horizontally</td>
<td>m</td>
<td>3,964</td>
</tr>
<tr>
<td>8</td>
<td>150mm Wide reinforcement built in horizontally</td>
<td>m</td>
<td>2,204</td>
</tr>
<tr>
<td><strong>Prestressed fabricated lintels</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>110 x 75mm Lintels in lengths not exceeding 3000mm</td>
<td>m</td>
<td>52</td>
</tr>
<tr>
<td>10</td>
<td>150 x 75mm Lintels in lengths not exceeding 3000mm</td>
<td>m</td>
<td>38</td>
</tr>
<tr>
<td><strong>Galvanised hoop iron cramps, ties, etc</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>30 x 1.6mm Roof tie 1500m long with one end wrapped around and fixed to timber roof truss and other end built into brickwork</td>
<td>No</td>
<td>136</td>
</tr>
</tbody>
</table>

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Section No. 3
PACALTSDRP CLINIC
Bill No. 4
MASSONRY

-135-
**FACE BRICKWORK**

Allow a PC amount of R60.00/m² for face bricks pointed with flush horizontal and vertical joints

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>m²</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Extra over brickwork for face brickwork</td>
<td>366</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Extra over brickwork for face brickwork in foundations</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Cutting toothings and bonding new face brickwork to existing</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

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Section No. 3
PACALTSDORP CLINIC
Bill No. 4
MASONRY

R
<table>
<thead>
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</thead>
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<tr>
<td>135</td>
<td></td>
</tr>
<tr>
<td>136</td>
<td></td>
</tr>
</tbody>
</table>

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Section No. 3
PACALTSDORP CLINIC
Bill No. 4
MASONRY

-137-
### SECTION 2

#### BILL NO 5

**WATERPROOFING**

**DAMP PROOFING OF WALLS AND FLOORS**

- **One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)**
  - 1 In walls m² 71
  - 2 In walls vertically at reveals m² 89

- **One layer 375 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape**
  - 3 Under surface beds m² 293

**JOINT SEALANTS, ETC**

- **Clear silicone sealing compound**
  - 4 Point between aluminium frames and face of brickwork m 5

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**Carried Forward to Summary of Section No. 3**
## SECTION 2

### BILL NO 6

**ROOF COVERINGS ETC**

**CONCRETE ROOF TILES**

420 X 332mm "Marley" or similar approved standard double roman concrete roof tile in approved colour to match existing roof tiles. Concrete tiles fixed with non corrosive tile clips to and including 38 x 38mm sawn softwood battens at minimum 320mm centres with polyethylene tile underlay between battens and rafters, battens fixed to prefabricated trusses (elsewhere measured) at maximum 760mm centres.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Roof covering with pitch not exceeding 25 degrees</td>
<td>m²</td>
<td>319</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Ridge capping tiles to match roof colour bedded and pointed in 1:3 tinted cement mortar on 225mm wide embossed damp proof membrane</td>
<td>m</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

**PROFILED METAL SHEETING AND ACCESSORIES**

Galvanized IBR roof sheeting and accessories fixed to timber purlins or rails at 600mm centres.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Roof covering with pitch not exceeding 25 degrees</td>
<td>m²</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

**ROOF INSULATION**

"Sisalation Grade 420" or other approved roof insulation fixed concurrently with roofing sheets.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Insulation laid over purlins at 1200mm centres and fixed concurrent with roof covering</td>
<td>m²</td>
<td>293</td>
<td></td>
</tr>
</tbody>
</table>

**SHEET METAL FLASHING, LININGS, COPINGS, ETC**

0.6mm Galvanized sheet iron with chromadek or similar approved finish.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Stepped and side wall flashings to match existing</td>
<td>m²</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

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Section No. 3
PACALTSRDORP CLINIC
Bill No. 6
ROOF COVERINGS

R
### FIBRE-CEMENT ACCESSORIES

‘Nutec’ fascia boards, medium density plain fibre cement fascia fixed with fittings and fixing accessories, fixed in accordance with the manufacturers instructions

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>10 x 210mm wide fascia and barge boards fixed to truss ends</td>
<td>m</td>
<td>88</td>
</tr>
</tbody>
</table>

**Sundries**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Examine corrugated ribbed iron roof sheeting fixed to purlins, seal all screw heads and side laps and ensure that the whole roof is left watertight all in accordance with 12.3.1 of the Project Specification</td>
<td>m²</td>
<td>680</td>
</tr>
<tr>
<td>8</td>
<td>Clean and unblock gutters and down pipes on the inside</td>
<td>m</td>
<td>56</td>
</tr>
</tbody>
</table>

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*Section No. 3
PACALTSDORP CLINIC
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ROOF COVERINGS*
<table>
<thead>
<tr>
<th>Collection</th>
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<tr>
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<tr>
<td>Total Brought Forward from Page No.</td>
<td></td>
</tr>
<tr>
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Section No. 3
PACALTSDORP CLINIC
Bill No. 6
ROOF COVERINGS

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### SECTION 2

**BILL NO 7**

**CARPENTRY AND JOINERY**

**PREFABRICATED ROOF CONSTRUCTION**

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Design, manufacture, supply, delivery, unloading, handling, storage, hoisting and erection of roof construction to lean to pitched roof with an overhang of 300mm, including rafters, permanent bracing and wall plates of roof covering</td>
<td>Item</td>
<td></td>
</tr>
<tr>
<td><strong>Sawn softwood grade 5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>38 x 114mm Wall plates</td>
<td>m</td>
<td>88</td>
</tr>
<tr>
<td>3</td>
<td>52 x 76mm Purlins</td>
<td>m</td>
<td>511</td>
</tr>
<tr>
<td><strong>Sundries</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Wrought faces on sawn timbers</td>
<td>m2</td>
<td>18</td>
</tr>
</tbody>
</table>

**DOORS, ETC**

*Solid core flush door with 10mm hardwood edges and veneer on both sides suitable for painting, hung to steel frames (elsewhere)*

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>44mm Door size 813 x 2 032mm high</td>
<td>No</td>
<td>23</td>
</tr>
<tr>
<td>6</td>
<td>44mm Gate size 813 x 2 032mm high</td>
<td>No</td>
<td>3</td>
</tr>
</tbody>
</table>

*"GPA General" specification WA 107 E/89 part K59 solid flush panel door leaf with 3.2mm tampered hardboard facings and two hardwood edge strips and seal all knots with oil wood primer, suitable for painting hung to steel frames (elsewhere)*

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>44mm Double door size 1 206 x 1 830mm high</td>
<td>No</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>44mm Unequal leaf double door size 1 206 x 1 830mm high</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>44mm Unequal leaf double door size 1 213 x 2 032mm high</td>
<td>No</td>
<td>8</td>
</tr>
</tbody>
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PACALTSDORP CLINIC
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CARPENTRY AND JOINERY
<table>
<thead>
<tr>
<th>Item</th>
<th>Allow for the supply and installation of cupboards and shelving</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Allow the sum of R 440 000-00 (Four Hundred and forty thousand Rand)</td>
<td>440,000.00</td>
</tr>
<tr>
<td>11</td>
<td>Allow for profit</td>
<td>Item</td>
</tr>
<tr>
<td>12</td>
<td>Allow for attendance</td>
<td>Item</td>
</tr>
</tbody>
</table>

### NOTICEBOARDS, KEYBOARDS, DUCKBOARDS, ETC

**Softboard**

<table>
<thead>
<tr>
<th>Item</th>
<th>Allow for the supply and installation of cupboards and shelving</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>12mm Pinning boards plugged to plastered walls</td>
<td>m2</td>
</tr>
</tbody>
</table>

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PACALTSDORP CLINIC  
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CARPENTRY AND JOINERY
### SECTION 2

#### BILL NO 8

**CEILINGS, PARTITIONS AND ACCESS FLOORING**

**CEILINGS ETC**

**NAILED UP CEILINGS**

12.5mm Gypsum plasterboard with taped joints and the whole finished with gypsum plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer all to the manufacturers specification

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
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<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ceilings including 38 x 38mm sawn softwood brandering at 450mm centres and cross brandering at 450mm centres</td>
<td>m²</td>
<td>363</td>
</tr>
<tr>
<td>2</td>
<td>Extra over ceiling for 600 x 600mm trap door of 38 x 38mm wrought softwood rebated framing with one cross brander, covered with ceiling board and fitted flush in opening, including necessary trimmers around</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>75mm Coved cornices, plugged</td>
<td>m</td>
<td>270</td>
</tr>
<tr>
<td>4</td>
<td>100mm Thick &quot;Aerolite Think Pink&quot; thermal and acoustic insulation blanket laid loose on ceiling boarding over brandering and between roof trusses with ends butted together</td>
<td>m²</td>
<td>363</td>
</tr>
</tbody>
</table>

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Section No. 3  
PACALTS DORP CLINIC  
Bill No. 8  
CEILINGS, PARTITIONS AND ACCESS FLOORING
<table>
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<tr>
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<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>100mm Aluminium hinge with stainless steel washers</td>
<td>No</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>SOLID 9 code: 315/a40 - 76mm Profile architectural cylinder lock</td>
<td>No</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>SOLID SABLE (code: 492/c91) Natural anodized extruded aluminium pull handle on SOLID (code: 741/75/c91) 3mm natural anodized aluminium back plate (spring plate)</td>
<td>No</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>TCS HIGIENE: PART No: TR2N Stainless Steel Vandal Proof 2 Roll Toilet Roll Holder 1mm Brushed Stainless Steel (Colour: Stainless Steel, Size, H270 X D130 W130. Material, 1. mm 430 Stainless Steel, Wall Mounted/Lockable) fixed to brickwork</td>
<td>No</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>TCS Hygiene: Folded Paper Towel Dispenser PDFOLD St RV (Colour: Stainless Steel, Size: H397,W294,D105, Mate Stainless Steel, Volume: 600, Features: Lockable) fixed to</td>
<td>No</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>38mm Diameter rubber door stop plugged</td>
<td>No</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Cabin Hook/ slot for bottom bolt</td>
<td>No</td>
<td>14</td>
<td></td>
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Section No. 3
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IRONMONGERY
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<th>Item</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Provide the sum of R85 000.00 (Eighty Five Thousand Rand) for signage</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Profit</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Allow for general attendance</td>
<td></td>
</tr>
<tr>
<td>Page No</td>
<td>Amount</td>
<td></td>
</tr>
<tr>
<td>---------</td>
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<td>146</td>
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<tr>
<td>147</td>
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Total Brought Forward from Page No.

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<tr>
<td><strong>SECTION 2</strong></td>
<td><strong>BILL NO 10</strong></td>
<td><strong>METALWORK</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PREAMBLES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For preambles see &quot;Model Preambles for Trades (2008 Edition)&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GALVANISED STEEL GATES, SCREENS, ETC.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Galvanised mild steel security gates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Single gate approximate size 900 x 2 064mm high overall, comprising of 60 x 40 x 2mm hollow section frame, horizontal bars at 100mm centres and fitted with a pair of 180 degree opening hinges by a specialist bolted to wall with and including 100mm expansion bolts</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Double gate approximate size 1 500 x 2 200mm high overall with fixed top panel size 1 500 x 200mm high, comprising of 60 x 40 x 2mm hollow section frame, middle rail and vertical bars at 100mm centres and fitted with a pair of suitable hinges bolted to wall with and including 100mm expansion bolts</td>
<td>No</td>
<td>7</td>
</tr>
<tr>
<td><strong>Galvanised mild steel windows</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Purpose made window, size 533 x 949mm high with two unequal panels, one top hung opening out panel and bottom panel fixed complete</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Purpose made window, size 1 022 x 949mm high with top hung opening out panel complete</td>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Purpose made window, size 1 022 x 1 264mm high with two equal top hung opening out sections complete</td>
<td>No</td>
<td>16</td>
</tr>
<tr>
<td><strong>Galvanised mild steel burglar screens comprising of 15 x 3mm flat horizontal and 15 x 3mm flat vertical bars to inside of window, bolted to walls with one way countersunk bolts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Burglar mesh for window size 533 x 949mm high</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Burglar mesh for window size 1 022 x 949mm high</td>
<td>No</td>
<td>8</td>
</tr>
</tbody>
</table>

**Carried to Collection**

Section No. 3
PACALTSDORP CLINIC
Bill No. 10
METALWORK
Burglar bar for window size 1 022 x 1 264mm high

**PRESSED STEEL DOOR FRAMES**

**GALVANISED PRESSED STEEL DOOR FRAMES**

1.6mm Rebated frames type NF.A1 suitable for 110mm walls

9. Frame for door size 900 x 2 032mm high with and including striker plate complete

10. Frame for door size 1 206 x 1 830mm high including fixing plugs and striker plate complete

11. Frame for door size 1 213 x 2 032mm high including fixing plugs and striker plate complete

1.6mm Double rebated frames suitable for 230mm walls

12. Frame for door size 900 x 2 032mm high with and including striker plate complete

13. Frame for door size 1 206 x 1 830mm high including fixing plugs and striker plate complete

**PRESSED STEEL TRANSFORMER ROOM DOORS AND FRAMES**

"NTY" or similar and approved 1.6mm transformer doors and double rebated frames suitable for one brick walls

14. Single door 900 x 2 125mm high overall with frame, weatherstrip threshold and two equal fixed louvres

**ALUMINIUM WINDOWS AND DOORS**

**ALUMINIUM DOORS**

Natural anodised aluminium doors plugged to brickwork, or concrete, glazed with, and including 6mm clear laminated safety glass with aluminium beads, gaskets, neoprene setting blocks and sealed with silicone sealant

15. Door size 900 x 2 100mm high with two unequal fixed panes

---

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 10
METALWORK
MESH LATHING

12 X 40mm Expanded steel mesh lathing with 1.6 x 2.5mm strands (mass 4.1kg/m²)

| 16 | Sheets fixed in facebrick brickwork (facebrick elsewhere) | m² | 8 |

Carried to Collection

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PACALTSDORP CLINIC
Bill No. 10
METALWORK
Section No. 3
Bill No. 10

METALWORK

COLLECTION

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Bill No. 10
METALWORK
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<tr>
<td>BILL NO 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLASTERING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRANOLITHIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Granolithic screed laid to falls on single layer Derbigum SP4 or similar approved with keycoat on concrete slabs to</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>40mm Thick on floors and landing</td>
<td>m2</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Skirting 75mm high</td>
<td>m</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>SCREEDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:3 screeds on concrete finished smooth with a wooden float</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30mm Thick on concrete floors</td>
<td>m2</td>
<td>283</td>
<td></td>
</tr>
<tr>
<td>INTERNAL PLASTER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One coat plaster and one coat skim coat plaster on brickwork finished smooth with a steel float</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>On walls</td>
<td>m2</td>
<td>676</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>On narrow widths</td>
<td>m2</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>One coat cement plaster on brickwork to receive tiling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>On walls</td>
<td>m2</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>On narrow widths</td>
<td>m2</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
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<td><strong>SECTION 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BILL NO 12</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TILING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WALL TILING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allow a PC amount of R 120.00/m² for porcelain tiles fixed with adhesive to plaster (plaster elsewhere)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 On walls</td>
<td>m²</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>2 On narrow widths</td>
<td>m²</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>FLOOR TILING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allow a PC amount of R 150.00/m² for supply only of 300 x 300mm porcelain floor tiles fixed with adhesive to bedding (bedding elsewhere) and flush pointed with tinted waterproof jointing compound (Type to be approved by Architect)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 On floors and landings</td>
<td>m²</td>
<td>483</td>
<td></td>
</tr>
<tr>
<td>4 Skirting 150mm high cut tiles</td>
<td>m</td>
<td>264</td>
<td></td>
</tr>
</tbody>
</table>

Carried Forward to Summary of Section No. 3
### SECTION 2

#### BILL NO 13

#### PLUMBING AND DRAINAGE

#### RAINWATER DISPOSAL

**Rainwater Gutters and Downpipes**

3mm Galvanised sheet metal gutter fixed with brackets to timber roof structure (elsewhere measured)

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gutters 500mm girth four times bent along length</td>
<td>m</td>
<td>88</td>
</tr>
<tr>
<td>2</td>
<td>Extra over eaves gutter for stopped end</td>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Extra over eaves gutter for outlet for 150mm diameter pipe</td>
<td>No</td>
<td>10</td>
</tr>
</tbody>
</table>

**3mm Welded sheet steel rainwater pipes including holderbats, brackets, etc**

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>150mm Internal diameter pipe</td>
<td>m</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>Extra over 150mm rainwater pipe for bend</td>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>Extra over 150mm rainwater pipe for shoe</td>
<td>No</td>
<td>10</td>
</tr>
</tbody>
</table>

#### SANITARY FITTINGS

"Vaal" or similar and approved vitreous china WC suites

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>&quot;Orchid&quot; vitreous china close coupled suite (code: 438663) consisting of 90deg outlet rim pan (code: 438600) bolted to the wall (bracket code: 8082z0) and matching 6 litre push button top dual flush back inlet cistern (code: 4386dt) complete with lid, fitments, braided connector, angle stop valve and thermoset seat (Code: 8516z0)</td>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 13
PLUMBING AND DRAINAGE
"Vaal" or similar and approved vitreous china wash hand basins and pedestals
8  510 x 400mm, "Daisy" white china lavatory basin (code 7008) with one taphole, including integrated overflow and chainstay, bolted to wall  No 9

"Franke" or similar and approved vitreous stainless steel sinks
9  "Trendline 711" single bowl drop-in sink size 1200 x 535mm, on cupboard (elsewhere measured)  No 2

WASTE UNIONS, ETC.
"Cobra Watertech" or similar approved
10  32mm Chrome plated slotted basin waste union (no chain or stay) and joint to 40mm uPVC pipe  No 9
11  38mm Sink waste union and joint to 50mm uPVC pipe  No 2

TRAPS, ETC.

uPVC
12  40mm Basin plain "P" trap  No 9
13  50mm Deep seal "P" trap  No 2

TAPS, VALVES, ETC.

Brass
14  15mm stopcock  No 11
"Cobra Watertech" or similar approved tap, etc.
15  15mm Chrome plated elbow action pillar-type basin or sink mixer (Code 515/055-21)  No 11

SANITARY PLUMBING

uPVC pipes
16  40mm Pipe fixed to or chased in brickwork  m 28
17  40mm Pipe laid in filling under floors  m 13
18  50mm Pipe fixed to or chased in brickwork  m 10

Carried to Collection  R
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>50mm Pipe laid in filling under floors</td>
<td>m</td>
<td>6</td>
</tr>
<tr>
<td>20</td>
<td>110mm Pipe fixed to wall or soffit</td>
<td>m</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>110mm pipes laid in and including trenches not exceeding 1m deep</td>
<td>m</td>
<td>11</td>
</tr>
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</table>

**Extra over uPVC pipes for fittings**

<table>
<thead>
<tr>
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<th></th>
<th>No</th>
<th>Quantity</th>
</tr>
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<tbody>
<tr>
<td>22</td>
<td>40mm Bend</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>50mm Bend</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>110mm bend</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>40mm Junction</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>110mm Junction</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>110 x 40mm Access reducing junction</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>110 x 50mm Access reducing junction</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>110mm End cap</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>110mm Pan Connector</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>110mm Bent pan connector</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>110mm &quot;GI Two-way&quot; vent valve</td>
<td></td>
<td>2</td>
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**Gulleys**

<table>
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<th>Quantity</th>
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<tbody>
<tr>
<td>33</td>
<td>110mm uPVC gulley trap not exceeding 750mm deep, including vertical piping, gulley head and grating, all encased in concrete and concrete hopper size 450 x 450mm, rounded kerb, etc.</td>
<td></td>
<td>1</td>
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**Sundries**

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<td>34</td>
<td>Testing waste pipe system (per location)</td>
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**WATER SUPPLIES**

**uPVC pipes**

**Class 2 copper pipes to SANS 460**

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<th>Unit</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>35</td>
<td>15mm Pipe</td>
<td>m</td>
<td>42</td>
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**Carried to Collection**

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PACALTSDORP CLINIC  
Bill No. 13  
PLUMBING AND DRAINAGE
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<th>Unit</th>
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<tbody>
<tr>
<td>36</td>
<td>22mm Pipe</td>
<td></td>
<td>m</td>
</tr>
<tr>
<td>37</td>
<td>15mm Pipe chased into brick walls</td>
<td></td>
<td>m</td>
</tr>
<tr>
<td>38</td>
<td>22mm Pipe chased into brick walls</td>
<td></td>
<td>m</td>
</tr>
<tr>
<td></td>
<td><strong>Extra over class 2 copper pipes for capillary fittings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>15mm Fittings</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>22mm Fittings</td>
<td>No</td>
<td></td>
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**CONNECTION**

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<th>Quantity</th>
<th>Unit</th>
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<tr>
<td>41</td>
<td>Allow for the connection of new pipes to existing water supply network including all fittings and making good of walls, floors, etc. (per location)</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Allow for the connection of new waste pipes to existing drainage network including all fittings and making good of walls, floors, etc.</td>
<td>No</td>
<td></td>
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Section No. 3
PACALTS DORP CLINIC
Bill No. 13
PLUMBING AND DRAINAGE
Section No. 3  
Bill No. 13  

PLUMBING AND DRAINAGE

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PACALTSDORP CLINIC  
Bill No. 13  
PLUMBING AND DRAINAGE
### SECTION 2

**BILL NO 14**

**GLAZING**

**GLAZING TO STEEL WITH PUTTY**

4mm Clear float glass

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<tr>
<td>1</td>
<td>m²</td>
<td>29</td>
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</table>

Panes exceeding 0,1m² and not exceeding 0,5m²

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Section No. 3
PACALTSDORP CLINIC
Bill No. 14
GLAZING

R
<table>
<thead>
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<tr>
<td><strong>SECTION 2</strong></td>
<td><strong>BILL NO 15</strong></td>
<td><strong>PAINTWORK</strong></td>
<td><strong>PAINTWORK ETC TO NEW WORK</strong></td>
</tr>
<tr>
<td><strong>PAINT ON PLASTER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare and apply one filler coat and one universal undercoat and two coats of matt enamel paint on:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 On internal walls</td>
<td>m²</td>
<td>676</td>
<td></td>
</tr>
<tr>
<td><strong>ON INTERNAL GYPSUM PLASTER SURFACES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One filler coat and one coat universal under coat and two coats of washable pure acrylic paint on:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 On ceilings and cornices</td>
<td>m²</td>
<td>293</td>
<td></td>
</tr>
<tr>
<td><strong>PAINT ON WOOD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare and apply one coat wood primer, one coat undercoat and two coats high gloss enamel to match existing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 On doors and frames</td>
<td>m²</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Knot, stop, one coat primer, sand, one coat universal undercoat and two coats &quot;Plascon Velvaglo&quot; polyurethane alkyd paint</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 On doors</td>
<td>m²</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 15
PAINTWORK
PAINT ON FIBRE CEMENT

One coat primer, one coat alkyd based universal undercoat and two coats matt enamel paint

5 On nutec fascia and barge boards m² 20

ON METAL SURFACES

One coat etch primer, one coat universal undercoat and two coats approved enamel paint, on steel (Colour to Architects approval)

6 On doors and frames m² 57

One coat red lead oxide primer, one coat tinted universal undercoat and two coats super universal enamel paint, on steel

7 Windows with burglar bars m² 59

PAINTWORK TO PREVIOUSLY PAINTED WORK

PREPARATORY WORK TO EXISTING WORK

Previously painted plastered surfaces

Existing paint layers shall be sanded down and cracks shall be opened, filled with a suitable filler and finished smooth, surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied

Previously painted metal surfaces

Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal

Previously painted wood surfaces

Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 15
PAINTWORK
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PAINT ON PLASTER</strong></td>
<td>One filler coat and one coat universal under coat and two coats of washable pure acrylic paint on:</td>
</tr>
<tr>
<td>8</td>
<td>On internal walls m2 874</td>
</tr>
<tr>
<td><strong>PAINT ON GYPSUM PLASTERBOARD</strong></td>
<td>One coat masonry primer and two coats matt acrylic paint</td>
</tr>
<tr>
<td>9</td>
<td>On ceilings and cornices m2 526</td>
</tr>
</tbody>
</table>

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 15
PAINTWORK
<table>
<thead>
<tr>
<th>Page No</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>161</td>
<td></td>
</tr>
<tr>
<td>162</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td></td>
</tr>
</tbody>
</table>

Carried Forward to Summary of Section No. 3

Section No. 3
PACALTSDORP CLINIC
Bill No. 15
PAINTWORK
<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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<tbody>
<tr>
<td></td>
<td><strong>SECTION 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>BILL NO 16</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>EXTERNAL WORKS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>SOIL DRAINAGE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 34 (300kPa) normal duty uPVC drain pipes with sockets and rubber rings to SANS 791 including all excavations, bedding, backfilling, etc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>110mm Pipes including excavations not exceeding 1m deep</td>
<td>m</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Extra over uPVC pipes for fittings</td>
<td>No</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>110mm Bend</td>
<td>No</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>&quot;Rofo Engineering&quot; or similar and approved</td>
<td>No</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock</td>
<td>m3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock</td>
<td>m3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>uPVC bent cleaning eye with removable cover jointed to 110mm uPVC pipe and set in and including 15MPa/19mm unreinforced concrete surround with exposed surfaces trowelled smooth</td>
<td>No</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Testing drainage pipe system</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| APRONS, ETC |        |
| EXCAVATION, FILLING, ETC |        |

Carried to Collection

Section No. 3
PACALTSDORP CLINIC
Bill No. 16
EXTERNAL WORKS
**Compaction of surfaces**

9 Compaction of ground surface under bases etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Modified AASHTO density m² 59

**50mm Clean sand bed compacted to 95% Mod AASHTO density to receive damp proof membrane**

10 Under floors, etc. m² 59

**Prescribed density tests on filling**

11 "Modified AASHTO Density" test No 2

**SOIL POISONING**

**Approved soil insecticide applied according to manufacturers specification including 50mm sand cover over**

12 Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming m² 59

**REINFORCED CONCRETE**

**25 MPa/19mm Concrete**

13 Surface beds cast on waterproofing membrane m³ 12

**CONCRETE SUNDRIES**

**Finishing top surfaces of concrete smooth with a wood float**

14 Surface beds, slabs, etc m² 59

**REINFORCEMENT**

**Fabric reinforcement**

15 Ref 193 mesh in surface beds, slabs, etc m² 59

**PAVING, ETC**

---

Carried to Collection R

Section No. 3
PACALTSRDORP CLINIC
Bill No. 16
EXTERNAL WORKS
Earth filling supplied by the contractor under paving areas, etc

16 Base course of G5 material in accordance with SABS 1200DM with minimum CBR of 45 and maximum PI of 10 stabilised with 3% Portland cement and compacted to 97% Mod AASHTO density m³ 463

17 50mm Thick coarse river sand under paving m² 1,542

Compaction of surfaces

18 Compaction of ground surface under pavings, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density m² 1,542

Approved soil sterilant type weedkiller applied strictly according to label specifications

19 Under paving etc m² 1,542

One layer of 250 micron green polyethylene waterproof sheeting to SANS Specification 952 Type C sealed at laps with pressure sensitive tape

20 Under pavings m² 1,542

80mm Coloured "Concor Double Zig Zag" or similar and approved Type S-A interlocking roadstone paving

21 Paving to parking areas, etc to falls (preparation of ground or filling elsewhere) m² 1,542

Precast concrete finished smooth on exposed surfaces, including bedding, jointing and pointing

22 Figure 7 semi-mountable kerb 280 x 140mm high with 150 x 225 x 225mm unreinforced concrete 20MPa/19mm haunching at back at joints and laid on 50mm thick unreinforced concrete 15MPa/19mm bedding including excavation, backfilling, etc topsoiled and levelled to adjacent surfaces m 288

Carried to Collection

Section No. 3
PACALTS DORP CLINIC
Bill No. 16
EXTERNAL WORKS
23 Figure 7 semi-mountable kerb 280 x 140mm high circular on plan to not exceeding 4mm radius formed of short straight sections with 150 x 225mm high unreinforced concrete 20MPa/19mm haunching at back and laid on 50mm thick unreinforced concrete 15MPa/19mm bedding including excavation, backfilling, etc topsoiled and levelled to adjacent surfaces m 22

**Road marking paint to SANS 731 on concrete**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Lines, broken or unbroken, 100mm wide</td>
<td>m 334</td>
</tr>
<tr>
<td>25</td>
<td>Lines, broken or unbroken, 200mm wide</td>
<td>m 10</td>
</tr>
<tr>
<td>26</td>
<td>Numerical or letter 300mm high</td>
<td>No 31</td>
</tr>
<tr>
<td>27</td>
<td>Disabled parking sign 900mm high</td>
<td>No 2</td>
</tr>
<tr>
<td>28</td>
<td>No-parking sign 900mm high</td>
<td>No 2</td>
</tr>
<tr>
<td>29</td>
<td>Traffic arrow 1200 x 650mm wide extreme</td>
<td>No 6</td>
</tr>
</tbody>
</table>

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PACALTSDORP CLINIC  
Bill No. 16  
EXTERNAL WORKS

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<table>
<thead>
<tr>
<th>Page No</th>
<th>Amount</th>
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<tbody>
<tr>
<td>165</td>
<td></td>
</tr>
<tr>
<td>166</td>
<td></td>
</tr>
<tr>
<td>167</td>
<td></td>
</tr>
<tr>
<td>168</td>
<td></td>
</tr>
</tbody>
</table>

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Section No. 3
PACALTSDORP CLINIC
Bill No. 16
EXTERNAL WORKS
### SECTION 2

#### BILL NO 17

**ELECTRICAL INSTALLATIONS**

**PRELIMINARY**

Provide Sum to comply with conditions of contract of the main contractor for the following items:

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Site establishment</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Storage of equipment and materials</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Insurance of works</td>
<td>SUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Samples for approval</td>
<td>SUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Measurement of quantities and liaison with the engineer</td>
<td>SUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Compliance with the Occupational Health and Safety Act 85/1993 as amended</td>
<td>SUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Commissioning of all equipment supplied</td>
<td>SUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 As built drawings</td>
<td>SUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Certificate of compliance</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Transport</td>
<td>SUM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STANDBY POWER**

All installation on this Bill shall be quoted for "Supply, Delivery and Install"

**STANDBY GENERATOR**

Supply and Install Standby Generator complete with all required accessories to full working condition after commissioning of the set:

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 180 litres diesel for the generator</td>
<td>1</td>
<td>180</td>
<td></td>
</tr>
</tbody>
</table>

**LV RETICULATION & DISTRIBUTION BOARDS**

Carried to Collection

Section No. 3
PACALTS Dorp Clinic
Bill No. 17
ELECTRICAL INSTALLATIONS
**DISTRIBUTION BOARDS**

Distribution boards shall be complete with internal equipment, wiring, trays, cubicles, labels, architraves, busbars, circuit breakers, contactors and conductor connections etc.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Modification on existing Main DB to allow new supply to sub-distribution board</td>
<td>Item</td>
</tr>
<tr>
<td>13</td>
<td>Sub-DB 1</td>
<td>No 1</td>
</tr>
</tbody>
</table>

**LOW VOLTAGE CABLES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>4mm² stranded PVC insulated with 3C copper conductor</td>
<td>m 150</td>
</tr>
<tr>
<td>15</td>
<td>6mm² stranded PVC insulated with 3C copper conductor</td>
<td>m 80</td>
</tr>
<tr>
<td>16</td>
<td>10mm² stranded PVC insulated with 4C copper conductor</td>
<td>m 40</td>
</tr>
<tr>
<td>17</td>
<td>16mm² stranded PVC insulated with 4C copper conductor</td>
<td>m 40</td>
</tr>
<tr>
<td>18</td>
<td>50mm² stranded PVC insulated with 4C copper conductor</td>
<td>m 50</td>
</tr>
</tbody>
</table>

**TESTING AND COMMISSION**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Test, repair, maintain and provide Certificate of Compliance (Coc) for Existing Main DB</td>
<td>Item</td>
</tr>
<tr>
<td>20</td>
<td>Test and provide Certificate of Compliance (CoC) for new Sub-DB 1</td>
<td>Item</td>
</tr>
</tbody>
</table>

**SMALL POWER**

**LIGHTS**

Supply and install light fittings including all internal switchgear, starters, ballasts, etc. All fittings is to bare the SANS mark or SABS mark of compliance.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>600x600mm, 22W recessed RCM LED light fitting</td>
<td>No 4</td>
</tr>
<tr>
<td>22</td>
<td>600x600mm, 34W recessed RCM LED light fitting</td>
<td>No 8</td>
</tr>
<tr>
<td>23</td>
<td>Futura 8, 10.5W LED 840, recessed downlighter</td>
<td>No 96</td>
</tr>
<tr>
<td>24</td>
<td>MV6 27W LED surface mount light fitting</td>
<td>No 48</td>
</tr>
</tbody>
</table>

Carried to Collection

Section No. 3
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Bill No. 17
ELECTRICAL INSTALLATIONS

-171-
MV6 37W LED surface mount light fitting  
600x1200mm, 3x36W recessed fluorescent light fitting with prismatic diffuser. Similar to existing  
600x600, 3x18W recessed fluorescent light fitting with acrylic diffuser. Similar to existing  
1200mm, 2x36W surface mounted fluorescent light fitting with acrylic diffuser. Similar to existing.  
2xPL18W ceiling mounted bulkhead fitting. Similar to existing.  
HUGO-LED-W Medical Examination Light  
15W LED bulkhead IP65  
30W LED weatherproof floodlight wall mount  
2x58W Open Channel Fluorescent with electronic Ballast  
LIGTH Switches  
Light switches shall be supplied complete with cover plates on recessed switch box complete with connection adapters. Light switches shall be Crabtree type.  
16A one lever one way switch  
16A one lever two way switch  
16A two lever one way switch  
16A two lever two way switch  
16A three lever one way switch  
Daylight switch for outside lighting  
SOCKET OUTLETS  
Supply and install switched socket outlets complete with cover plates on recessed/flush box complete with connection adapters. Socket outlets shall be Crabtree type  
Single 16A 3-pin switched normal socket outlet  
Carried to Collection
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Quantity</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Double 16A 3-pin switched socket outlets</td>
<td>No</td>
<td>34</td>
</tr>
<tr>
<td>42</td>
<td>Single 16A 3-pin switched dedicated socket outlet</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>43</td>
<td>Single 16A 3-pin switched normal socket outlet in weatherproof box</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>44</td>
<td>5A unswitched socket outlet</td>
<td>No</td>
<td>170</td>
</tr>
<tr>
<td>45</td>
<td>Data outlet, complete including RJ45 keystone and connector, adapter, and TIA568C and ISO11608 certified terminations on both ends</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>46</td>
<td>Telephone outlet, complete including RJ11 keystone and connector, and wiring terminations on both ends</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>47</td>
<td>Single 16A 3-pin switched normal socket outlet on power skirting</td>
<td>No</td>
<td>44</td>
</tr>
<tr>
<td>48</td>
<td>Single 16A 3-pin switched dedicated socket outlet on power skirting</td>
<td>No</td>
<td>22</td>
</tr>
<tr>
<td>49</td>
<td>Data outlet, complete including RJ45 keystone and connector, adapter, and TIA568C and ISO11608 certified terminations on both ends on power skirting</td>
<td>No</td>
<td>22</td>
</tr>
<tr>
<td>50</td>
<td>Telephone outlet, complete including RJ11 keystone and connector, and wiring terminations on both ends on power skirting</td>
<td>No</td>
<td>22</td>
</tr>
</tbody>
</table>

**POWER SKIRTING**

Supply and install power skirting complete with fixing

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>m</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>2-Compartment, 2-Cover PVC &quot;Cabstrut Venus&quot; power skirting</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Corner - 90deg. Internal</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>53</td>
<td>Corner - 90deg. External</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>54</td>
<td>End Caps</td>
<td>No</td>
<td>15</td>
</tr>
</tbody>
</table>

**WIRING CHANNEL**

Supply & Install wiring channel complete with fixing material

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>m</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>P7000 + Cover - suspended in ceiling void</td>
<td>140</td>
<td></td>
</tr>
</tbody>
</table>

**Carried to Collection**

Section No. 3
PACALTSDRP CLINIC
Bill No. 17
ELECTRICAL INSTALLATIONS
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>56</td>
<td>P7000 - Tee Piece</td>
<td>No 4</td>
</tr>
<tr>
<td>57</td>
<td>P7000 Horizontal Bend</td>
<td>No 4</td>
</tr>
<tr>
<td>58</td>
<td>P7000 Vertical Bend</td>
<td>No 4</td>
</tr>
<tr>
<td>59</td>
<td>Hangers or Fixing for P7000, complete</td>
<td>No 128</td>
</tr>
<tr>
<td>60</td>
<td>P8000 + Cover - suspended in ceiling void</td>
<td>No 140</td>
</tr>
<tr>
<td>61</td>
<td>P8000 - Tee Piece</td>
<td>No 4</td>
</tr>
<tr>
<td>62</td>
<td>P8000 Horizontal Bend</td>
<td>No 4</td>
</tr>
<tr>
<td>63</td>
<td>P8000 Vertical Bend</td>
<td>No 4</td>
</tr>
<tr>
<td>64</td>
<td>Hangers or Fixing for P8000, complete</td>
<td>No 128</td>
</tr>
</tbody>
</table>

**Wiremesh Cable Tray**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>600mm wide, medium duty with 75mm upturn</td>
<td>m 25</td>
</tr>
<tr>
<td>66</td>
<td>600mm wide horizontal bend</td>
<td>No 4</td>
</tr>
<tr>
<td>67</td>
<td>600mm wide vertical bend</td>
<td>No 4</td>
</tr>
<tr>
<td>68</td>
<td>Hangers, complete with uni-strut support, every 1.5m</td>
<td>No 12</td>
</tr>
<tr>
<td>69</td>
<td>300mm wide, with 50mm upturn</td>
<td>No 45</td>
</tr>
<tr>
<td>70</td>
<td>300mm wide, 90 degree bend</td>
<td>No 4</td>
</tr>
<tr>
<td>71</td>
<td>300mm T-piece</td>
<td>No 4</td>
</tr>
<tr>
<td>72</td>
<td>Hangers, complete with uni-strut support, every 1.5m</td>
<td>No 64</td>
</tr>
</tbody>
</table>

**CONDUIT**

Supply and Install conduit chased in walls, in open roof spaces, and cast in roof slab.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>73</td>
<td>20mm Bosal</td>
<td>m 256</td>
</tr>
<tr>
<td>74</td>
<td>20mm PVC</td>
<td>m 770</td>
</tr>
<tr>
<td>75</td>
<td>25mm Bosal</td>
<td>m 85</td>
</tr>
<tr>
<td>76</td>
<td>25mm PVC</td>
<td>m 85</td>
</tr>
</tbody>
</table>

**Carried to Collection**

Section No. 3  
PACALTS DORP CLINIC  
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ELECTRICAL INSTALLATIONS
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>32mm PVC</td>
<td>m</td>
<td>50</td>
</tr>
<tr>
<td>78</td>
<td>50mm PVC</td>
<td>m</td>
<td>50</td>
</tr>
<tr>
<td>79</td>
<td>Cutting and chasing for conduits on existing walls</td>
<td>m</td>
<td>200</td>
</tr>
</tbody>
</table>

**OUTLET BOXES**

Supply and install galvanised steel draw and outlet boxes installed surface, in ceiling spaces or chased into brick walls, in the following sizes:

<table>
<thead>
<tr>
<th>No.</th>
<th>Dimensions</th>
<th>Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>100mm x 100mm x 50mm deep</td>
<td>No</td>
<td>72</td>
</tr>
<tr>
<td>81</td>
<td>100mm x 50mm x 50mm deep</td>
<td>No</td>
<td>63</td>
</tr>
<tr>
<td>82</td>
<td>60mm round, 2-way</td>
<td>No</td>
<td>32</td>
</tr>
<tr>
<td>83</td>
<td>60mm round, 3-way</td>
<td>No</td>
<td>16</td>
</tr>
<tr>
<td>84</td>
<td>60mm round, 1-way</td>
<td>No</td>
<td>8</td>
</tr>
</tbody>
</table>

**ISOLATORS**

Supply & Install isolators mounted in 100x50, 100x100 outlet boxes, surface mount or industrial type:

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>20A 2 pole recessed</td>
<td>No 4</td>
</tr>
<tr>
<td>86</td>
<td>30A 2 pole recessed</td>
<td>No 2</td>
</tr>
<tr>
<td>87</td>
<td>20A 2 pole industrial type</td>
<td>No 4</td>
</tr>
<tr>
<td>88</td>
<td>30A 2 pole industrial type</td>
<td>No 2</td>
</tr>
</tbody>
</table>

**CONDUCTORS**

Supply and Install:

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>89</td>
<td>1.5mm² stranded PVC insulated with copper conductor</td>
<td>m</td>
<td>6,200</td>
</tr>
<tr>
<td>90</td>
<td>1.5mm² Twin and Earth cable</td>
<td>m</td>
<td>3,500</td>
</tr>
<tr>
<td>91</td>
<td>2.5mm² stranded PVC insulated with copper conductor</td>
<td>m</td>
<td>7,500</td>
</tr>
<tr>
<td>92</td>
<td>2.5mm² Twin and Earth cable</td>
<td>m</td>
<td>900</td>
</tr>
<tr>
<td>93</td>
<td>4mm² stranded PVC insulated with copper conductor</td>
<td>m</td>
<td>80</td>
</tr>
<tr>
<td>94</td>
<td>6mm² stranded PVC insulated with copper conductor</td>
<td>m</td>
<td>25</td>
</tr>
</tbody>
</table>

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**Carried to Collection**

Section No. 3
PACALTS DORP CLINIC
Bill No. 17
ELECTRICAL INSTALLATIONS
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>No</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>Draw wire</td>
<td>m</td>
<td>6,000</td>
</tr>
<tr>
<td>96</td>
<td>5A SP 6kA circuit breaker</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>97</td>
<td>10A SP 6kA circuit breaker</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>98</td>
<td>20A SP 6kA circuit breaker</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>99</td>
<td>30A DP 6kA Earth leakage circuit breaker</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>100</td>
<td>60A TP 6kA circuit breaker</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>101</td>
<td>63A TP 6kA circuit breaker</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>102</td>
<td>80A TP 6kA circuit breaker</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>92</td>
<td><strong>CIRCUIT BREAKERS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>Supply and install circuit breakers to add in existing distribution board.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>104</td>
<td><strong>ELECTRONIC SERVICES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td>Supply and install PA system complete with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>PA Controller</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>107</td>
<td>120W Power Amplifier</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>108</td>
<td>Power Supply</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>109</td>
<td>Call Station with fixed microphone on gooseneck</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>110</td>
<td>6W Ceiling recessed speakers</td>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>111</td>
<td>Evacuation Adapter</td>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>112</td>
<td>Metal Fire Domes for speakers</td>
<td>No</td>
<td>15</td>
</tr>
<tr>
<td>113</td>
<td>CAT6 wiring cable</td>
<td>No</td>
<td>50</td>
</tr>
<tr>
<td>114</td>
<td>Wiring cable - PH30</td>
<td>No</td>
<td>1,600</td>
</tr>
<tr>
<td>115</td>
<td>Testing and commission of the system</td>
<td>No</td>
<td>1</td>
</tr>
</tbody>
</table>

**Carried to Collection**

Section No. 3
PACALTS DORP CLINIC
Bill No. 17
ELECTRICAL INSTALLATIONS
### FIRE DETECTION EQUIPMENT

Supply and install additional equipment and extend the detection installation to new areas

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>ZP3 - 2 loop control panel complete with standby batteries and related accessories</td>
<td>Item</td>
</tr>
<tr>
<td>114</td>
<td>Log book holder and log book</td>
<td>Item</td>
</tr>
<tr>
<td>115</td>
<td>Ziton ZP730 Optical smoke detectors</td>
<td>No 21</td>
</tr>
<tr>
<td>116</td>
<td>Ziton manual call point units</td>
<td>No 5</td>
</tr>
<tr>
<td>117</td>
<td>Ziton behind detector type sound / strobe combination</td>
<td>No 5</td>
</tr>
<tr>
<td>118</td>
<td>Ziton HAV type sounder / strobe combination</td>
<td>No 5</td>
</tr>
<tr>
<td>119</td>
<td>Ziton relays, HVAC shutdown, smoke extract etc.</td>
<td>No 2</td>
</tr>
<tr>
<td>120</td>
<td>PH30 Fire cable</td>
<td>No 1,300</td>
</tr>
<tr>
<td>121</td>
<td>Software programming, test and commissioning, and certification etc.</td>
<td>Item</td>
</tr>
</tbody>
</table>

### SECURITY SYSTEM

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>122</td>
<td>Security access control panel</td>
<td>No 1</td>
</tr>
<tr>
<td>123</td>
<td>50mm dia. Electric spike and door lock</td>
<td>No 1</td>
</tr>
<tr>
<td>124</td>
<td>50mm dia. Recessed outlet for motion sensor inside ceiling space</td>
<td>No 1</td>
</tr>
<tr>
<td>125</td>
<td>Panic button</td>
<td>No 4</td>
</tr>
<tr>
<td>126</td>
<td>Local door alarm buzzer</td>
<td>No 2</td>
</tr>
<tr>
<td>127</td>
<td>Door contact sensor inside ceiling space</td>
<td>m 2</td>
</tr>
<tr>
<td>128</td>
<td>Emergency door release</td>
<td>No 2</td>
</tr>
<tr>
<td>129</td>
<td>Alarm buzzer and LED for delivery gate open</td>
<td>No 1</td>
</tr>
<tr>
<td>130</td>
<td>Smartguard Keypad</td>
<td>No 2</td>
</tr>
<tr>
<td>131</td>
<td>Intercom for gate</td>
<td>No 1</td>
</tr>
<tr>
<td>132</td>
<td>Wiring</td>
<td>No 280</td>
</tr>
</tbody>
</table>

Carried to Collection

Section No. 3
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ELECTRICAL INSTALLATIONS
**UNINTERRUPTABLE POWER SUPPLY (UPS)**

Uninterruptable power supply source for Data, Access control and PA system emergency supply complete.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>133</td>
<td>10kVA 230V UPS - 30 minutes backup time</td>
<td>No 1</td>
</tr>
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</table>

**GENERAL**

Disconnect and remove the following electrical equipment

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>134</td>
<td>Surface mounted light fittings</td>
<td>No 5</td>
</tr>
<tr>
<td>135</td>
<td>Recessed mounted light fittings</td>
<td>No 5</td>
</tr>
<tr>
<td>136</td>
<td>Wall mount bulkheads</td>
<td>No 5</td>
</tr>
<tr>
<td>137</td>
<td>Socket Outlets</td>
<td>No 5</td>
</tr>
<tr>
<td>138</td>
<td>Light switches</td>
<td>No 5</td>
</tr>
<tr>
<td>139</td>
<td>Wall mounted heater panels</td>
<td>No 2</td>
</tr>
<tr>
<td>140</td>
<td>Intercoms</td>
<td>No 1</td>
</tr>
<tr>
<td>141</td>
<td>Strippling or redundant wiring</td>
<td>m 200</td>
</tr>
</tbody>
</table>

**Carried to Collection**

Section No. 3
PACALTSDORP CLINIC
Bill No. 17
ELECTRICAL INSTALLATIONS
Section No. 3  
Bill No. 17  
ELECTRICAL INSTALLATIONS  
COLLECTION

<table>
<thead>
<tr>
<th>Page No</th>
<th>Amount</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Total Brought Forward from Page No.</td>
<td></td>
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<tr>
<td>170</td>
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</tr>
<tr>
<td>171</td>
<td></td>
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<tr>
<td>172</td>
<td></td>
</tr>
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<td>173</td>
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<td>174</td>
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<td>176</td>
<td></td>
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<td>177</td>
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<td>178</td>
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</tr>
</tbody>
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Carried Forward to Summary of Section No. 3

Section No. 3  
PACALTSDORP CLINIC  
Bill No. 17  
ELECTRICAL INSTALLATIONS
<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2</td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 2**

**BILL NO 18**

**MECHANICAL INSTALLATIONS**

---

**GENERAL**

1. Charges for items required for the administration, insurance, completion of the installation as specified but not specifically billed separately as individual items.

2. Fixed preliminary & general charges.

3. Value related preliminary & general charges

4. Time related preliminary & general charges

**SITE STORAGE**

5. Providing, erecting and subsequently demolishing and removal of a temporary structure for storage/administration of the contract

**DESIGN & SHOP DRAWINGS**

6. Design, drawing & approval obligations as specified.

**OPERATING & MAINTENANCE MANUALS**

7. Obtaining all relevant information, compiling, reproduction & finalizing three sets of documents and one set of sepias of documents as specified.

Carried to Collection

Section No. 3
PACALTS DORP CLINIC
Bill No. 18
MECHANICAL INSTALLATION
**OPERATOR TRAINING**

8 Presenting a training course for the Operators/Tenants

**STATUTORY INSPECTIONS AND TESTS**

9 Allow for the costs for inspections and tests required to comply with the specification and the Occupational Health & Safety Act

**COMMISSIONING**

10 Commissioning of balance of plant where commissioning is not specifically included in the rates hereunder.

**MAINTENANCE**

11 Twelve months of maintenance of the entire installation from date of handover.

12 Dismantling and Removal of all Existing HVAC systems including fixings.

13 Crainage & Hoisting Incl all road closure and inspection certificates.

**VENTILATION EQUIPMENT**

**Extract Air Fans**

Supply and Install Extract Air Fan - with matching Pod Attenuators complete with all mountings and connections or similar approved at 150kPa

14 EAF Duty @ 89 l/s

Carried to Collection

<table>
<thead>
<tr>
<th>Section No.</th>
<th>PACALTDORP CLINIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill No.</td>
<td>MECHANICAL INSTALLATION</td>
</tr>
<tr>
<td>No</td>
<td>Description</td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>15</td>
<td>EAF Duty @ 435 l/s</td>
</tr>
<tr>
<td>16</td>
<td>EAF Duty @ 548 l/s</td>
</tr>
<tr>
<td>17</td>
<td>EAF Duty @ 1184 l/s</td>
</tr>
<tr>
<td></td>
<td><strong>Supply Air Fans</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Supply and Install Supply Air Fan - with matching Pod Attenuators</strong></td>
</tr>
<tr>
<td></td>
<td><strong>complete with all mountings and connections or similar approved at 150 kPa</strong></td>
</tr>
<tr>
<td>18</td>
<td>SAF Duty @ 431 l/s</td>
</tr>
<tr>
<td>19</td>
<td>SAF Duty @ 485 l/s</td>
</tr>
<tr>
<td>20</td>
<td>SAF Duty @ 620 l/s</td>
</tr>
<tr>
<td>21</td>
<td>SAF Duty @ 1103 l/s</td>
</tr>
<tr>
<td></td>
<td><strong>Door Grilles - Aluminium</strong></td>
</tr>
<tr>
<td>22</td>
<td>300 x 300mm Door Grilles</td>
</tr>
<tr>
<td></td>
<td><strong>Supply and Install rectangular extract ducting incl fixtures and supports</strong></td>
</tr>
<tr>
<td></td>
<td><strong>as per specification</strong></td>
</tr>
<tr>
<td>23</td>
<td>150 x 150mm</td>
</tr>
<tr>
<td>24</td>
<td>200 x 200mm</td>
</tr>
<tr>
<td>25</td>
<td>250 x 250mm</td>
</tr>
<tr>
<td>26</td>
<td>300 x 250mm</td>
</tr>
</tbody>
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**Carried to Collection**
<table>
<thead>
<tr>
<th>No.</th>
<th>Diameter</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>350 x 350mm</td>
<td>m 15</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>550 x 350mm</td>
<td>m 15</td>
<td></td>
</tr>
</tbody>
</table>

**Transformations and Bends insulation internally and including fixtures and supports as per spec**

<table>
<thead>
<tr>
<th>No.</th>
<th>Diameter</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Dia 150mm Take-Offs</td>
<td>No 15.00</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Dia 200mm Take-Offs</td>
<td>No 12</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>90° bends 150 x 150mm</td>
<td>No 15</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>90° bends 200 x 200mm</td>
<td>No 10</td>
<td></td>
</tr>
</tbody>
</table>

**Supply and Install insulated rectangular supply ducting incl fixtures and supports as per specification**

<table>
<thead>
<tr>
<th>No.</th>
<th>Diameter</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>150 x 150mm</td>
<td>No 26</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>200 x 150mm</td>
<td>No 6</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>200 x 200mm</td>
<td>No 6</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>250 x 200mm</td>
<td>No 21</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>250 x 250mm</td>
<td>No 15</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>300 x250mm</td>
<td>No 5</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>300 x300mm</td>
<td>No 3</td>
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**Carried to Collection**

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Bill No. 18
MECHANICAL INSTALLATION
<table>
<thead>
<tr>
<th>No.</th>
<th>Item Description</th>
<th>Quantity</th>
<th>Rate (R)</th>
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<tr>
<td>40</td>
<td>350 x300mm</td>
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<td></td>
</tr>
<tr>
<td>41</td>
<td>350 x350mm</td>
<td>No 4</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>500 x250mm</td>
<td>No 6</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>500 x500mm</td>
<td>No 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Transformations and Bends insulated and including fixtures and supports as per spec</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Dia 150mm Take- Offs</td>
<td>No 11</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Dia 250mm Take- Offs</td>
<td>No 23</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>90° bends 150 x 150mm</td>
<td>No 12.00</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>90° bends 150 x 200mm</td>
<td>No 9.00</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>90° bends 200 x 200mm</td>
<td>No 11.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Fresh Air Disc Valves</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>150mm Disc Valves</td>
<td>No 11.00</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>200mm Disc Valves</td>
<td>No 23.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Extract Air Disc Valves</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>150mm Disc Valves</td>
<td>No 16.00</td>
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<tr>
<td>52</td>
<td>200mm Disc Valves</td>
<td>No 12.00</td>
<td></td>
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**Carried to Collection**

Section No. 3
PACALTS DORP CLINIC
Bill No. 18
MECHANICAL INSTALLATION
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<td>53</td>
<td>Supply and install Electrical Supply and isolators from AC DB(s) incl timers for each fan</td>
<td></td>
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<td></td>
<td>8.00</td>
</tr>
<tr>
<td>54</td>
<td>Consumables</td>
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<td></td>
<td><strong>Extract Air Weather Louvre</strong></td>
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<tr>
<td>55</td>
<td>400 x 450mm</td>
<td></td>
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<tr>
<td>56</td>
<td>500 x 450mm</td>
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<td>57</td>
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<td></td>
<td><strong>Fresh Air Weather louvres</strong></td>
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</tr>
<tr>
<td>58</td>
<td>400 x 450mm</td>
<td></td>
<td></td>
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<td>2.00</td>
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<tr>
<td>59</td>
<td>500 x 450mm</td>
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<td></td>
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<td>1.00</td>
</tr>
<tr>
<td>60</td>
<td>700 x 700mm</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>61</td>
<td>Provide Electrical Supply and contactors from Main DB to AC DBs incl Isolators</td>
<td></td>
<td></td>
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<td>1.00</td>
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**Carried to Collection**

Section No.  3  
PACALTSDORP CLINIC  
Bill No.  18  
MECHANICAL INSTALLATION
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Carried Forward to Summary of Section No. 3

Section No. 3
PACALTSDORP CLINIC
Bill No. 18
MECHANICAL INSTALLATION
### SECTION 2

#### BILL NO 19

### PROVISIONAL SUMS

**General**

The tenderer's attention is drawn to clauses A20 and B9 Preliminaries

The following Provisional Sums are net and are for material and equipment supplied and installed complete by firms of specialists nominated by the Principal Agent

-------------------------

**Note:** The Contractors are to note the following:

The following Provisional Sums are all NET amounts EXCLUSIVE of commission for the Contractor. These amounts are for work to be executed complete by Nominated Sub-Contractors.

Provisional Sums may be omitted or reduced at the Employer's sole discretion and the contractor shall not be entitled to claim for any loss by way of reductions or omissions of any discount, or percentage relating to Provisional Amounts or P.C. amounts or any loss of profit related thereto.

The works "attend upon" or "attendance" in connection with P.C. or Provisional Amount Items shall mean and include for the following:

The Contractor is to allow for facilities, attendance, use of any erected scaffolding, ladders, plant, water, electric lights, nominated sub-contractors, etc., and the contractor shall leave such erected scaffolding, etc. in position until and during the period required by the works of such sub-contractors.

The Contractor shall allow the sub-contractors the use of suitable storage space for their materials, etc., and is to supply them with labour and tackle for unloading, getting in, hoisting and distributing their materials. The Contractor is to allow for ordinary making good thereafter of unfinished work.

---

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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</tbody>
</table>

Section No. 3
PACALTS DORP CLINIC
Bill No. 19
PROVISIONAL SUMS

-187-
The Contractor is to allow for storage and watching of such materials sent onto the site for nominated sub-contractors, etc., and will be held responsible for their safety and shall indemnify the Employer against any loss or damage that may occur.

In the settlement of the Final Account any amounts allowed by the Contractor for profit or/and attendance will be adjusted in proportion to the value of the subcontractor's ultimate expended.

The Employer shall also have the right to send onto the works and install any furniture, finishings or fitments, machinery, equipment, etc., and to supply and execute any other special works not contained in this contract during this contract, and the Contractor shall not be entitled to any percentage or discount thereon.

N.B. Any builder's work that the Contractor may be called upon to do so in connection with any such special works or services will be measured and valued at schedule rates as executed.

The Client reserves the right to omit any or all of the Provisional Sums allowed for in this tender without any claim for loss of profit by the contractor

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<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Provide the amount of R30,000.00 (Thirty Thousand Rands) for installing Steel proofing to ceiling</td>
<td>30,000.00</td>
</tr>
<tr>
<td>2</td>
<td>Allow for profit</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Allow for attendance</td>
<td></td>
</tr>
</tbody>
</table>

**BURGLAR PROOFING IN CEILINGS**

Budgetary allowances may be omitted or reduced at the Principal Agent's sole discretion and the contractor shall not be entitled to claim for any loss of profit related thereto. The following budgetary allowances is for work to be executed by the Contractor at tendered bill rates, or to be deducted in whole or part if not required without any compensation for loss of profit on the said amounts

**BUDGETARY ALLOWANCES, ETC**

Carried to Collection

Section No. 3
PACALTS DORP CLINIC
Bill No. 19
PROVISIONAL SUMS
<table>
<thead>
<tr>
<th>Item</th>
<th>Builders work in connection with electrical and mechanical installation</th>
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<tbody>
<tr>
<td>4</td>
<td>Allow the budgetary amount of R50 000.00 (Fifty Thousand Rands) for builders work in connection with electrical and mechanical installation</td>
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Carried to Collection

Section No.  3
PACALTSDORP CLINIC
Bill No.  19
PROVISIONAL SUMS
**Section No. 3**

**Bill No. 19**

**PROVISIONAL SUMS**

**COLLECTION**

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Total Brought Forward from Page No.

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**Carried Forward to Summary of Section No. 3**

Section No. 3

PACALTSDORP CLINIC

Bill No. 19

PROVISIONAL SUMS
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<td>2</td>
<td>FOUNDATIONS</td>
<td>131</td>
</tr>
<tr>
<td>3</td>
<td>CONCRETE, FORMWORK AND REINFORCEMENT</td>
<td>134</td>
</tr>
<tr>
<td>4</td>
<td>MASONRY</td>
<td>137</td>
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<td>5</td>
<td>WATERPROOFING</td>
<td>138</td>
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<td>6</td>
<td>ROOF COVERINGS</td>
<td>141</td>
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<td>7</td>
<td>CARPENTRY AND JOINERY</td>
<td>144</td>
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<td>8</td>
<td>CEILINGS, PATITIONS AND ACCESS FLOORING</td>
<td>145</td>
</tr>
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<td>9</td>
<td>IRONMONGERY</td>
<td>148</td>
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<td>10</td>
<td>METALWORK</td>
<td>152</td>
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<td>11</td>
<td>PLASTERING</td>
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<td>TILING</td>
<td>154</td>
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<td>13</td>
<td>PLUMBING AND DRAINAGE</td>
<td>159</td>
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<td>GLAZING</td>
<td>160</td>
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<td>15</td>
<td>PAINTWORK</td>
<td>164</td>
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<td>16</td>
<td>EXTERNAL WORKS</td>
<td>169</td>
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<td>17</td>
<td>ELECTRICAL INSTALLATIONS</td>
<td>179</td>
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<td>ALTERATIONS</td>
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<td></td>
</tr>
<tr>
<td>TEMPORARY BARRIERS, SCREENS, ETC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary barriers, screens, etc including removal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Allowance for all necessary tarpaulins, barricades, screens, fencing, temporary waterproofing, dustproofing, etc required to isolate any sections of new or existing buildings for purposes of renovations and excluding users of the remainder of the building or any unauthorised persons, all to the satisfaction of the Principal Agent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REMOVAL OF EXISTING WORK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breaking down and removing brickwork etc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Half brick walls</td>
<td>m²</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>Timber single door and frame not exceeding 2.5m²</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>MAKING GOOD OF FINISHES, ETC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making good screed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>On floors in patches</td>
<td>m²</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Ceilings in patches</td>
<td>m²</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>On walls in patches</td>
<td>m²</td>
<td>3</td>
</tr>
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<tr>
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<td></td>
</tr>
<tr>
<td>EARTHWORKS</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>EXCAVATION, FILLING, ETC. OTHER THAN BULK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation in earth not exceeding 2m deep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Trenches</td>
<td>m3</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Extra over trench and hole excavations for excavation in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Soft rock</td>
<td>m3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3 Hard rock</td>
<td>m3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Extra over all excavations for carting away</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4 Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor</td>
<td>m3</td>
<td>2</td>
<td></td>
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<tr>
<td>Risk of collapse of excavations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Sides of trench and hole excavations not exceeding 1,5m deep</td>
<td>m2</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Keeping excavations free of water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Keeping excavations free of water other than subterranean water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compaction of surfaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Compaction to bottom of trench excavations to 93% mod AASHTO density</td>
<td>m2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>8 Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density</td>
<td>m2</td>
<td>5</td>
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Carried to Collection

Section No. 4
PARKDENE CLINIC
Bill No. 2
FOUNDATIONS
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<tr>
<td>9</td>
<td>150mm Filling material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density</td>
<td>m2</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Filling material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density to receive</td>
<td>m2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>damp proof membrane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Under floors, etc.</td>
<td>m2</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>SOIL POISONING</td>
<td>m2</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Soil Insecticide</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weedkiller (active ingredients metalaclor 102.8 g/l, terbitilasien 248.6 g/l and atrasien 248.6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m²</td>
<td></td>
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Carried to Collection

Section No. 4
PARKDENE CLINIC
Bill No. 2
FOUNDATIONS
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Section No. 4  
PARKDENE CLINIC  
Bill No. 2  
FOUNDATIONS
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<tr>
<td>BILL NO 3</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CONCRETE, FORMWORK AND REINFORCEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PREAMBLES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For preambles refer to &quot;Model Preambles for Trades&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRADE NAMES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or methods of similar quality may be used with the prior written approval of the Representative/Agent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPPLEMENTARY PREAMBLES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of tests</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Descriptions of formwork shall be deemed to include use and waste only (except where described as left in or permanent), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before use.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The costs of making, storing and testing of concrete test cubes as required under clause 7 ‘Tests’ of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Principal Agent.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the Principal Agent. (Test cubes are measured separately)</td>
<td></td>
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<td></td>
</tr>
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</table>

Carried to Collection

Section No. 4
PARKDENE CLINIC
Bill No. 3
CONCRETE, FORMWORK AND REINFORCEMENT
### UNREINFORCED CONCRETE

**20MPa/19mm concrete**

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<thead>
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<th>Description</th>
<th>Unit</th>
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<tbody>
<tr>
<td>1</td>
<td>Surface blinding under footings and bases</td>
<td>m³</td>
<td>1</td>
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### REINFORCED CONCRETE

**25 MPa/19mm Concrete**

<table>
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<th>Description</th>
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<tr>
<td>2</td>
<td>Strip footings</td>
<td>m³</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Slabs including beams and inverted beams</td>
<td>m³</td>
<td>1</td>
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### TEST BLOCKS

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<tbody>
<tr>
<td>4</td>
<td>Making and testing 150 x 150 x 150mm concrete strength test cube</td>
<td>No</td>
<td>2</td>
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### CONCRETE SUNDRIES

**Finishing top surfaces of concrete smooth with a power float**

<table>
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<tr>
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<th>Description</th>
<th>Unit</th>
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</tr>
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<tbody>
<tr>
<td>5</td>
<td>Surface beds, slabs, ramps, etc</td>
<td>m²</td>
<td>5</td>
</tr>
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### FORMWORK

### ROUGH FORMWORK (DEGREE OF ACCURACY III)

**Rough formwork to sides of**

<table>
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<tr>
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<tbody>
<tr>
<td>6</td>
<td>Edges, risers, ends and reveals not exceeding 300mm high or wide</td>
<td>m</td>
<td>8</td>
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**Fabric reinforcement**

<table>
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<tr>
<th></th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Type 193 fabric reinforcement in concrete surface beds, slabs, ramps, etc.</td>
<td>m²</td>
<td>5</td>
</tr>
</tbody>
</table>

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**Carried to Collection**

Section No. 4  
PARKDENE CLINIC  
Bill No. 3  
CONCRETE, FORMWORK AND REINFORCEMENT  

---

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### COLLECTION

<table>
<thead>
<tr>
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Total Brought Forward from Page No.

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**Carried Forward to Summary of Section No. 4**

Section No. 4  
PARKDEN CLINIC  
Bill No. 3  
CONCRETE, FORMWORK AND REINFORCEMENT
<table>
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<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>One brick walls</td>
<td>m²</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Cutting toothings and bonding new brickwork to existing</td>
<td>m²</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>150mm Wide reinforcement built in horizontally</td>
<td>m</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>110 x 75mm Lintels in lengths not exceeding 3000mm</td>
<td>m</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>150 x 75mm Lintels in lengths not exceeding 3000mm</td>
<td>m</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Item No</td>
<td>Description</td>
<td>Quantity</td>
<td>Rate</td>
<td>Amount</td>
</tr>
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<td>SECTION 3</td>
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<td></td>
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<tr>
<td>BILL NO 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>WATERPROOFING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DAMPPROOFING OF WALLS AND FLOORS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)</td>
<td>1</td>
<td>m²</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>In walls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 In walls vertically at reveals</td>
<td>2</td>
<td>m²</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>One layer 375 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Under surface beds</td>
<td>3</td>
<td>m²</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>JOINT SEALANTS, ETC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear silicone sealing compound</td>
<td>4</td>
<td>m</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Point between aluminium frames and face of brickwork</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Carried Forward to Summary of Section No. 4
**SECTION 3**

**BILL NO 6**

**ROOF COVERINGS ETC**

**PROFILED METAL SHEETING AND ACCESSORIES**

Transparent IBR roof sheeting and accessories fixed to steel purlins or rails at 890mm centres

<table>
<thead>
<tr>
<th>Item No</th>
<th>Item Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Roof covering with pitch not exceeding 25 degrees</td>
<td>m²</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Side clading</td>
<td>m²</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Provide the sum of R5 000.00 (Five Thousand Rand) for the supply and installation of mono pitch roof over sputum booth (roof covering to much existing)</td>
<td>Item</td>
<td></td>
<td>5,750.00</td>
</tr>
<tr>
<td>4</td>
<td>Allow for profit</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Allow for attendance</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SHEET METAL FLASHING, LININGS, COPINGS, ETC**

0.6mm Galvanised sheet iron with chromadek or similar approved finish

<table>
<thead>
<tr>
<th>Item No</th>
<th>Item Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Stepped and side wall flashings to match existing</td>
<td>m²</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Carried Forward to Summary of Section No. 4

Section No. 4
PARKDENE CLINIC
Bill No. 6
ROOF COVERINGS
<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>44mm Door size 813 x 2 032mm high</td>
<td>No 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Shelf size 915 x 300 x 2250 high and seven tiers</td>
<td>No 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Shelf size 300 x 150 x 330mm high and three tiers</td>
<td>No 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Floor cupboard complete overall size 1450mm long x 600mm wide x 900mm high, comprising 600mm wide 32mm thick continuous Formica worktop. 18mm Melamine veneer doors edged with 100mm aluminium pull handles, 1no. 18mm Supawood shelf with white veneer finish with solid oak edging at a min thickness of 10mm to all open sides and a 25 x 50mm SAP support rails fixed complete to wall including silicon as required and all necessary ironmongery, etc</td>
<td>No 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Carried Forward to Summary of Section No. 4
**SECTION 3**

**BILL NO 8**

**IRONMONGERY**

**PINNING BOARDS, WRITING BOARDS, PROJECTIONS SCREENS, ETC.**

"Parrot" or similar approved boards

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. 500 x 1000mm high bulletin board, complete with aluminium frame and mounting hooks (code BD0544)
2. 1200 x 600mm bulletin board, complete with aluminium frame and mounting hooks (code BD0540)

**SIGNAGE**

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>25,000.00</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
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</tbody>
</table>

Provide the sum of R25 000.00 (Twenty Five Thousand Rand) for signage

Carried Forward to Summary of Section No. 4

Section No. 4
PARKDENE CLINIC
Bill No. 8
IRONMONGERY
<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100 x 50 x 4.5mm square hollow section</td>
<td>t</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>100 x 50 x 3mm Lipped channel purlins</td>
<td>t</td>
<td>0.22</td>
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</tr>
</tbody>
</table>

**SECTION NO.3**

**BILL NO 9**

**STRUCTURAL STEELWORK**

**PURLINS, GIRTS, BRACING, ETC.**

---

Carried Forward to Summary of Section No. 4

Section No. 4
PARKDENE CLINIC
Bill No. 9
STRUCTURAL STEEL
## SECTION 3

### BILL NO 10

**METALWORK**

**PREAMBLES**

For preambles see "Model Preambles for Trades (2008 Edition)"

**PRESSED STEEL DOOR FRAMES**

1.6mm Rebated frames type NF.A1 suitable for 110mm walls

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
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<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>No 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Frame for door size 813 x 2 032mm high with and including striker plate complete

**ALUMINIUM WINDOWS**

Natural anodised casement windows, complete with subframes, ironmongery, 6.38mm clear laminated safety glass, sealing, etc. fixing to brickwork or concrete

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>No 1</td>
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</tbody>
</table>

Window size 900 x 1 200mm

**ALUMINIUM LOUVRE UNITS**

Horizontal louvre unit

<table>
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<tr>
<th>Item No</th>
<th>Quantity</th>
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<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>No 1</td>
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<td></td>
</tr>
</tbody>
</table>

Natural anodised louvre unit fitted in timber door (door elsewhere)

**SPUTUM BOOTH GALVANISED STEEL WIRE MESH AND NUTEC INFILL PANELS**

Provide the sum of R30 000.00 (Thirty thousand Rand) for the supply and installation of galvanised steel frame, galvanised woven wire mesh panels and 6mm fibre cement infill panels

<table>
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<th>Item No</th>
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<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>Item</td>
<td>30,000.00</td>
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</table>

5. Allow for profit

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Allow for attendance

<table>
<thead>
<tr>
<th>Item No</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>6</td>
<td>Item</td>
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<tr>
<td>Bill No. 10</td>
</tr>
<tr>
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</tr>
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</table>
### SECTION 3

### BILL NO 11

#### PAINTWORK

##### PAINTWORK TO PREVIOUSLY PAINTED WORK

##### PREPARATORY WORK TO EXISTING WORK

**Previously painted plastered surfaces**

Existing paint layers shall be sanded down and cracks shall be opened, filled with a suitable filler and finished smooth, surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied.

**Previously painted metal surfaces**

Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal.

**Previously painted wood surfaces**

Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth.

#### PAINT ON PLASTER

**One filler coat and one coat universal under coat and two coats of washable pure acrylic paint on:**

1. On internal walls

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>m2</td>
<td></td>
<td>1,037</td>
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</tbody>
</table>

#### PAINT ON GYPSUM PLASTERBOARD

**One coat masonry primer and two coats matt acrylic paint**

2. On ceilings and cornices

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>m2</td>
<td></td>
<td>313</td>
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Carried Forward to Summary of Section No. 4
SECTION 3

BILL NO 12

PROVISIONAL SUMS

General

The tenderer's attention is drawn to clauses A20 and B9

Preliminaries

The following Provisional Sums are net and are for
material and equipment supplied and installed complete
by firms of specialists nominated by the Principal Agent

-----------------------------------

Note: The Contractors are to note the following:

The following Provisional Sums are all NET amounts
EXCLUSIVE of commission for the Contractor. These
amounts are for work to be executed complete by
Nominated Sub-Contractors.

Provisional Sums may be omitted or reduced at the
Employer's sole discretion and the contractor shall not
be entitled to claim for any loss by way of reductions or
omissions of any discount, or percentage relating to
Provisional Amounts or P.C. amounts or any loss of
profit related thereto.

The works "attend upon" or "attendance" in connection
with P.C. or Provisional Amount Items shall mean and
include for the following:

The Contractor is to allow for facilities, attendance, use
of any erected scaffolding, ladders, plant, water, electric
lights, nominated sub-contractors, etc., and the
contractor shall leave such erected scaffolding, etc., in
position until and during the period required by the
works of such sub-contractors.

The Contractor shall allow the sub-contractors the use
of suitable storage space for their materials, etc., and is
to supply them with labour and tackle for unloading,
getting in, hoisting and distributing their materials. The
Contractor is to allow for ordinary making good
thereafter of unfinished work.

Carried to Collection

Section No. 4
PARKDENE CLINIC
Bill No. 12
PROVISIONAL SUMS
The Contractor is to allow for storage and watching of such materials sent onto the site for nominated sub-contractors, etc., and will be held responsible for their safety and shall indemnify the Employer against any loss or damage that may occur.

In the settlement of the Final Account any amounts allowed by the Contractor for profit or/and attendance will be adjusted in proportion to the value of the subcontractor's ultimate expended.

The Employer shall also have the right to send onto the works and install any furniture, finishings or fitments, machinery, equipment, etc., and to supply and execute any other special works not contained in this contract during this contract, and the Contractor shall not be entitled to any percentage or discount thereon.

N.B. Any builder's work that the Contractor may be called upon to do so in connection with any such special works or services will be measured and valued at schedule rates as executed.

The Client reserves the right to omit any or all of the Provisional Sums allowed for in this tender without any claim for loss of profit by the contractor

-----------------------------

**ELECTRICAL INSTALLATION**

1. Provide the amount of R35,000.00 (Thirty Five Thousand Rands) for the installation of electrical installations
   Item 35,000.00
2. Allow for profit
   Item
3. Allow for attendance
   Item

**MECHANICAL INSTALLATIONS**

4. Provide the amount of R50,000.00 (Fifty Thousand Rands) for inspection, servicing and minor repairs on air conditioning and ventilation systems
   Item 50,000.00
5. Allow for profit
   Item
6. Allow for attendance
   Item

**BUDGETARY ALLOWANCES, ETC**

Carried to Collection

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<th>PARKDENE CLINIC</th>
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</tr>
<tr>
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<td>PROVISIONAL SUMS</td>
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</table>

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Budgetary allowances may be omitted or reduced at the Principal Agent's sole discretion and the contractor shall not be entitled to claim for any loss of profit related thereto. The following budgetary allowances is for work to be executed by the Contractor at tendered bill rates, or to be deducted in whole or part if not required without any compensation for loss of profit on the said amounts.

Builders work in connection with electrical and mechanical installation

Allow the budgetary amount of R25 000.00 (Twenty Five Thousand Rands) for builders work in connection with electrical and mechanical installation

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Section No. 4
PARKDEN CLINIC
Bill No. 12
PROVISIONAL SUMS
Section No. 4
Bill No. 12

PROVISIONAL SUMS

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Total Brought Forward from Page No.

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Section No. 4
PARKDENE CLINIC
Bill No. 12
PROVISIONAL SUMS
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<td>ROOF COVERINGS</td>
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<td>7</td>
<td>CARPENTRY AND JOINERY</td>
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<td>8</td>
<td>IRONMONGERY</td>
<td>203</td>
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<td>9</td>
<td>STRUCTURAL STEEL</td>
<td>204</td>
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<td>12</td>
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Carried to C2.3: Final Tender Summary
### FINAL SUMMARY

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<td>2</td>
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<td>4</td>
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<table>
<thead>
<tr>
<th>SUB TOTAL</th>
<th>R</th>
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</table>

### CONTINGENCIES

Allow the sum of R1,500,000 (One million five hundred thousand rands) spent as the Employer or employer's representative may direct and to be deducted in whole or in part if not required.

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<thead>
<tr>
<th>Item</th>
<th>R</th>
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</table>

<table>
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<th>TOTAL INCLUDING CONTINGENCIES</th>
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</table>

### VALUE ADDED TAX

ADD: Value Added Tax (15%)

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<table>
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Carried to C2.3: Final Tender Summary

<table>
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C2.3: FINAL TENDER SUMMARY

The complete set of tender documents is as set out in summary handed out with the tender documentation and amounts must be carried from the summaries in the Bills of Quantities – PART C2.2 to this Final Tender Summary

<table>
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<th>SECTION</th>
<th>DESCRIPTION</th>
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<td>2</td>
<td>PRELIMINARIES PARKDENE CLINIC</td>
<td>R………………..</td>
</tr>
<tr>
<td>3</td>
<td>PACALTSDORP CLINIC</td>
<td>R………………..</td>
</tr>
<tr>
<td>4</td>
<td>PARKDENE CLINIC</td>
<td>R………………..</td>
</tr>
</tbody>
</table>

SUB TOTAL

- Provide the amount of R 1,500,000.00 (One Million Five Hundred Thousand Rand) for Contingencies, etc. to be spent in whole or in part or be deducted in its entirety at the discretion of the Agent/Representative
  - R 1 500 000.00

- Provide the amount of R 900 000.00 (Nine Hundred Thousand Rand) for escalation to be adjusted and calculated to actual amount in terms of the JBCC CPAP provisions
  - R 900 000.00

SUB TOTAL

- PLUS 15% VAT
  - R………………..|

TOTAL

- CARRIED TO FORM OF OFFER AND ACCEPTANCE IN BOOK 1
PART C3: SCOPE OF WORK
C3.1: DESCRIPTION OF THE WORKS

C3.1.1 Employer’s objectives
Backlog maintenance, Refurbishment and Upgrades at Parkdene and Pacaltsdorp Clinics

C3.1.2 Overview of the works
The work will be undertaken in phases as per the architects phasing plan and proposed project timeline and the contractor are required to complete the works in sections in order for decanting of the areas.

Decanting of the different areas will be done by the hospital and the access to the different areas to be given to the contractor at any given time will be as discussed and agreed between the hospital, principal agent and contractor at the time of site handover.

No claims will be entertained by the contractor for standing time during decanting between phases and duration of 10 working days is to be allowed.

PACALTSDORP CLINIC
The work generally includes

Refurbishment work:

1. New records, Reception, Multipurpose room, Pharmacy sub-waiting area and Manager’s office and Male and female toilets
   New concrete foundations, brickwork, external face internally plastered and painted, surface bed, connections to existing sewer pipe, gully, new timber roof and roof tiles, wire mesh ventilation panels, water closet, wash hand basin, aluminium glass and timber door

2. New Consulting Room 8 & 9, Counselling Room 1
   New concrete foundations, brickwork, external face brick internally plastered and painted, surface bed, Floor tiles, timber doors, ceilings, connections to existing sewer pipe, gully, new steel windows, aluminium window new timber roof and roof tiles.

3. New Sputum Booth –
   New concrete foundations, brickwork, external face internally plastered and painted, surface bed, floor drain, gully, new timber roof and roof tiles, wire mesh ventilation panels, new timber door

4. Internal alterations –
   Demolish existing walls and build in new half brick walls plaster and paint both sides.

5. Municipal waste and Medical waste areas
   New concrete foundations, brickwork, external face internally plastered and painted, surface bed, roof floor drains, galvanised metal doors, ceilings, connections to existing sewer pipe, external wash through tap and gully, new timber roof and roof tiles.

6. External work
   New external paving and paved parking area.

PARKDENE CLINIC
The work generally includes

1. Existing Entrance
   Remove existing aluminium door and build in new window, new brick wall and install aluminium window
2. **New Reception**  
Demolish existing wall and make good all trades, install new glass screen wall and cupboards

3. **New Sputum Booth –**  
New concrete foundations, brickwork, external face internally plastered and painted, surface bed, floor drain, gully, new timber roof and roof tiles, wire mesh ventilation panels, new timber door

4. **New Records Room**  
Install shelves and cupboards

5. **New covered Perspex roof to architect’s specification**

6. **Existing covered waiting area**  
New heavy plastic screen fixed to galvanised posts and rails

7. **Change existing waiting to sub waiting**

8. **Existing waiting to be changed to new patients waiting**

**C3.1.3 Extent of the works**
The works comprise mainly but is not limited to the removal of existing and installation of new internal finishes and services

**C3.1.4 Location of the works**

*Address:*

- Pacaltsdorp Clinic, Mission Street, George, Western Cape
- Parkdene Clinic, 37 Taurus Street, Ballotsville, George, Western Cape

**C3.1.5 Temporary works**

N/A
C3.2: LIST OF DRAWINGS

The following drawings are applicable to the contract:

Drawings are attached at the back of this tender document

<table>
<thead>
<tr>
<th>PACALTSDORP CLINIC</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ARCHITECTURAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRAWING NO</td>
<td>DRAWING DESCRIPTION</td>
<td>SIZE</td>
</tr>
<tr>
<td>WC-PCLT-A-1000</td>
<td>Floor plan</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-1000</td>
<td>Floor plan - Phases</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-2000</td>
<td>Site plan, sections and details</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-3000</td>
<td>Elevations</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-4000</td>
<td>Electrical plan</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-5000</td>
<td>Details</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-6000</td>
<td>Details</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-7000</td>
<td>Door schedule</td>
<td>A3</td>
</tr>
<tr>
<td>WC-PCLT-A-8000</td>
<td>Window schedule</td>
<td>A3</td>
</tr>
<tr>
<td><strong>ELECTRICAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0911-04-MC15PCLT-01</td>
<td>Power Layout</td>
<td>A3</td>
</tr>
<tr>
<td>0911-04-MC15PCLT-01</td>
<td>Lighting Layout</td>
<td>A3</td>
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<tr>
<td><strong>MECHANICAL</strong></td>
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<td></td>
</tr>
<tr>
<td>2120-MV-001</td>
<td>HVAC Layout</td>
<td>A3</td>
</tr>
</tbody>
</table>

| PARKDENE CLINIC                          |                      |         |
| DRAWING NO                               | DRAWING DESCRIPTION  | SIZE    |
| WC-PARKDENE-A-1000                       | Site plan            | A3      |
| WC-PARKDENE-A-2000                       | Floor Plan           |         |
| WC-PARKDENE-A-3000                       | Sputum Booth detail  | A3      |
| WC-PARKDENE-A-4000                       | Detail, elevation and door schedule | A3 |
| WC-PARKDENE-A-5000                       | Room data sheet      | A3      |
C3.3: PRO FORMAS

C3.3.1 Forms required during contract administration

The following pages contain pro formas of forms that the contractor is required to fill in and submit during contract administration. These pro formas are for information only and are not to be filled in or regarded as returnable documents.

C3.3.2 Pro Formas included

- Poverty Alleviation & Job Creation Report
OVERALL PROJECT NEW WORKER SCHEDULE

Project Name: ____________________________________________________________

Contract No: ___________________ Month of Report: ______________________ Sheet No: ______________

Contractors Name: _______________________________________________________

Total value of Contract /Project: __________________________

Names of all NEW Workers employed this month are to be entered in the table below

<table>
<thead>
<tr>
<th>Name of Worker</th>
<th>Identity Number</th>
<th>Age of Worker</th>
<th>Nr of Labour Days</th>
<th>Daily Wage Rate</th>
<th>Nr of Training Days</th>
<th>PDI</th>
<th>Woman</th>
<th>Disabled</th>
<th>Local</th>
<th>Education Level</th>
</tr>
</thead>
</table>

**TOTALS FROM PREVIOUS SHEET:**

**TOTALS FOR THIS SHEET:**

**TOTALS CARRIED FORWARD TO NEXT SHEET:**

**COMPLETED BY:**

Name: ____________________________________________________________

Signature: _________________________________________________________

Capacity: __________________________________________________________

Date: ____________________________

219 | Page
PART C4: SITE INFORMATION

C4 Site Information

*Co-ordinates and locality plans have been included in the Tender Document and the Contractor must refer to the plans and the GPS co-ordinates below in order to determine the location of each of the various facilities.*

<table>
<thead>
<tr>
<th>NO</th>
<th>FACILITY NAME</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PACALTSDORP CLINIC</td>
<td>-34.01611</td>
<td>22.45944</td>
</tr>
<tr>
<td>2.</td>
<td>PARKDENE CLINIC</td>
<td>-33.99194</td>
<td>22.48639</td>
</tr>
</tbody>
</table>

It must be noted that the facilities will be fully operational and that the contractor will need to execute the work during normal clinic hours.

The Contractor is to allow for the above in his programme as well as pricing of the various schedules in the Bill of Quantifies for each facility.
PART C5: HEALTH AND SAFETY SPECIFICATION

A copy of the Health & Safety specification is included in Part C6 - Annexes
PART C6: ANNEXURES
PART C6: ANNEXURES
ANNEXURE A: DRAWINGS AS PER LIST C3.2
CUPBOARD CONSTRUCTION

Frame: 16mm MELAMINE CHIPBOARD, white internal finish, all edges sealed. 3mm whiteboard back. Exposed sides to match selected finish.

Door: 16mm flat MELAMINE CHIPBOARD, all edges sealed, hung on standard cabinet hinges. Finish by architect.

Note: All cupboard doors to be lockable.

Drawer: 16mm MELAMINE CHIPBOARD frame with 6mm hardboard base and 16mm flat MELAMINE CHIPBOARD drawer front. 16mm flat MELAMINE CHIPBOARD drawer sides, back & front members with 6mm HARDBOARD base and approved Telescoping drawer slides with white epoxy enamel finish.

Shelf: 16mm MELAMINE CHIPBOARD, shelf with sealed edges. All cupboard shelves must be interchangeable between different cabinet types. Shelf support of adjustable bookcase stripping.

Handle: T Bar Pull handle 150x36mm. Stainless steel finish.

WORKTOP: 30mm WATERPROOF MELAMINE worktop, with rounded Vinyl T-mold Bumper Edging. Colour as selected by architect

NOTES:
All bottom edges of the MELAWOOD cupboard framework must be thoroughly painted with 3 coats polyurethane enamel paint (first coat thinned to saturate) and all floor edges sealed with a polyurethane sealant.

PACALTSDORP CLINIC
DETAILS
STANDARD PATIENT RECORD SHELVING

1. Intended use: Archiving of patient files.
2. Design: Sturdy, heavy duty bolt together, free standing units with adjustable shelves and a kickplate.
3. Dimensions: Each bay / unit should be ±2250mm high, 915mm wide, 380mm deep.
4. Material: The units shall be made of mild steel with a minimum thickness of 0.8mm.
5. Coating: The unit shall be epoxy powder coated.
6. Colour: Light grey or cream.
7. Sides and backs: Each unit shall have solid cladding all around the sides and backs.
8. Amount of shelves: Include eight (including base and top shelf) x ±380mm deep solid shelves per vertical unit.
9. Shelf strength: Each shelf should be able to carry the weight of records of at least 160kg.
10. Position of shelves: It shall be possible to accommodate an A4 folder placed vertically on its spine, therefore the height between the bottom and top shelves shall be at least 300mm.
11. Durability: To ensure durability the product offered shall be manufactured from high quality material and components.
12. Guarantee: At least 1 year required.

NOTE: For the purpose of estimating the number of shelving units required, allow 1 unit / 1000 folders. 1 unit requires approx. 1m² of floor space incl. an allowance for circulation where multiple units are being installed or 1.2m² where a single bank of units is to be installed (based on a 900mm wide aisle).

NOTE: All waterproof melamine worktops must have rounded vinyl T-mold edging as shown on image below.
### Door Schedule

#### Door Type-1

<table>
<thead>
<tr>
<th>Door Number</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>C1</th>
<th>B1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (mm)</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Height (mm)</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
</tr>
</tbody>
</table>

**Description:**
- Frame complete with 3 x 100mm 5 knuckle loose pin hinges, polished stainless steel lock strike plate & rubber stoppers.
- Standard 1,6mm thick pressed steel double rebate door frame for 230mm wall.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Facings and two hardwood edge strips. Door manufactured to GPA General.
- Door  leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- 44mm Thick solid laminated flush panel door leaf with 3.2mm tempered hardboard facings and two hardwood edge strips. Door manufactured to GPA General.

#### Door Type-2

<table>
<thead>
<tr>
<th>Door Number</th>
<th>D5</th>
<th>D6</th>
<th>D7</th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (mm)</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Height (mm)</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
</tr>
</tbody>
</table>

**Description:**
- Frame complete with 100mm 5 knuckle loose pin hinges, steel fixing plugs, polished aluminium door by specialist.
- Standard 1.6mm thick pressed steel double rebate door frame for 230mm wall.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- 44mm Thick solid laminated flush panel door leaf with 3.2mm tempered hardboard facings and two hardwood edge strips. Door manufactured to GPA General.

#### Door Type-3

<table>
<thead>
<tr>
<th>Door Number</th>
<th>D8</th>
<th>D9</th>
<th>D10</th>
<th>D11</th>
<th>D12</th>
<th>D13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (mm)</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Height (mm)</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
<td>2060</td>
</tr>
</tbody>
</table>

**Description:**
- Frame complete with 100mm 5 knuckle loose pin hinges, steel fixing plugs, polished aluminium door by specialist.
- Standard 1.6mm thick pressed steel double rebate door frame for 230mm wall.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- 44mm Thick solid laminated flush panel door leaf with 3.2mm tempered hardboard facings and two hardwood edge strips. Door manufactured to GPA General.

#### Additional Information
- Security gate on fire escape route to be kept open all day and only be locked at night.
- All doors on fire escape routes of building will be fitted with 180 deg opening hinges by specialist.
- Provide shop drawing for approval.
- Door  leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.

**Painting Details:**
- Finish with two coats Super Universal enamel paint to thoroughly cover the undercoat.
- 1 Coat factory applied red lead oxide primer, 1 coat tinted universal undercoat and finish with two coats PLASCON VEVAGLO o.s.a. Paint to all edges.
- Door  leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.

**Miscellaneous:**
- Seal all knots with oil wood primer. Fill, sand and faint one tinted universal undercoat and finish with two coats Super Universal enamel paint to thoroughly cover the undercoat.
- Door  leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.
- Door leaf finished with hardwood veneer both sides, with concealed hardwood edging. Iroko specification WA 107 E/89 part K59.

**Other Details:**
- Provide shop drawing for approval.
- Install brass divider 3x40mm screwed from inside weather bar out of grille Plates.
- Screws for hardware and screws for doors are 32mm screws.
- Screws for doors are 32mm screws.
- Screws for doors are 32mm screws.
- Screws for doors are 32mm screws.

**Door Number:**
- D1
- D2
- D3
- D4
- C1
- B1
- D5
- D6
- D7
- G1
- G2
- G3
<table>
<thead>
<tr>
<th>WINDOW NUMBER</th>
<th>QUANTITY</th>
<th>WINDOW SCHEDULE</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>1</td>
<td>Aluminium window with 15x3mm thick MILD STEEL flat bars screwed to inside of window frame. Powder coated white. GLAZING: 6.4mm float glass. WINDOW SILL: To match existing.</td>
</tr>
<tr>
<td>W2</td>
<td>1</td>
<td>Aluminium window with 15x3mm thick MILD STEEL flat bars screwed to inside of window frame. Powder coated white. GLAZING: 6.4mm float glass. WINDOW SILL: To match existing.</td>
</tr>
<tr>
<td>W3</td>
<td>3</td>
<td>Aluminium window with 15x3mm thick MILD STEEL flat bars screwed to inside of window frame. Powder coated white. GLAZING: 6.4mm float glass. WINDOW SILL: To match existing.</td>
</tr>
<tr>
<td>W4</td>
<td>1</td>
<td>Burglar bars made up of steel section with bars. Through opening by specialist. Counter top by specialist. Please provide shop drawing for approval.</td>
</tr>
<tr>
<td>W5</td>
<td>1</td>
<td>Burglar bars made up of steel section with bars. Through opening by specialist. Counter top by specialist. Please provide shop drawing for approval.</td>
</tr>
<tr>
<td>W6</td>
<td>2</td>
<td>Aluminium admissions window with slits for easy communication, and worktop/serving counter and hatch by specialist. Please provide shop drawing for approval by architect.</td>
</tr>
<tr>
<td>W7</td>
<td>11</td>
<td>Aluminium admissions window with slits for easy communication, and worktop/serving counter and hatch by specialist. Please provide shop drawing for approval by architect.</td>
</tr>
<tr>
<td>W8</td>
<td>6</td>
<td>Aluminium admissions window with slits for easy communication, and worktop/serving counter and hatch by specialist. Please provide shop drawing for approval by architect.</td>
</tr>
</tbody>
</table>

**Aluminium window with 15x3mm thick MILD STEEL flat bars screwed to inside of window frames, painted with red oxide primer by manufacturer, touched up on site, finished with universal undercoat, and two coats high gloss enamel paint. WINDOW SILL: To match existing.**

**GLASS WINDOW SLITS ON THE SIDE FOR BETTER SOUND PENETRATION**

**HATCH MODULE WITH COUNTER @750mm AFFL FOR WHEELCHAIR USERS**
NOTE: 1. THE DESIGN ON THIS DRAWING IS COPYRIGHT AND REMAINS THE PROPERTY OF THE ARCHITECT.

2. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE N.R.S 10400 AND LOCAL AUTHORITY REGULATIONS.

3. THE DRAWING IS NOT TO BE SCALLED.

4. ANY DISCREPANCIES ARE TO BE IMMEDIATELY REPORTED TO THE ARCHITECT.

5. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.

ARCHITECT & PLANNERS
ARCHITECT: Nº DATE
REVISION DESCRIPTION BY
DRAWING TITLE
PROJECT: User Client

CLIENT: National Department of Health

BUILDING TO COMPLY TO SANS 10400 - XA: 2011
AND SANS 204 (REFERENCE BUILDING ROUTE XA) WHERE APPLICABLE

XA 1 BUILDING TO USE ENERGY EFFICIENTLY AND REDUCE GREEN HOUSE GAS EMISSIONS IN ACCORDANCE WITH FUNCTIONAL REGULATION

XA 2 50% OF ANNUAL VOLUMETRIC REQUIREMENT OF HOT WATER SHALL BE SUPPLIED BY MEANS OF OTHER THAN ELECTRICAL RESISTANCE HEATING

XA 3 PROVIDES THREE MEANS, BY WHICH THE FUNCTIONAL REGULATION (XA 1 IS COMPLIED WITH)

Tel (012) 343-8064
Fax (012) 343-8069
P O Box 2188 - BROOKLYN SQUARE - 0075
GROUND FLOOR PLAN - PARKDENE CLINIC
Scale 1:100

NOTE:
- All dimensions and levels are to be checked on site.
- The drawing is not to be scaled.
- All work is to be carried out in accordance with the specifications provided.
- The design on this drawing is copyright and remains the property of the architect.
- The architect reserves the right to make any necessary changes.
- The building is to comply with SANS regulations.
- The building is to use energy efficiently and reduce greenhouse gas emissions in accordance with functional requirements.
- The reference building route provides three means of resistance heating.
- The annual volumetric requirement of hot water shall be supplied by means of other than electrical means.

ARCHITECT

USER CLIENT

PARKDENE CLINIC

DEPARTMENT OF HEALTH WESTERN CAPE

P.O. Box 11 2188
Tel: 012 8069 3434
Fax: 012 8069 3435

MEDPLANN HEALTH

THIS DRAWING IS NOT TO BE SCALED.
NOTE:

1. THE DESIGN ON THIS DRAWING IS COPYRIGHT AND REMAINS THE PROPERTY OF THE ARCHITECT.

2. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE N.B.R. SANS 10400 AND LOCAL AUTHORITY REGULATIONS.

3. THE DRAWING IS NOT TO BE SCALLED.

4. ANY DISCREPANCIES ARE TO BE IMMEDIATELY REPORTED TO THE ARCHITECT.

5. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION.

BUILDING TO COMPLY TO SANS 10400 -XA:
- 2011
- SANS 204 (REFERENCE BUILDING ROUTE XA 1 WHERE APPLICABLE)

XA 1
BUILDING TO USE ENERGY EFFICIENTLY AND REDUCE GREENHOUSE GAS EMISSIONS IN ACCORDANCE WITH FUNCTIONAL REGULATION.

XA 2
50% OF ANNUAL VOLUMETRIC REQUIREMENT OF HOT WATER SHALL BE SUPPLIED BY MEANS OF OTHER THAN ELECTRICAL RESISTANCE HEATING.

XA 3
PROVIDES THREE MEANS, BY WHICH THE FUNCTIONAL REGULATION (XA 1 IS COMPLIED WITH)

getSession()
10mm thick Transparent (Clear) IBR Polycarbonate Roof Sheeting fixed to purlin using roof screws with EPDM bonded washers. Min. J Profile overlap.

76mm steel post cast into concrete slab

Concrete slab by others

Diff. Schedule

DOOR SCHEDULE

DOOR NUMBER
D1

ELEVATION

DOOR SWING
Right

DOOR FINISH

Clear Thin solid laminated flush panel door with hardwaxed edges.

DOOR CONSTRUCTION

Clear Clear Thin solid laminated flush panel door with hardwaxed edges.

IRONMONGERY

No ironmongery according to manufacturer's specifications.
**NEW RECEPTION**

- **Worktop with rounded vinyl-mold bumper edge**
- **Waterproof melamine worktop @ 750mm AFL with lockable drawers below with adjustable shelves**
- **New glass screen wall**
- **Pigeon holes**
- **Standard shelving to be provided by others**
- **New records**
- **Cupboard to ceiling**
- **Lockable cabinet with adjustable shelves**
- **Waterproof melamine worktop with rounded vinyl - 750mm AFL and lockable drawers below**
- **Electric communications and serving counter and hatch by architect**
- **Security steel mesh cage allowing windows to open**
- **Piggy holes**
- **Max 900mm**
- **New records room**
- **Pin board**
- **Plan**

**SECTION A-A**

Scale 1:50

- **Note:** Standard shelving to be provided by others
- **Aluminium admissions window with slits for easy communication, and serving counter & hatch by specialist**
- **Emergency exit & fire exit**
- **New records room**
- **Door to be installed where multiple units are being installed**
- **Security steel mesh cage allowing windows to open**
- **Power skirting**

**SECTION B-B**

Scale 1:50

- **Note:** Standard shelving to be provided by others
- **Aluminium admissions window with slits for easy communication, and serving counter & hatch by specialist**
- **Emergency exit & fire exit**
- **New records room**
- **Door to be installed where multiple units are being installed**
- **Security steel mesh cage allowing windows to open**
- **Power skirting**

**SECTION C-C**

Scale 1:50

- **Note:** Standard shelving to be provided by others
- **Aluminium admissions window with slits for easy communication, and serving counter & hatch by specialist**
- **Emergency exit & fire exit**
- **New records room**
- **Door to be installed where multiple units are being installed**
- **Security steel mesh cage allowing windows to open**
- **Power skirting**

**STANDARD PATIENT RECORD SHELVING**

Scale 1:10

Room No. 0003

- **New records**
- **Cupboard to ceiling**
- **Lockable cabinet with adjustable shelves**
- **Waterproof melamine worktop with rounded vinyl - 750mm AFL and lockable drawers below**
- **Pin board**
- **Plan**

**DETAIL 3: ADMISSIONS COUNTER**

Scale 1:50

- **Towel modules may be added to accommodate the clinic requirements**
- **Signage - lean system**
- **Pin board for healthcare information and posters**
- **Glass window slits on the side for better sound penetration**
- **Watch modules with counter @ 900mm AFl**

**WINDOW SCHEDULE**

- **Window number (W1)**
- **Window number (W2)**
- **Elevation**
- **Description**

**NOTE:**

For the purpose of estimating the number of shelving units required below:
- Each unit requires an allowance for circulation where multiple units are being installed or 1.2m where a single bank of units is being installed (based on a 900mm wide aisle)

**FRAMEWORK CLINIC**

- **P O Box 70000**
- **Brooklyn Square**
- **Parkerden Clinic**
- **Department of Health**
- **Western Cape Government**
- **NDoH**
- **Building to use energy efficiently and reduce greenhouse gas emissions in accordance with functional regulation**

11. **Guarantee:** 1 year required
ANNEXURE B: HEALTH & SAFETY SPECIFICATION
# ADDITIONAL SPECIFICATION

## SI  OCCUPATIONAL HEALTH AND SAFETY

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SI 1  DEFINITIONS

In this document the following expressions shall bear the meanings assigned to them below:

Agent

Means a competent person who acts as a representative for a Client;

Client

Means any person for whom construction work is being performed (i.e. National Department of Public Works) for purposes of this specification;

C OID ACT

Means the Compensation of Occupational Injuries and Diseases Act and Regulations, Act 130/1993

Construction Regulations

Means the Occupational Health and Safety Act’s, No 85 of 1993, R 84 of February 7, 2014 Construction Regulations that came into effect on February 7, 2014;

Occupational Health and Safety Plan

Means a documented plan, which addresses hazards identified and includes safe working procedures to mitigate, reduce or control the hazards identified;

Occupational Health and Safety specification

Means a documented specification of all Health and Safety requirements pertaining to the associated works on a construction site, so as to ensure the Health and Safety of persons working, visiting, passing, staying and/or working close to the site;

OHS ACT

Means the Occupational Health and Safety Act and Regulations, Act 85 of 1993, as amended;

Principal Contractor

Means an Employer, as defined in Section 1 of the OHS Act, who performs construction work and is appointed by the Client to be in overall control and management of the construction site and works.

SI 2  INTRODUCTION

In terms of Construction Regulation 5(1)(b) of the OHS Act, the Client is required to compile an Occupational Health and Safety Specification for any intended project and provide such specification to prospective tenderers.
This specification has as objective to ensure that the Principle Contractor entering into a contract with the Client achieves and maintains an acceptable level of Occupational Health and Safety performance and compliance. This document forms an integral part of the contract between the Client and the Principal Contractor and the Principal- and other contractors should make it part of any contract/s that they may have with other contractors and/or suppliers as far as this project is concerned.

Compliance with this document does not absolve the Principal Contractor from complying with any other minimum legal requirements and the Principal Contractor remains responsible for the Health and Safety of his employees, those of his mandataries as well as any persons on adjacent properties as far as it relates to the construction activities.

**Standing time claims related to any health & safety matter will not be entertained.**

**SI 3 SCOPE**

To develop a project specific Occupational Health and Safety specification that addresses the reasonable and foreseeable risks, exposures and aspects of Occupational Health and Safety as affected by the abovementioned contract work.

The specification will provide the requirements that the Principal Contractor and other contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work and that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable and possible.

A contractor appointed as the Principal Contractor response to the Client’s formal tender for the construction project, has to prepare an Occupational Health and Safety Plan based on his specification. The Client will evaluate this plan to ensure compliance with Construction Regulation 5(1)(h) that stipulates that the Client may only appoint a contractor who has the necessary competencies and resources to carry out this work safely.

**SI 4 GENERAL OCCUPATIONAL HEALTH AND SAFETY PROVISIONS**

**SI 4.1 Hazard Identification and Risk Assessment**

**SI 4.1.1 Risk assessments**

This specification contains a list of risk assessment headings that have been identified by the Client as possibly applicable to the abovementioned contract work. It is, by no means, exhaustive and is only offered as assistance to the contractors intending to tender for the applicable works.

List of Risk Assessments to be used on site:

- Aggregate/Sand Delivery
- Brickwork
- Crane Operations
- Cutting of pipes
- Demolition Work
- Distribution boards – Electrical
- Drivers – of vehicles

Signature Client H&S: _________________________  Signature: Principal Contractor: _________________________

Date: _________________________  Date: _________________________
• Electrical installation and Maintenance
• Electrical Welding Machines
• Fire prevention and protection
• Gas welding-cutting operations
• Generators
• Grinding Machines Operation
• Hand and spray painting
• Hand Excavation
• Hand tools
• Installation of Glass
• Laying of pipes
• Levelling – off materials
• Loading supervisor
• Loading/unloading – of trucks
• Machine operator
• Material delivery
• Material handling
• Plastering
• Portable Electrical Tools
• Portable ladders
• Scaffolding
• Site establishment
• Skill Saw
• Tile stacking
• Tiling
• Traffic control
• Trenches – Digging of
• Use of portable electrical tools
• Work in elevated positions
• Working close to existing services i.e. electrical, waste water etc
• Working close to traffic
• Workshops
• Working at/on open edges
• Working at a Wastewater Treatment Works with associated hazards.

SI 4.1.2 Development of Risk Assessments

Every Principal Contractor performing construction work shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, ensure that risk assessments are undertaken by a competent person, appointed full time on site in writing, including proof of training, and the risk assessments shall form part of the Occupational Health and Safety plan and be implemented and maintained.

The risk assessments shall include, at least:

• The identification of the current as well as emerging risks and hazards to which persons may be exposed to
• The analysis and evaluation of the risks and hazards identified

Signature Client H&S: ___________________________ Signature: Principal Contractor: ___________________________
Date: ___________________________ Date: ___________________________
A documented plan of safe working procedures (SWP) and any method statements to mitigate, reduce or control the risks and hazards that have been identified
A plan to monitor the application of the SWP’s; and
A plan to review the risk assessments as the work progresses and changes are introduced.
A Plan Task Observation (PTO) must be done on a weekly basis on all risk assessments and the record of it must be in the safety file.

Based on the risk assessments, the Principal Contractor must develop a set of site-specific Occupational Health and Safety rules that will be applied to regulate the Occupational Health and Safety aspects of the construction.

The risk assessments, together with the site-specific Occupational Health and Safety rules, must be submitted to the Client before mobilization on site commences.

Despite the risk assessments listed, the Principal Contractor is required to conduct a baseline risk assessment and the aforesaid risk assessments must be incorporated into the baseline risk assessment. The baseline risk assessment must further include the SWP’s and the applicable method statements based on the risk assessments.

Hazard identification and risk assessments must be undertaken whilst SWP’s must be developed for all out-of-scope work.

SI 4.1.3 Review of Risk Assessments

The Principal Contractor is to review the hazards identified, the risk assessments and the SWP’s at each production planning and progress report meeting as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and/or processes.

The Principal Contractor must provide the Client, other contractors and all other concerned or affected parties with copies of any changes, alterations or amendments as soon as possible but within 14 days of such changes.

SI 4.2 LEGAL REQUIREMENTS

All Contractors entering into a contract with the Client shall, as a minimum, comply with the –

- OHS Act and a current, up-to-date copy of the OHS Act and its Regulations must be available on site at all times
- Compensation for Occupational Injuries and Diseases Act, No 130 of 1993 (COID Act). The Principal Contractor will be required to submit a letter of registration and “good-standing” from the Compensation Commissioner or compensation insurer before being awarded the contract. A current, up-to-date copy of the COID Act must be available on site at all times; and
- Where work is being carried out on mine premises, as well as where any tunneling will be done, the contractor will comply with the Mine Health and Safety Act and Regulations (Act. 29 of 1996), the Minerals Act and Regulations (Act 50 of 1991) and any other Occupational Health and Safety requirements that the mine may specify. Current, up-to-date copies of the last two mentioned Acts must be available on site at all times.
SI 4.3  STRUCTURE AND RESPONSIBILITIES

SI 4.3.1  Overall Supervision and Responsibility for Occupational Health and Safety

The Principal Contractor is responsible to implement and maintain the Occupational Health and Safety Plan approved by the Client.

The Chief Executive Officer (in terms of Section 16(1) of the OHS Act) of the Principal Contractor is to ensure that the Employer (as defined in the OHS Act) complies with the OHS Act. “Legal Compliance Checklist” may be used for this purpose.

The Principal Contractor’s Chief Executive Officer may appoint any person reporting to him/her as Designated Person in terms of Section 16(2) of the OHS Act. Such Designated Person is responsible to assist the Chief Executive Officer to ensure that the Employer complies with the requirements of the OHS Act.

The construction supervisor(s) appointed are responsible for supervising the construction work and in specific to ensure that all work undertaken comply with the requirements of the OHS Act, its Regulations and the Client’s specifications.

SI 4.3.2  Operational responsibilities for Occupational Health and Safety

The Principal Contractor shall appoint designated competent employees and/or other competent persons as outlined in the following list to assist with the operational responsibilities for Occupational Health and Safety (this list is only the minimum requirement and is therefore in no way exhaustive):

<table>
<thead>
<tr>
<th>Appointment description</th>
<th>Appointment required in terms of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident/ Incident Investigator</td>
<td>General Safety Regulation 9(2)</td>
</tr>
<tr>
<td>Assistant Construction Manager</td>
<td>Construction Regulation 8(2)</td>
</tr>
<tr>
<td>Assistant Construction Work Supervisor</td>
<td>Construction Regulation 8(8)</td>
</tr>
<tr>
<td>Construction Manager</td>
<td>Construction Regulation 8(1)</td>
</tr>
<tr>
<td>Construction Supervisor</td>
<td>Construction Regulation 8(7)</td>
</tr>
<tr>
<td>Construction vehicle, mobile plant and machinery supervisor / operators</td>
<td>Construction Regulation 23</td>
</tr>
<tr>
<td>Demolition Supervisor</td>
<td>Construction Regulation 14(1)</td>
</tr>
<tr>
<td>Drivers of construction vehicles and operators or plant</td>
<td>Construction Regulation 23</td>
</tr>
<tr>
<td>Emergency/ Fire Co-ordinator</td>
<td>Construction Regulation 29</td>
</tr>
<tr>
<td>Excavation Supervisor</td>
<td>Construction Regulation 13(1)(a)</td>
</tr>
<tr>
<td>Explosive powered tool Controller</td>
<td>Construction Regulation 21(g)(i)</td>
</tr>
<tr>
<td>Explosive powered tool Operator</td>
<td>Construction Regulation 21(1)(b)</td>
</tr>
<tr>
<td>Fall Protection Planner</td>
<td>Construction Regulation 10(1)(a)</td>
</tr>
<tr>
<td>First-aiders</td>
<td>General Safety Regulation 3</td>
</tr>
<tr>
<td>Temp Works/ Form &amp; Support Work Inspector</td>
<td>Construction Regulation 12(3)(f)</td>
</tr>
<tr>
<td>Temp Works/ Form &amp; Support Work Supervisor</td>
<td>Construction Regulation 12(2)</td>
</tr>
<tr>
<td>H&amp;S Safety Representative</td>
<td>Section 17 of the OHS Act</td>
</tr>
<tr>
<td>Appointment description</td>
<td>Appointment required in terms of</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Lifting machines and equipment inspector / Operators</td>
<td>Construction Regulation 22</td>
</tr>
<tr>
<td>Risk Assessor</td>
<td>Construction Regulation 9(1)</td>
</tr>
<tr>
<td>Safety Officer / Consultant</td>
<td>Construction Regulation 8(5)</td>
</tr>
<tr>
<td>Scaffolding Erector</td>
<td>Construction Regulation 16</td>
</tr>
<tr>
<td>Scaffolding Inspector</td>
<td>Construction Regulation 16</td>
</tr>
<tr>
<td>Scaffolding Supervisor</td>
<td>Construction Regulation 16</td>
</tr>
</tbody>
</table>

These appointments must be in writing and the responsibilities clearly stated together with the period for which each appointment is made. This information must be communicated to and agreed with the appointees. Appointments should also include proof of training where applicable.

**Register by a statutory body SACPCMP (with effect 6 August 2015).**

Copies of appointments must be submitted to the Client together with short concise CV’s of the appointees as part of the Principal Contractor’s Health and Safety plan and if appointed copies of the appointments included in the Occupational Health and Safety file. All appointments must be approved by the Client and any changes in appointees or appointments must be communicated to the Client and agreed upon before being implemented.

The Principal Contractor must, furthermore provide the Client with an organogram of all contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

**SI 4.3.3 Designation of Occupational Health and Safety Representatives**

Where the Principal Contractor employs more than 20 persons [*including the employees of other contractors (sub-contractors)*] he has to appoint one Occupational Health and Safety representative for every 50 employees or part thereof. General Administrative Regulation 6 requires that the election, appointment and subsequent designation of the Occupational Health and Safety representatives be executed in consultation with employee representatives or employees.

Occupational Health and Safety representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

Should the appointed representatives require any training, assistance or facilities, the Principal Contractor must provide these.

**SI 4.3.4 Duties and Functions of the Occupational Health and Safety Representatives**

The Principal Contractor must ensure that the designated Occupational Health and Safety representatives conduct a weekly inspection of their respective areas of responsibility, using a checklist, and report thereon to the Principal Contractor.

Occupational Health and Safety representatives must be included in accident and/or incident investigations.

Occupational Health and Safety representatives must attend all Occupational Health and Safety committee meetings.
SI 4.3.5 Appointment of Occupational Health and Safety Committee

The Principal Contractor must establish an Occupational Health and Safety committee consisting of all the designated Occupational Health and Safety representatives together with a number of management representatives that are not allowed to exceed the number of Occupational Health and Safety representatives on the committee and a representative of the Client who shall act as a co-opt without voting rights. The members of the Occupational Health and Safety committee must be appointed in writing and copies of the appointments included in the Occupational Health and Safety file.

The Occupational Health and Safety committee must meet as a minimum on a monthly basis and consider, at least, the following agenda items:

- Opening and welcome
- Members present, apologies and absent
- Minutes of previous meeting
- Matters arising from the previous meeting
- Occupational Health and Safety representatives’ reports
- Incident and/or accident reports and investigations
- Incident, accident and/or injury statistics
- Other matters
- Endorsement of registers and other statutory documents by a duly authorised representative of the Principal Contractor
- Close and next meeting.

SI 4.4 MANDATARIES & CONTRACTORS SAFETY FILE

It is a requirement that the Principal Contractor, when he appoints Contractors, includes an OHS Act Section 37(2) agreement (i.e. Agreement with Mandatary) in his agreement with such Contractor.

SI 4.5 ADMINISTRATIVE CONTROLS AND THE OCCUPATIONAL HEALTH AND SAFETY FILE

SI 4.5.1 The Occupational Health and Safety File

As required by Construction Regulation 7(2)(b), the Principal Contractor and other Contractors will each keep a completed and updated Occupational Health and Safety File on site, containing the following documents as a minimum:

- Notification of construction work
- Updated copy of the OHS ACT and its Regulations (General Administrative Regulation 4)
- Proof of registration and good standing with the Compensation Commissioner or a COID Insurer
- Occupational Health and Safety plan agreed with the Client including the underpinning risk assessment(s) and method statements
- Copies of Occupational Health and Safety committee meetings and other relevant minutes.
- Designs and/or drawings
- A list of Contractors (Sub-Contractors) including copies of the agreements between the parties and the type of work being done by each Contractor

Signature Client H&S: ___________________________ Signature: Principal Contractor: ___________________________
Date: ___________________________ Date: ___________________________
• Appointment and designation forms in the safety file
• The following registers:
  ▪ Accident and/or incident register (*Annexure 1 of the General Administrative Regulations*)
  ▪ Occupational Health and Safety representatives inspection register
  ▪ Construction vehicles and mobile plant inspections by controller
  ▪ Daily inspections of vehicles, plant and other equipment by the operator, driver and/or user
  ▪ Designer's inspections and structures record
  ▪ Inspection and maintenance of explosive powered tools
  ▪ Inspection of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances)
  ▪ Fall protection inspections
  ▪ First-aid box content
  ▪ Record of first-aid treatment
  ▪ Fire equipment inspections and maintenance
  ▪ Record of hazardous chemical substances kept and used on site
  ▪ Ladder inspections
  ▪ Machine safety inspections (*including machine guards, lock-outs etcetera*);
  ▪ Inspection registers and logbooks for lifting machines and – tackle (*including daily inspections by drivers/operators*)
  ▪ Inspection of scaffolding
  ▪ Inspection of stacking and storage
  ▪ Inspections of structures
  ▪ Pressure Equipment inspections; and
  ▪ Inspection of welding equipment.

• All other applicable record.

The Client will conduct an evaluation of the Principal Contractor’s Occupational Health and Safety file from time to time during a month, but at least once a month.

The Principal Contractor will conduct an evaluation of the Contractor’s Occupational Health and Safety file from time to time during a month, but at least once a month.

Each Contractor must keep his/her Health and Safety File updated for the Principal Contractor, on a weekly basis. The Subcontractor will agree to comply with the terms of the Provisions of Section 37(2) of the Occupational & Safety Act, Act No. 85 of 1993 together with the Construction Regulations 2014 as amended.

Furthermore the sub contractor is to indemnify the Employer against any claims in this regard.

**SI 4.5.2 Non-conformance to any Health and Safety requirements**

The Employer’s Safety Consultant (Employer’s Agent in terms of the Contract Data) has the right to impose penalties for non-conformance to any safety requirements in terms of the Act and Regulations and the safety specification / plan.
A first and only written warning will be issued by the Safety Consultant (and ratified by the Principal Agent) to the Principal Contractor in the event of any non-conformance, by means of a contract instruction (in terms of the Principal Building Agreement). Immediate compliance (within 1 (one) calendar day) should be achieved after a written warning has been issued, to the full satisfaction of the Safety Consultant and or Safety Representative of the Principal Contractor, failing which a penalty will be imposed on the Principal Contractor. This penalty will be recovered through a recovery statement and will be equal to an amount calculated at a rate of R 3,000.00 per calendar day for each and every calendar day of default in terms of the Act and Regulations, safety specification and or safety plan.

The Principal Contractor will recover this penalty in full from the defaulting Sub-Contractor through the N/S recovery statement issued in terms of their Subcontract Agreement.

SI 4.6 OCCUPATIONAL HEALTH AND SAFETY GOALS AND OBJECTIVES AND ARRANGEMENTS FOR MONITORING AND REVIEW OF OCCUPATIONAL HEALTH AND SAFETY PERFORMANCE

The Principal Contractor is required to maintain a casualty incident frequency rate (CIFR) of at least 4 to this document: “Measuring Injury Experience” and report on this to the Client on a monthly basis.

SI 4.7 NOTIFICATION OF CONSTRUCTION WORK

The Principal Contractor must, where the contract meets the requirements laid down in Construction Regulation 4, within 7 days before the work is to be carried out, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure A in the Construction Regulations) for this purpose. A copy of the notification must be held on the Occupational Health and Safety file and a copy must also be forwarded to the Client for record purposes.

SI 4.8 TRAINING, AWARENESS AND COMPETENCE

The contents and syllabi of all training required by the OHS Act and Regulations must be included in the Principal Contractor’s Occupational Health and Safety plan.

SI 4.8.1 General Induction Training

All members of the Contractor’s site management as well as all the persons appointed as responsible for Occupational Health and Safety in terms of the Construction and other Regulations will be required to attend a general induction session.

All employees of the principal and other Contractors must be in possession of proof of general induction training.

SI 4.8.2 Site-specific Induction Training

The Principal Contractor will be required to develop a contract work project specific induction training course based on the risk assessments for the contract work and train all employees and other Contractors and their employees in this.

All employees of the Principal and other Contractors must be in possession of proof that they have attended a site-specific Occupational Health and Safety induction training at all times.
SI 4.8.3 Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training and where applicable licenses for this applicable construction vehicles & mobile plant.

All employees in jobs requiring training in terms of the OHS Act and Regulations must be in possession of valid proof of training.

Occupational Health and Safety training requirements [as required by the Construction Regulations and as indicated by the Occupational Health and Safety Specification and the risk assessment(s)] i.e.:

- General induction (Section 8 of the OHS Act)
- Site and job specific induction, including visitors (Sections 8 and 9 of the Act)
- Site and project manager
- Construction supervisor
- Occupational Health and Safety representatives (Section 18 (3) of the Act)
- Training of the appointees indicated in paragraphs 4.3.1 and 4.3.2 above
- Operators and drivers of construction vehicles and mobile plant (Construction Regulation 23)
- Basic fire prevention and protection (Environmental Regulations 9 and Construction Regulation 29)
- Basic first-aid (General Safety Regulations 3)
- Storekeeping methods and safe stacking (Construction Regulation 28); and
- Emergency, security and fire coordinator.

SI 4.8.4 Awareness and Promotion

The Principal Contractor is required to have a promotion and awareness programme in place to create an Occupational Health and Safety culture within employees. The following are some of the methods that may be used:

- Toolbox talks (Weekly)
- Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as employee “Occupational Health and Safety circles”.
SI 4.8.5 Notices and Signs

The following notices and signs are, where applicable, compulsory on the construction site as well as the Contractors’ yards:

<table>
<thead>
<tr>
<th>Area and/or activity where notice or sign is required</th>
<th>Notice or sign required in terms of</th>
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<tbody>
<tr>
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<tr>
<td>Entry</td>
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<tr>
<td>Prohibition on smoking and eating or drinking at the workplaces where high risk substances [FR5 (1)] are stored or handled</td>
<td>Facilities Regulation 6(b)</td>
</tr>
<tr>
<td>Non-potable water</td>
<td>Facilities Regulation 7(b)</td>
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SI 4.8.6 Competence

The Principal Contractor shall ensure that his and other Contractors’ employees appointed are competent and that all training required doing the work safely and without risk to health of their or other persons, has been successfully completed before work commences.

The Principal Contractor shall ensure that follow-up and refresher training is conducted on a regular basis as well as the contract work progresses and the work situation changes.

Records of all training must be kept on the Occupational Health and Safety file for auditing purposes.

SI 4.9 CONSULTATION, COMMUNICATION AND LIAISON

The following arrangements will apply:

Occupational Health and Safety liaison between the Client, the Principal Contractor, the other Contractors, the designer and other concerned parties will be through the Occupational Health and Safety committee. In the absence of a Health and Safety committee, the Client and Principal Contractor will agree on an alternative communication forum to be implemented.

In addition to the above, communication may be directly to the Client or his appointed Agent, verbally (followed up in writing within 14 days) or in writing, as and when the need arises.

Consultation with the workforce on Occupational Health and Safety matters will be through their supervisors, Occupational Health and Safety representatives, the Occupational Health and Safety committee and their elected trade union representatives, if any.
The Principal Contractor will be responsible for the dissemination of all relevant Occupational Health and Safety information to the other Contractors, for example design changes agreed with the Client and the designer, instructions by the Client and/or his agent, exchange of information between Contractors, the reporting of hazardous and/or dangerous conditions and/or situations etc.

The Principal Contractor will be required to do site safety walks with the Client and/or his Agent on a basis to be determined and agreed between the parties.

The Principal and other Contractors will be required to conduct toolbox talks with their employees on a weekly basis and records of these must be kept on the Occupational Health and Safety file. Employees must acknowledge the receipt of toolbox talks which record must, likewise be kept on the Occupational Health and Safety file. Toolbox talk topics must include applicable health and safety issues.

The Principal Contractor’s most senior manager on site will be required to attend all the Client’s Occupational Health and Safety meetings.

The Client or his Agent and the Principal Contractor will agree of the dates, times and venues of the Occupational Health and Safety meetings.

SI 4.10 CHECKING, REPORTING AND CORRECTIVE ACTIONS

SI 4.10.1 Monthly compliance assessment by Client

The Client will be conducting a monthly assessment to comply with Construction Regulation 5(1)(o) and to confirm that the Principal Contractor has implemented and is maintaining the agreed and approved Occupational Health and Safety plan.

SI 4.10.2 Other assessments and inspections by the Client

The Client reserves the right to conduct other ad-hoc assessments and inspections as deemed necessary. This could include among others site safety walks and Sub Contractor safety file audits.

SI 4.10.3 Conducting an assessment

A representative of the Principal Contractor must accompany the Client on all assessments and inspections and may conduct his/her own inspection at the same time. Each party will, however, take responsibility for the results of his/her own assessment and/or inspection.

SI 4.10.4 Contractor’s assessments and inspections

The Principal Contractor is to conduct his own internal assessments and inspections to verify compliance with his own Occupational Health and Safety plan and management system as well as the requirements of this specification and the compliance of other Contractors under his/her control. These assessments and inspections must include an audit on documentation no less than once every month.
SI 4.10.5 Inspections by Occupational Health and Safety representatives and other appointees

Occupational Health and Safety representatives must conduct weekly inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments for example vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

SI 4.10.6 Recording and review of inspection results

All the results of the abovementioned inspections must be in writing, reviewed at Occupational Health and Safety committee meetings, endorsed by the chairperson of the meeting and placed on the Occupational Health and Safety file.

SI 4.10.7 Reporting of Inspection results

The Principal Contractor is required to provide the Client Health and Safety Consultant with monthly reports and inspections.

SI 4.11 INCIDENT REPORTING AND INVESTIGATION

SI 4.11.1 Reporting of Accidents and Incidents

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb
- is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

or where –

- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- machinery ran out of control

to the Client within two days and to the Provincial Director of the Department of Labour within seven days from date of incident (Section 24 of the OHS ACT and General Administrative Regulation 8), except that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both the Client and the Provincial Director of the Department of Labour forthwith by telephone, telefax or e-mail. All other reports should still be completed and provided as required.
The Principal Contractor is required to provide the Client with copies of all statutory reports required in terms of the OHS ACT within 7 days of the incident occurring.

The Principal Contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports, including the reports contemplated in 4.11.2 below, within 7 days of the incident occurring.

**SI 4.11.2 Accident and Incident Investigation**

The Principal Contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that he, she and/or they had to be referred for medical treatment by a doctor, hospital or clinic.

The results of the investigation are to be entered into the accident and/or incident register.

The Principal Contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24(1)(b) and (c) of the OHS Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents, related to the construction activities, and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Client reserves the right to hold its own investigation into an incident or call for an independent external investigation.

**SI 5 OPERATIONAL CONTROL**

**SI 5.1 EMERGENCY PREPAREDNESS, CONTINGENCY PLANNING AND RESPONSE**

The Principal Contractor must appoint a competent person to act as emergency controller and/or coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the Client may have in place.

The Principal Contractor and the other Contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarize employees with them.

**SI 5.2 FIRST-AID**

The Principal Contractor must provide first-aid equipment (including a stretcher) and have qualified first- aider(s) on site as required by General Safety Regulation 3 of the OHS Act.

The contingency plan of the Principal Contractor must include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or of getting emergency medical aid to person(s) that may require it.

The Principal Contractor must have firm arrangements with his other Contractors in place regarding the responsibility of the other Contractors injured and/or ill employees.
SI 5.3 MEDICAL CERTIFICATE

A Contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an Occupational Health Practitioner in the form of Annexure 3 of the Construction Regulations 2014.

SI 5.4 SECURITY

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period.

Access control must be controlled and handled by a security company that is registered by SIRA and the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of project applicable security rules and procedures and maintain these throughout the construction period.

SI 5.5 FALL PROTECTION PLAN (WORKING IN A FALL RISK POSITION)

A pre-emptive risk assessment will be required for any work to be carried out above (2) two metres from the ground or any floor level and will be classified as “work in elevated positions”.

As far as is practicable, any person working in an elevated position will work from a stable platform, ladder or other device that is at least as safe as if he or she is working at ground level and whilst working in this position be wearing a single belt with lanyard to prevent the person falling from the platform, ladder or other device utilized. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge.

Alternatively any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with suitable guard rails at two different heights as prescribed in SANS 10085 code of practice for the design, erection, use and inspection of access scaffolding.

Where the requirement is not practicable, the person will be provided with a full body harness that will be worn and attached above the wearer’s head at all times and the lanyard must be fitted with a shock absorbing device or the person must be attached to a fall arrest system that is approved by the Client.

Where the requirements are not practicable, a suitable catch net must be erected.

Employees working in elevated positions must be trained to do this safely and without risk to their Health and Safety.

Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material, i.e. skylights and openings in the roof as well as the possibility of working in unsafe weather conditions.

Updated medical certificate confirming the fitness of employees working at a fall risk position should be kept on the Health and Safety file at all times.
SI 5.6 STRUCTURES

The Principal Contractor must ensure that:

Only skilled employees are allowed to erect structures and that the skills of these employees are being verified at regular intervals.

Steps are taken to ensure that no structure becomes unstable or collapses due to construction work being performed on it or in the vicinity of it.

No structure is overloaded to the extent where it becomes unsafe.

He or she has received from the designer the following information:

- Information on known or anticipated hazards relating to the construction work and the relevant information required for the safe execution of the construction work
- A geo-scientific report (where applicable)
- The loading the structure is designed to bear
- The methods and sequence of the construction process
- Any other applicable information
- All drawings pertaining to the design are on site and available for inspection

SI 5.7 ACCESS SCAFFOLDING

Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulation 16 and SA National of Standards Code of Practice, SANS 10085 entitled, “The Design, Erection, Use and Inspection of Access Scaffolding”.

Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. It must also be ensured that there is sufficient material available to erect the scaffolding properly.

Scaffolding must be erected, altered or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous supervision of such a person.

SI 5.8 LIFTING EQUIPMENT

SI 5.8.1 Lifting equipment must be designed and constructed in accordance with the manufactures/designers specifications as well as generally accepted technical standards and operated, used, inspected and maintained in accordance with the manufactures requirements as well as that of the Driven Machinery Regulation 18 of the OHS Act.

The Driven Machinery Regulation requires that:

- Lifting equipment is clearly and conspicuously marked with the maximum mass load (MML) that it is designed to carry safely. When the MML varies with the conditions of use, the table of maximum loads should be used by the driver/operator
- Each winch on a lifting machine must at all-time have, at least, three full turns of rope on the drum when the winch has been run to its lowest limit
• Lifting equipment be fitted with a brake or other applicable device capable of holding the MML. This brake or device must automatically prevent the downward movement of the load when the lifting power is interrupted.
• Lifting equipment fitted with a load limiting device that automatically arrest the lift when the load reaches its highest safe position or when the mass of the load is greater than the MML.
• Every chain or rope on a lifting machine that forms an integral part of the machine must have a factor of safety as prescribed by the manufacturer of the machine and where no standard is available the factor of safety must be:
  - chains – 4 (four)
  - steel wire ropes – 5 (five)
  - fiber ropes – 10 (ten)
• Every hook or load attaching device must be designed such or fitted with a device that will prevent the load from slipping off or disconnecting.
• Every lifting machine must be inspected and load tested by a competent person every time it has been dismantled and re-erected and every 12 months after that. The load test must be in accordance with the manufacturers prescription or to 110% of the MML in addition all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine must be inspected every 6 months by a competent person.
• All maintenance, repairs, alterations and inspection results must be recorded in a log book and each lifting machine must have its own log book; and
• No person may be lifted by a lifting machine not designed for lifting persons unless in a cradle approved by an inspector of the Department of Labour.

SI 5.9 LIFTING TACKLE

The following requirements will apply to lifting tackle:

• All lifting tackle must be examined at intervals not exceeding 3 months by person as prescribed in DMR 18(10)(e) Records of such inspections must be kept in the safety file. Manufactured of sound material, well-constructed and free from patent defects.
• Clearly and conspicuously marked with and identity number.
• Maximum mass load factor of safety:
  - Natural fiber ropes 10 (ten)
  - Man-made fiber ropes and woven webbing 6 (six)
  - Steel wire ropes – single rope 6 (six)
  - Steel wire ropes – combination slings 6 (six)
  - Mild Steel chains 5 (five)
  - High tensile/alloy steel chains 4 (four)
• Steel wire ropes must be discarded (not used any further for lifting purposes) when wear and corrosion is evident and must be examined by a competent person every three months for this purpose and the results recorded in a designated log book.
• Lifting tackle must be stored or protected as to prevent damage or deterioration when not in use.
SI 5.10 MACHINE OPERATORS

The following requirements will apply to machine operators:

- Only certified and/or competent employees may be allowed to operate any machinery
- Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating
- Operators of Jib cranes with a maximum mass load of 500 kg or more must be in possession of a certificate of training issued by an accredited (by the Department of Labour) training provider.

SI 5.11 CONSTRUCTION VEHICLES AND MOBILE PLANT

Construction vehicles and mobile plant will initially during the competency evaluation process be inspected by the Principal Contractor prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the OHS Act and Regulations.

Construction vehicles and mobile plant must be:

- Of acceptable design and construction
- Maintained in good working order
- Used in accordance with their design and intention for which they were designed
- Operated and/or driven by trained, competent and authorised operators/drivers
- No unauthorised persons to be allowed to drive construction vehicles and mobile plant
- Provided with safe and suitable means of access
- Fitted with adequate signalling devices to make movement safe including reversing
- Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same
- Provided with roll-over protection
- Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book
- Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and
- Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported
- Operators and drivers of construction vehicles and mobile plant must be in possession of a valid medical certificate declaring the operator and/or driver physically and psychologically fit to operate or drive construction vehicles and mobile plant
- No loose tools, material etc. is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported
- No person may ride on construction vehicles and mobile plant except for in a safe place designed and provided for this purpose
- The construction site must be organized to facilitate the movement of construction vehicles and mobile plant in such a manner that pedestrians and other vehicles are not endangered. Traffic routes to be suitable, sufficient in number and adequately demarcated
- Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights, reflectors or barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant
• In addition construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. full lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely
• Employees employed adjacent or on public roads must wear reflective safety vests
• All construction vehicles and mobile plant daily inspection records must be kept in the Occupational Health and Safety file.

SI 5.12 ELECTRICAL INSTALLATIONS

The installation of temporary electricity for construction use shall be in accordance with Construction Regulation 24 and the Electrical Installation Regulations.

The Principal Contractor must ensure that:

• Existing services are located and marked before construction commences and during the progress thereof
• Where the abovementioned is not possible, employees with jackhammers etc. are protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etc
• Electrical installations and machinery are sufficiently robust to withstand normal working conditions on site
• Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the Occupational Health and Safety file
• Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept on the Occupational Health and Safety file; and
• A competent person appointed in writing must control all temporary electrical installations.

SI 5.13 ELECTRICAL AND MECHANICAL LOCKOUT

An electrical and mechanical lockout procedure must be developed by the Principal Contractor and submitted to the Client for approval before construction commences. All Contractors on site must adhere to this lockout procedure.

SI 5.14 USE AND STORAGE OF FLAMMABLES

The Principal Contractor must ensure that:

• No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapors being present unless adequate precautions is taken
• No flammables is used or applied e.g. in spray painting, unless in a room or cabinet or other enclosure specially designed and constructed for the purpose unless there is no danger of fire or explosion due to the application of adequate ventilation
• The workplace is effectively ventilated. Where this cannot be achieved:
  • Employees must wear suitable respiratory equipment
  • No smoking or other sources of ignition is allowed in the area
  • The area is conspicuously demarcated as “flammable”
• Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place and sufficient fire fighting equipment installed and fire prevention methods practiced for example proper housekeeping
• Flammables stored in a permanent flammable store are stored so that no fire or explosion is caused i.e.:
  • Stored in a locked and well-ventilated reasonably fire resistant container, cage or room conspicuously demarcated as “Flammable Store – No Smoking or Naked Lights”
• The flammables store to be constructed of two-hour fire retardant walls, door and roof and separated from adjoining rooms or workplaces by means of a two-hour fire retardant fire wall
• Adequate and suitable fire fighting equipment installed around the flammables store and marked with the prescribed signs
• All electrical switches and fittings to be of a flameproof design
• Any work done with tools in a flammable store or work areas to be of a non-sparking nature
• No Class A combustibles such as paper, cardboard, wood, plastic, straw etcetera to be stored together with flammables
• The flammable store to be designed and constructed to, in the event of spillage of liquids in the store, to contain the full quantity + 10% of the liquids stored
• A sign indicating the capacity of the store to be displayed on the door
• Only one day's quantity of flammable is to be kept in the workplace
• Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas
• Metal containers to be bonded to earth whilst decanting to prevent build-up of static forces; and
• Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.

SI 5.15 HOUSEKEEPING

The Principal Contractor must ensure that:

• Housekeeping is continuously implemented and maintained
• Materials and equipment is properly stored
• Scrap, waste and debris is removed regularly
• Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic
• Waste and debris not to be removed by throwing from heights but by chute or crane
• Where practicable, construction sites are fenced off to prevent entry of unauthorized persons
• Catch platforms or -nets are erected over entry and exit ways or over places where persons are working to prevent them being struck by falling objects
• An unimpeded work space is maintained for every employee
• Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done
• As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials
• The walls and roof of every indoor workplace be sound and leak-free; and
• Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fences, boarded over or provided with protection to prevent persons from falling.
SI 5.16 STACKING AND STORAGE

The Principle Contractor must ensure that:

- A competent person is appointed in writing to supervise all stacking and storage on a construction site
- Adequate storage areas are provided and demarcated
- The storage areas are kept neat and under control
- The base of any stack is level and capable of sustaining the weight exerted on it by the stack
- The items in the lower layers can support the weight exerted by the top layers
- Cartons and other containers that may become unstable due to wet conditions are kept dry
- Pallets and containers are in good condition and no material is allowed to spill out
- The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang)
- The articles that make up a single tier are consistently of the same size, shape and mass
- Structures for supporting stacks are structural or brick wall sound and able to support the mass of the stack
- No articles are removed from the bottom of the stack first but from the top tier first
- Anybody climbing onto a stack can and does it safely and that the stack is sufficiently stable to support him or her
- Stacks that are in danger of collapsing are broken down and restacked
- Stability of stacks are not threatened by vehicles or other moving plant and machinery
- Stacks are built in a header and stretcher fashion and that corners are securely bonded
- Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.

SI 5.17 STORAGE OF FLAMMABLE AND HAZARDOUS CHEMICALS

See paragraphs 5.18 and 5.23 below.

SI 5.18 FIRE PREVENTION AND PROTECTION

The Principal Contractor must ensure that:

- The risk of fire is avoided
- Sufficient and suitable storage of flammables is provided
- Sources of ignition is obviated wherever flammable or highly combustible material is present in the workplace, for example
- Notices prohibiting smoking is displayed and enforced
- Welding and flame cutting is only allowed under controlled conditions that includes written hot work permits
- Only spark-free hand and power tools are used
- No grinding, cutting and shaping of ferrous metals are allowed using electrically driven power tools that produces sparks
- Flameproof switches and fittings are to be used in the flammable atmosphere
- Good housekeeping is maintained to prevent the accumulation of unnecessary combustibles
- Adequate ventilation is maintained
• Adequate and suitable fixed and portable fire fighting equipment are provided and maintained in good working order
• Maintenance must include:
  ▪ Regular inspections by a competent person appointed in writing and records of such inspections should be kept in the Occupational Health and Safety file
  ▪ Annual inspection and service by an accredited service provider

• All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire
• A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies

Employees are informed regarding emergency evacuation procedures and escape routes;
• Emergency escape routes are kept clear at all times and clearly marked
• Evacuation assembly points are demarcated and made known to employees;
• Evacuation is practiced to ensure that all persons are evacuated timeously
• Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors have been left behind; and
• A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.

SI 5.19 EATING, CHANGING, WASHING AND TOILET FACILITIES

SI 5.19.1 Toilets

The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 30.

Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of at least 1 toilet per 30 employees.

SI 5.19.2 Showers

At least cold-water showers of some sort for each sex have to be provided at a ratio of at least 1 shower per 15 employees.

SI 5.19.3 Change Rooms

Some form of screened off changing facility must be provided separately for each sex.

SI 5.19.4 Eating Facility

Some form of eating facility sheltered from the sun, wind and rain must be provided.

SI 5.19.5 Living Accommodation

Where the site is in a remote location and transport to home is not readily available, reasonable and suitable living accommodation must be provided.
SI 5.20 PERSONAL AND OTHER PROTECTIVE EQUIPMENT (SECTIONS 8, 15 AND 23 OF THE OHS ACT & GSR 2)

The Principal Contractor is required to proactively identify the hazards in the workplace and deal with them on an on-going basis. He/she must either remove them or, where impracticable take steps to protect employees and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Principal Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the Principal Contractor maintain the said equipment, that he/she instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other valid reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed but an alternative solution has to be found that may include relocating the employee.

The Principal Contractor may **not charge any fee** for protective equipment prescribed by him or her **but may charge for equipment under the following conditions:**

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure;
- Where the employee has lost the equipment.

All employees shall, as a minimum, be required to wear the following personal protective equipment on any of the Client's projects:

- New protective overalls
- New protective footwear
- New protective headwear; and
- Eye/face & hand protection where necessary.

SI 5.21 PORTABLE ELECTRICAL TOOLS AND EQUIPMENT

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etcetera. In addition electrical appliances such as fridges, hotplates, heaters, and etcetera must be inspected and maintained to the same standards as portable electrical tools and appliances.
The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:

- Regular inspections by a competent person appointed in writing
- Inspection results must be recorded in a register
- Only competent authorized persons are allowed to use portable electrical tools and equipment; and
- The correct protective equipment is worn / used whilst operating portable electrical tools and equipment.

This equipment:

- Must be maintained in good condition at all times to prevent an electrical shock to the user
- The main source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and
- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

**SI 5.22 PORTABLE LIGHTS**

The following requirements apply to portable lights:

- Must be fitted with a robust non-hygroscopic non-conducting handle
- Live metal parts which may become live must be protected against contact
- The lamp must be protected by a strong guard
- The cable lead-in must withstand rough handling
- A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights
- Inspections must be undertaken that concentrate on at least the plug, cord, switch and any obvious faults; and
- When used in wet/damp/metal container conditions, it must be protected.

**SI 5.23 PUBLIC HEALTH AND SAFETY (SECTION 9 OF THE OHS ACT)**

The Principal Contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimize those dangers. This includes:

- Non-employees entering the site for whatever reason
- The surrounding community; and
- Passersby the site.

Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.

All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these.
SI 5.24 HAZARDOUS CHEMICAL SUBSTANCES

The Principal Contractor must ensure that:

- Employees receive the necessary information and training to be able to use and store hazardous chemical substances safely
- Employees obey lawful instructions regarding
- The wearing and use of protective equipment
- The use and storage of hazardous chemical substances
- The prevention of the release of hazardous chemical substances
- The wearing of exposure monitoring and measuring equipment
- The cleaning up and disposal of materials containing hazardous chemical substances
- Housekeeping, personal hygiene and the protection of the environment
- The risk assessments required in terms of Construction Regulation 7 include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace
- Suppliers provide the necessary information in the form of a material safety data sheet regarding hazardous chemical substances required to ensure the safe use and storage of that substances
- An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the said hazardous chemical substances
- Hazardous chemical substances containers be clearly marked as to the contents and main hazardous category e.g. “Flammable” or “Corrosive” and the reference number of the hazardous chemical substances on the list indicated above
- Hazardous chemical substances for example asbestos dust is not cleared by using compressed air but should be vacuumed
- No person eats or drinks in a hazardous chemical substances workplace; and
- Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.

SI 5.25 EXCAVATIONS (INCLUDING PILING)

Where excavations or any part thereof will exceed 1.5 m in depth the Principal Contractor will be required to submit a method statement to the Client for approval before commencing with the excavation and the Client will issue a permit to precede once the risk assessment and method statement is approved.

Regardless of the above, all excavation work has to comply with the following:

- Excavation work must be carried out under the supervision of a competent person with at least two years practical experience in excavation work who has been appointed in writing
- Before excavation work begins the stability of the ground must be evaluated
- Whilst excavation work is being performed, the Principal Contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material
- No person may be required or permitted to work in an excavation that has not been adequately shored or braced
Where the excavation is in stable material or where the sides of the excavation are sloped back to at least the maximum angle of repose measured relative to the horizontal plane, shoring or bracing may be left out but only after written permission has been obtained from the appointed competent person.

Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.

Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavator.

No load or material may be placed near the edge of an excavation if it is likely to cause a collapse of the excavation, unless suitable shoring has been installed to be able to carry the additional load.

Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.

Every excavation must be provided with means of access that must be within 6 meters of any employee within the excavation at any time.

The location and nature of any existing services such as water, electricity, gas, telecommunication etcetera must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for employees working in or near in the excavation.

Every excavation, including the shoring and bracing or any other method to prevent collapse, must be inspected by the appointed competent person as follows:

- Daily before work commences
- After every blasting operation
- After an unexpected collapse of the excavation or part thereof
- After substantial damage to any support
- After rain

The results of any inspections must be recorded in a register kept on site.

Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced off to at least one meter high and as close to the excavation perimeter as practicable.

Provided with warning lights or visible boundary indicators after dark or when visibility is poor.

Upon entering an excavation the requirements of General Safety Regulation 5 must be observed:

- Any confined space may only be entered after the air quality has been tested to ensure that it is safe to breathe and does not contain any flammable or noxious air mixture.
- The confined space must be purged and ventilated of any hazardous or flammable gas, vapor, dust or fumes.
- The safe atmosphere must be maintained.
- Employees are to be provided with breathing apparatus and wearing a safety harness with a rope with the free end of the rope being continuously attended to by a person outside the confined space.
- Furthermore, an additional person, trained in resuscitation, to be in full-time attendance immediately outside the confined space.
- Additional serviceable breathing and rescue apparatus is kept immediately outside the confined space for rescue purposes.
• All pipes, ducts etcetera that may leak into the confined space to be blanked off sufficiently to prevent any leakage or seepage
• The employer must ensure that all employees have left the confined space after the completion of work
• Where flammable gas is present on or in a confined space no work may be performed in close proximity to the flammable atmosphere that may ignite the flammable gas or vapor.

SI 5.26 WORKING IN CONFINED SPACES (SUCH AS MANHOLES)

SI 5.26.1 VENTILATION

The confined space or manhole cover and two adjacent covers must be opened (i.e. a total of three manholes) and the confined space or manhole be allowed to ventilate for at least 15 minutes before entering the manhole. All open manholes must be barricaded and manned at all times.

A gas monitor must be lowered to the bottom of the confined space or manhole with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space or line must be force ventilated by means of a blower for at least 15 minutes where after the air must be tested again. Under no circumstances may any space or manhole be entered while there is a toxic/flammable gas present.

After the undertaking of the necessary work, the person in charge of the activities must confirm that all the employees are accounted for and ensure that all the manholes are properly closed and barricading removed.

SI 5.26.2 LATERAL SUPPORT

Lateral support is a specialized operation. The results of the preliminary examination of the structure to be underpinned and any adjacent structure will determent the working method to be adopted.

The Engineer in charge must specify the precise plan of operations and timetable, together with a list of the necessary material and equipment.

Before the work begins all the equipment and materials required for safety measures should be provided and ready for use.

Lateral support operations should be carried out under the direction of a competent experienced person who should be in constant attendance at the site.

SI 5.26.3 ENTERING A MANHOLE

When entering a confined space or manhole, the person entering the space or manhole must wear a safety harness, fully operational gas detector as well as a self-rescuer. A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the manhole. At least one person on the surface must be trained in basic first-aid (level 1).

No person shall remain within a confined space or manhole for a period of more than one hour at a time. A minimum of 5 minute rest periods on the surface must be taken after this period before re-entering.
Should the alarm sound on the gas monitor, the employees must exit the confined space or manhole and the immediate area must also be evacuated immediately. The area must be properly ventilated and re-tested before re-entering the confined space or manhole. Professional support should be called for if necessary.

Employees must be provided with flameproof lighting when entering deep manholes or manholes with flammable gases. No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any manhole or confined space or in their vicinity.

**SI 5.26.4 GENERAL**

All employees working in confined spaces or manholes must be issued with fully functioning gas monitoring equipment and safety harnesses as well as self-rescuers where applicable. All these employees must be trained *(including refresher training on a continuous basis)* in the use thereof.

Where over-pumping between manholes is involved, only leak free pumping machines and conveyance tubes must be used and allowed.

**SI 5.26.5 SAFETY EQUIPMENT**

All teams must be issued with fully functional gas monitoring equipment and safety harnesses and self-rescuers where applicable. All employees must be trained *(including refresher training on a continuous basis)* in the use thereof.

**SI 5.26.6 GENERAL RECORDS**

The following records shall be implemented and maintained by the Principal Contractor:

- Confined space entry permits
- Confined space entry registers
- Safety harness registers

**SI 5.26.7 TRAINING**

All employees that have to enter a confined space or manholes must be formally trained before being required to enter such areas *(new employees to complete this training before working in a confined space)*.

Refresher courses must be attended by employees at least every 2 years or immediately if new methodologies or equipment are adopted or acquired.

Continuous onsite training and support by supervisory staff should be undertaken.

**SI 5.27 TEMPORARY WORKS**

Temporary Works must be carried out under the supervision of competent person designated in writing.

Temporary Works structures must be so designed, erected, supported, braced and maintained that it will be able to support any vertical or lateral loads that may be applied.
No load may be imposed onto the structure that the structure is not designed to carry.

Temporary Works must be erected in accordance with the structural or brick wall design drawings for such Temporary Works and if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the Temporary Works.

All drawings pertaining to the Temporary Works must be kept available on site.

All equipment used in the erection of Temporary Works must be checked by a competent person before use.

The foundation or base upon which the Temporary Works is erected must be able to bear the weight and keep the structure stable.

Employees erecting Temporary Works must be trained in the safe work procedures for the erection, moving and dismantling of the Temporary Works.

Safe access and emergency escape must be provided for employees.

A competent person must inspect the Temporary Works structures that have been erected before, during and after pouring of concrete or the placing of any other load and thereafter daily until the Temporary Works is stripped. The results of all inspections must be recorded in a register kept on site.

The Temporary Works must be left in place until the designated competent person has authorised its stripping in writing.

Any damaged Temporary Works must be repaired and/or rectified without delay.

Deck panels must be secured against displacement.

The slipping of employees and other persons on release agents on deck panels must be prevented at all times.

Employees’ health must be protected against the use of solvents, oils or other similar substances.

**Sl 5.28 DEMOLITION WORK**

Demolition work must be carried out under the supervision of a competent person who has been appointed in writing.

- A detailed structural or brick wall engineering survey of the structure to be demolished must be carried out and a method statement on the procedure to be followed in demolishing the structure or brick wall must be developed by a competent person, before any demolition may be commenced
- As demolishing progresses the structural or brick wall or brick wall integrity of the structure must be checked at intervals as determined in the method statement by the appointed competent person in order to prevent any premature collapse.
Steps must be taken to ensure that where a structure or brick wall is being demolished:

- No floor, roof or any other part of the structure is overloaded with debris or material that would make it unsafe
- Precautions are taken to prevent the collapse of the structure or brick wall when any frame or support is cut or removed
- Shoring or propping is applied where necessary
- No employee is required or allowed to work under unsupported overhanging material; and
- The stability of an adjacent building, structure or brick wall or road is maintained at all times
- The location and nature of any existing services such as water, electricity, and gas etcetera must be established before any demolition is commenced with and any service that may be affected by the demolition must be protected and made safe for employees and other persons
- Every stairwell in a building being demolished must be adequately illuminated
- Convenient and safe means of access must be provided
- A catch platform or net must be erected over every entrance to the building or structure being demolished where the likelihood exists of material or debris falling on employees and/or persons entering and leaving and every other area where the likelihood exists of material or debris falling on employees and/or persons must be fenced or barricaded
- No material may be dropped on the outside of the building unless the area into which it is dropped is fenced off or barricaded.

Waste and debris may only be disposed of from a height in a chute with the following design:

- Adequately constructed and rigidly fastened
- Inclined >45 degrees and enclosed on all four sides
- Fitted with a gate or control mechanism to control the flow of material that may not freefall down the chute
- Discharged into a container or a barricaded area; and
- Demolition equipment may only be used on floors or slabs that are able to support it.

Asbestos related work must be conducted to the requirements of the Asbestos Regulations promulgated under the OHS ACT and in particular Asbestos Regulation 21, i.e.:

- Demolition of asbestos may only be carried out by a registered (with the Department of Labour) asbestos contractor
- All asbestos materials likely to become airborne must be identified; and
- A plan of work must be submitted for approval to an Approved Asbestos Inspection Authority (AAIA), whom is approved by the Department of Labour, 30 days prior to commencement of demolishing work unless the plan was drawn up by an AAIA and a signed (by all parties) copy is submitted to the Department of Labour 14 days before commencement of the demolishing.

During demolition work:

- All asbestos containing material must be disposed of safely
- Employees must be issued with appropriate PPE and the proper use thereof enforced; and
- After the demolition has been completed the area/premises must be thoroughly checked to ensure that all asbestos waste has been removed
• No employee is allowed to:
  ▪ Use compressed air or permit the use of compressed air to remove asbestos dust from any surface or employee or person;
  ▪ Smoke, eat, drink or keep food or beverages in an area not specifically designated for this; and
  ▪ Apply asbestos by spraying.

• Lead related work must be conducted to the requirements of the Lead Regulations promulgated under the OHS Act
• Where demolition works will involve the use of explosives, a method statement must be developed by a competent person in accordance with applicable explosives legislation.

SI 5.29 EXPLOSIVE POWERED TOOLS

The Principal Contractor shall not use or permit any person to use an explosive powered tool, unless:

• it is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles
• The firing mechanism is so designed that the explosive powered tool will not function unless-
  ▪ It is held against the surface with a force of at least twice its weight; and
  ▪ The angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle, provided that the provisions of this requirement will not apply to explosive powered tools in which the energy of the cartridge is transmitted to the bolts, nails or similar relevant objects by means of an intermediate piston which has a limited distance of travel.

The Principal Contractor shall ensure that:

• Only cartridges suited for the explosive powered tool and the work to be performed are used;
• The explosive powered tool is cleaned and examined daily before use and as often as may be necessary for its safe operation by a competent person who has been appointed
• That the safety devices are in proper working order prior to use
• When not in use, the explosive powered tool and the cartridges are locked up in a safe place, which is inaccessible to unauthorised persons
• The explosive powered tool is not stored in a loaded condition
• A warning notice is displayed in a conspicuous manner wherever the explosive powered tool is used
• The issuing and collection of cartridges and nails or studs are controlled and done in writing by a person having been appointed in writing; and
• Recorded in a register and that the recipient has accordingly signed for the receipt thereof as well as the returning of any spent and unspent cartridges;

The Principal Contractor shall not permit or require any person to use an explosive powered tool unless such person has been:

• Provided with and uses suitable protective equipment; and
• Trained in the operation, maintenance and use of such tool.
SI 5.30 WELDING, FLAME CUTTING OR SIMILAR OPERATIONS

A competent person will be appointed to supervise welding, flame cutting or similar operations on site.

The following rules will govern all welding and flame cutting or similar operations:

- The welder will be trained regarding the safe use/operation of the equipment
- The welder and his assistant will be provided with effective and appropriate personal protective equipment and/or clothing
- Cables and electrode holders will be effectively insulated
- The workplace will be effectively screened off to prevent bystanders from being affected by the welding rays or they will be provided with protective equipment
- Special precautions will be taken where welding is undertaken in confined spaces e.g. proper and sufficient ventilation will be provided
- In wet or damp conditions the welding equipment and the welder will be properly insulated and someone will be on standby to assist in the event of any emergency
- A qualified person will certify in writing that it is safe to enter and work in a specific confined space before welding or flame cutting is undertaken
- No welding, flame cutting, grinding, soldering or similar work shall be undertaken in respect of any drum, vessels or similar object or container where such object or container:
  - Is completely closed, unless the rise in internal pressure cannot render in dangerous; or
  - Contains any substance which, under the action of heat may explode or react to form dangerous or poisonous substances.

- Where pressure vessels/welding cylinders containing oxygen or acetylene are transported or used, the proper precautionary measures will be taken against bumping, falling, rolling etcetera.
- Gas welding hoses may only be joined with approved connectors and clamps
- No oil or grease may be applied to oxygen valves and fittings
- It is a sound practice to store pressure vessels and/or welding cylinders vertically and to secure them by means of a chain
- Acetylene cylinders may never be inclined in excess of 45°
- Proper and adequate fire prevention measures will be instituted and maintained for as long as the welding continues; and
- Where explosive and/or flammable vapors are present, welding will be done under “hot work” permits.

SI 5.31 TRANSPORTATION OF EMPLOYEES

Any vehicle used to transport employees must have seats firmly secured and adequate for the number of employees to be carried.

The Principal Contractor shall not allow employees to be transported in a goods vehicle unless the portion of the vehicle in which the employees are being conveyed is enclosed to a height of:

- at least 350 mm above the surface on which employees are seated; or
- at least 900 mm above the surface on which employees are standing,

in a manner and with a material of sufficient strength to prevent employees from falling from such vehicle when it is in motion.
SI 5.32 PILING DRIVING OPERATIONS

The Contractor appointed to do Piling Driving Operations will be competent and will also appointed.

The area where Piling Driving Operation is to be done will be barricaded. The necessary signs will be promptly displayed.

Daily checklist will be completed on piling machines and operators will comply with Construction Regulation 23(1)(k).

The Method statement and Risk assessment will be available.

SI 5.33 HEALTH AND SAFETY POLICY

The Principal Contractor has to provide the Client, as an annexure to the Health and Safety Plan, with a detailed Health and Safety Policy outlining the Principal Contractor’s stance on and principles adopted for Health and Safety.

SI 5.34 COST FOR HEALTH AND SAFETY MEASURES DURING THE CONSTRUCTION PROCESS

To ensure that the appointed Principal Contractor comply with Construction Regulation 5(1)(g) and have made provision for the cost of Health and Safety measures during the construction process.

SI 5.35 SITE ACCESS

The owner of any land on which excavation work is in progress or on any building is erected or demolished shall take precautions in the working area and on surrounding roads and footways to limit to a reasonable level the amount of dust arising from the work or surroundings thereof.

Access will be through the contractor’s entrance. **Proper site identification must be issued to all workers.**

No person shall during the course of any building, demolition or excavation work use any machine, machinery, engine, apparatus, tool or contrivance, which in the opinion of the local authority may unreasonably disturb or interfere with the amenity of the neighbourhood.

The working hours state in Regulation F6(2)(a) of the National Building Regulations and Building Standards 103/1977 to be strictly obeyed:

i. Working hours: Monday – Friday before 07:00 or after 18:00 on any day other than those days contemplated in subparagraphs ii and iii.

ii. Saturdays: before 07:00 or after 15:00.

iii. Public Holidays & Sundays: no work.

- Working on site outside these hours is prohibited unless arrangements have been made with the Project Manager for competent supervision and the correct equipment will be on site.
- The site will be adequately fenced or hoarded and access to the site shall be controlled, signs will be placed on gates/fence warning public of construction area. All visitors/deliveries shall be recorded in the visitor’s book in site/foreman office.

**SI 5.36 SITE ORGANOGRAM**

The Principal Contractor will display a site organogram and a comprehensive and updated list of all the Contractors on site accountable to the Principal Contractor, the agreements between the parties and the type of work being done are included and available in the site office.

**SI 5.37 DUTY TO INFORM**

The Principal Contractor will inform the CLIENT of any information that is not covered in the Health and Safety Specifications.

**SI 6 MEASUREMENT AND PAYMENT**

**SI 6.1 MEASUREMENT AND PAYMENT**

**SI 6.1.1** The scheduled items for health and safety will be included in the preliminary and general section of the schedule of quantities. Measurement will be in terms of Clause 8.1.2 of SABS 1200 A.

**SI 6.1.2** The Contractor shall price all items scheduled in this section of the schedule of quantities to enable the Employer to comply with clause 5.1(g) of the Construction Regulations, 2014. Failure by the Contractor to price these items will force the Employer to reject the Contractor’s tender in terms of clause 5.1(h) of the Construction Regulations, 2014.

**SI 6.1.3** Payment for the scheduled items will be in terms of clause 8.2 of SABS 1200 A.

**SI 6.2 SCHEDULING ITEMS**

**SI 6.2.1 FIXED-CHARGE ITEMS**

a) Preparation of Health and Safety Plan…………………………………………………….Unit: Sum

The sum shall cover all costs involved in the preparing the Health and Safety Plan (which includes the risk assessment), which shall include the preparation of all permit applications and notifications as required by this specification and shall include the employment cost of all health and safety personnel employed for the preparation of the Contractor’s Health and Safety Plan.

b) Health and Safety Training (site specific and other) ..............................................Unit: sum

The sum shall cover all costs involved in preparation of all the necessary Health and Safety Induction Training materials required from the training of the Contractor’s employees, Subcontractors and all visitors to the Works.
c) Personal Protective Clothing and equipment...............................................Unit: Sum

The sum shall cover all costs involved in the initial provision of all personal protective clothing and equipment for the Contractor's employees and Subcontractors and any visitors to the Works, as required by this specification (which includes the requirements of the Occupational health and Safety Act, 1993 and its regulations, as amended)

d) Fences, Signs and Barricades................................................................. Unit: Sum

The sum shall cover all costs involved in the initial provision of all fences, signs and barricades necessary for the protection of all persons, plant, vehicles, equipment or facilities, as required by this specification (which includes the requirements of the Occupational Health and Safety Act, 1993 and its regulations, as amended)

e) Establishment of Safety Administration............................................... Unit: Sum

The sum shall cover all costs involved in establishment of all administrative matters required by this specification which shall include, but not be limited to, the establishment of the Health and Safety File.

f) Other Health and safety Fixed-charge Obligations.............................. Unit: Sum

The sum shall cover the fixed costs of all other obligations that are required for the safe execution of the Works in accordance with the requirements of this specification and that are not specifically covered in 10.2.1(a),(b),(c),(d) or (e).

SI 6.2.2 TIME-RELATED ITEMS

a) Implementation and maintenance of Health and Safety Plan.................. Unit: Month

The rate shall cover all the monthly costs involved in the implementation and maintenance of the Health and Safety Plan. This shall include but shall not be limited to the following:

1) The employment cost of all health and safety personnel including consultants, health and safety officers, inspectors, supervisors and issuers required in terms of the Contractor's Health and Safety Plan,
2) Updating the Health and safety Plan as needed,
3) Carrying out of periodic audits and follow-up audits,
4) Compilation of ongoing risk assessments and risk assessment reports as are required by the Works,
5) Convening of regular safety meetings with the Safety Representatives,
6) Accompanying and supporting the Employer or his Safety Agent during ad hoc audits,
7) Compilation of monthly safety reports and statistics for the Employer or his Safety Agent.

b) Implementation and maintenance of Training........................................ Unit: Month

The rate shall cover all the monthly costs involved in the implementation of the induction training of the Contractor's employees, Subcontractors and all visitors to the Works.
c) **Maintenance of Personal Protective Clothing and Equipment** .................................. Unit: Month

The rate shall cover all the monthly costs involved in maintenance, repair or replacement of personal protective clothing required by the Contractor's employees or Subcontractors and all visitors to the Works.

d) **Maintenance of Fences, Signs and Barricades** .......................................................... Unit: Month

The rate shall cover all the monthly costs involved in maintenance, repair or replacement for whatever reason of fences, signs and barricades used for the Works. The rate shall include for the provision of security guards for the safeguarding of the items provided should this be necessary.

e) **Implementation and maintenance of Safety Administration** ........................................ Unit: Month

The rate shall cover all the monthly costs involved in establishment of all administrative matters required by his specification which shall include, but not limited to, the maintenance of the Health and Safety File or the completion and recording of the safety check lists required by this specification.

f) **Other Health and Safety Time-related Obligations** .................................................. Unit: Month

The rate shall cover all the monthly time-related costs of all other obligations that are required for the proper execution of the Works in accordance with the requirements of this specification and that are not specifically covered in 10.2.2(a), (b), (c), (d) or (e).
MANDATORY AGREEMENT BETWEEN CLIENT AND PRINCIPAL CONTRACTOR

OCCUPATIONAL HEALTH & SAFETY ACT 85 of 1993
CONSTRUCTION REGULATIONS 2014

1 AGREEMENT WITH MANDATORY
In terms of Section 37(1) & (2)

1.1 WRITTEN AGREEMENT ENTERED INTO AND BETWEEN

____________________________________________
(Hereinafter referred to as Client)

1.1.1 AND

1.2 (PRINCIPAL CONTRACTOR)
AGREEMENT WITH MANDATARY TO BE COMPLETED IN BLACK INK AND EACH PAGE AND ANY CHANGE MADE TO BE INITIALED


Requirements:

1. Your attention is drawn to “General Duties of Employers to their Employees” as required by Section 8 of the Act
2. You are required to:
   2.1 Sign a written “Agreement with Mandatary” as required by Sect 37(1)) 2) of the Act before commencing any work on site.
   2.2 Ensure that all your employees receive the necessary Induction Training and have proof of thereof.
      Note: You must ensure that all employees under your control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences.
   2.3 Ensure the provision of Welfare Facilities for your employees as per Construction Regulation 30.
   2.4 Provide the Client with your SHE Plan.
   2.5 Ensure that Method Statements, Risk Assessments and Safe Work Procedures are done and available.
   2.6 Provide the Client with written appointment of the person who is going to supervise the construction per Construction Reg. 8(7).
   2.7 Provide the Client with written designation of your nominated Health & Safety Representative as per Section 17(1).
      Note: Your Health & Safety Representative will be expected to attend the Client safety meetings.
   2.8 If you employ more than five (5) persons, you are required to provide your own First Aid Box GSR 3(2).
   2.9 If you employ more than ten (10) persons, you are required to provide your own qualified First Aider as per GSR 3(4).
      Note: If you have difficulty in complying with items 2.7 & 2.8 above, you may arrange/come to an agreement with the Client to make use of his First Aid facilities in case of injury. You will be expected to communicate such an agreement to your employees.
   2.10 When working with Hazardous Chemical Substances, comply with HCS Reg. 3.
      Note: Asbestos and Lead Regulations are separate.
   2.11 When using a Materials Hoist, comply with the requirements of Construction Reg. 19.
   2.12 When using Lifting Machines & Lifting Tackle, comply with DMR. 18.
      Note: You may be required to appoint a Banksman to control Lifting / Slinging operations.
   2.13 When erecting / using Scaffolding comply with the requirements of SANS 10085 “Access Scaffolding”.
   2.14 When erecting / using Suspended Platforms comply with the requirements of Construction Reg. 17.
   2.15 When doing Demolition Work, comply with Construction Reg. 14.
   2.16 When doing Blasting to comply with Explosives Regulations Chapter 10.
   2.17 When doing Excavation Work, comply with Construction Reg. 13.
   2.18 When doing Electrical Installations, comply with the requirements of Construction Reg. 24.
      Note: Electrician to provide copy of registration as per Elect. Install. Reg. 9(3).
   2.19 When using Construction Vehicles, comply with Construction Reg. 23.
   2.20 When using / erecting Temporary Works, comply with Construction Reg.12.
   2.21 When working over or in close proximity to Water, comply with Construction Reg.26.
   2.22 Ensure that good Housekeeping, Stacking & Storage principles are applied on this project as per Construction Reg. 27 & 28.
   2.23 Ensure that appropriate measures are taken to avoid the risk of Fire / Explosion and comply with requirements of Construction Reg. 29.
   2.24 If you are going to work at heights a Fall Protection Plan must be submitted (roof work included) as per requirements of Construction Reg. 10.
   2.25 When using Explosive Powered Tools, comply with GSR 19.
   2.26 When Welding, Flame Cutting / Soldering, comply with GSR 9.
   2.27 When working in Confined Spaces, comply with GSR 5.
3 You are responsible for providing your own legal safety documents and registers to comply with the Act’s requirements. A copy of the OHS Act of 1993 and the Construction Regulations 2014 will be available for perusal in the Client’s site office.

Signature Client H&S: __________________________ Signature: Principal Contractor: _________________________
Date: _________________________                                                   Date: _________________________
You are required to comply with General Safety Regulation 2(1) to (7) and provide your employees with personal protective equipment which will allow them to carry out their work in a safe manner, e.g. hard hats, safety harnesses, gloves, safe footwear, eye protection, ear protection, waterproof clothing etc.

Reporting of Incidents and Occupational Diseases shall be done as per General Admin. Regulation 8 (Also see Sect 24 of the Act).

Compensation for Occupational Injuries & Diseases Act (No 130 of 1993). You are required to provide the Client/Client with proof of registration with the Compensation Commissioner/Federated Employer(s) Mutual when signing this agreement. If you are not registered, the Client/Client may deduct the necessary amounts from your progress payments and pay it over to the Commissioner to ensure that you are insured. See Section 80 & 89 of the COID Act.

Signature: _______________________________ Signature: _______________________________

(Client) (Principal Contractor)
AGREEMENT WITH MANDATARY

In terms of Section 37(1) and (2)

Definition of Mandatary

- Includes an agent, a contractor or sub-contractor for work, but without derogating from his status in his own right as an employer or user

Section 37(1) Whenever an employee does or omits to do any act, which it would be an offence in terms of this Act for the employer of such employee or a user to do or omit to do, then, unless it is proved that-

(a) in doing or omitting to do that act the employee was acting without the connivance or permission of the employer or any such user;
(b) it was not under any condition or in any circumstance within the scope of the authority of the employee to do or omit to do an act, whether lawful or unlawful, of the character of the act or omission charged; and
(c) all reasonable steps were taken by the employer or any such user to prevent any act or omission of the kind in question, the employer or any such user himself shall be presumed to have done or omitted to do that act, and shall be liable to be convicted and sentenced in respect thereof; and the fact that he issued instructions forbidding any act or omission of the kind in question shall not, in itself, be accepted as sufficient proof that he took all reasonable steps to prevent the act or omission.

Section 37(2) The provisions of subsection (1) shall *mutatis mutandis* apply in the case of a mandatary of any employer or user, except if the parties have agreed in writing to the arrangements and procedures between them to ensure compliance by the mandatary with the provisions of this Act.
ACCEPTANCE OF MANDATORY

In terms of the provisions of Section 37(2) of the Occupational Health & Safety Act 1993

I, ________________________________

acting for and on behalf of

__________________________ (Company/Close Corporation/Enterprise/Owner/User) undertake to ensure that the requirements and provisions of the Act and Regulations are complied with.

Signature: ___________________________ Print Name: ____________________________________________

(Principal Contractor)

Designation: ____________________________ Date: ____________________________

Mandatary-Workmen’s Compensation/Federated Employers Mutual No.: ____________________________

A copy of company/Close corporation “Letter of Good Standing” to be attached.

Signature: ___________________________ Print Name: ____________________________________________

(Client)

Designation: ____________________________ Date: ____________________________

Company: __________________________________________________________

Project / Site: __________________________________________________________

CLIENT

Construction Regulation 5

5(1) A client must:

(a) prepare a baseline risk assessment for an intended construction work project;
(b) prepare a suitable, sufficiently documented and coherent site specific health and safety specification for the intended construction work based on the baseline risk assessment contemplated in paragraph (a)
(k) to appoint each Principal Contractor in writing for the project or part thereof on a construction site

Signature Client H&S: ___________________________ Signature: Principal Contractor: ___________________________

Date: ___________________________ Date: ___________________________
APPOINTMENT

I (Client), ____________________________________________________________

of: (Company) ______________________________________________________

appoint (Name): ______________________________________________________

as the Principal Contractor for PROJECT/SITE: ____________________________

________________________________________________________________________

CONSTRUCTION COMPANY / CLOSE CORPORATION:

______________________________________________

Your attention is drawn to the following requirements:

1. Ensure that the Provincial Director is notified of the intended construction work.
2. Provide the Client with a suitable and sufficiently documented health & safety plan, based on the Client’s documented H & S specifications.
3. Take reasonable steps to ensure co-operation between all contractors so as to enable compliance with the Construction Regulations.
4. Provide appointed Contractors with the applicable sections of the health & safety specifications pertaining to their work.
5. Appoint each Contractor in writing for the construction work he/she has to carry out.
6. Take reasonable steps to ensure compliance by Contractors which shall include monthly safety audits.
7. Stop any Contractor from executing work which is not in compliance with safety specifications or poses a threat to other persons.
8. Ensure that where changes are brought about to the design / construction, sufficient health & safety information and appropriate resources are made available to Contractors to execute their work safely.
9. Ensure that every Contractor is registered and in good standing with the Compensation Commissioner.
10. Ensure that potential Contractors, submitting tenders have made provision for the cost for health & safety during construction.
11. Ensure that a health & safety file, with all documentation required in terms of the Act & Regulations is open & kept available on site.
12. Keep a comprehensive and updated list of all Contractors accountable to the Client; as well as all agreements between the parties and the type of work to be done.
13. On completion of construction work, hand over a consolidated health & safety file to the Client.
14. Notify the Client of all incidents that have to be reported, recorded and investigated as per Sec. 24 of the Act and Gen. Adm. Reg. 8.
15. Ensure that method statements, risk assessments and safe work procedures are in place before commencement of construction work.
16. Ensure that all employees, including those of Contractors, undergo health & safety induction training pertaining to the construction hazards and be in possession of proof of the health & safety induction training given.

Signature: ___________________________ Date: ___________________________

(Client)

Designation: ____________________________________________________________

Signature Client H&S: ___________________________ Signature: Principal Contractor: ___________________________

Date: ___________________________ Date: ___________________________
ACCEPTANCE OF APPOINTMENT

I, __________________________________________________________ Designation: _______________________

(Principal Contractor)

hereby accept the requirements of this appointment.

Signature: ________________________________________________

Date: ____________________________________________________
Signature Client H&S: _________________________
Date: _________________________

Signature: Principal Contractor: _________________________
Date: _________________________
ANNEXURE C: HIV/AIDS REQUIREMENTS
ADDITIONAL SPECIFICATION

SH HIV/AIDS REQUIREMENTS

CONTENTS

SH 01 SCOPE
SH 02 MAINTENANCE REQUIREMENTS
SH 03 MAINTENANCE CONTROL
SH 04 COMMUNICATION
SH 05 PERFORMANCE MEASUREMENT
SH 06 MEASUREMENT AND PAYMENT

SH 01 SCOPE

This specification contains all requirements applicable to the Contractor for creating HIV/AIDS awareness amongst all of the Workers involved in this project for the duration of the construction period, through the following strategies:

- Raising awareness about HIV/AIDS through education and information on the nature of the disease, how it is transmitted, safe sexual behaviour, attitudes towards people affected and people living with HIV/AIDS, how to live a healthy lifestyle with HIV/AIDS, the importance of voluntary testing and counselling, the diagnosis and treatment of Sexually Transmitted Infections and the closest health Service Providers
- Informing Workers of their rights with regard to HIV/AIDS in the workplace
- Providing Workers with access to condoms and other awareness material that will enable them to make informed decisions about sexual practices

SH 02 DEFINITIONS AND ABBREVIATIONS

SH 02.01 DEFINITIONS

**Service Provider:** The natural or juristic person recognised and approved by uThukela Water as a specialist in conducting HIV/AIDS awareness programmes.

**Service Provider Workshop Plan:** A plan outlining the content, process and schedule of the training and education workshops, presented by a Service Provider which has been approved by the Representative/Agent.

**Worker:** Person in the employ of the Contractor or under the direction or supervision of the Contractor or any of his Sub-contractors, who is on site for a minimum period of 30 days in total.

SH 02.02 ABBREVIATIONS

<table>
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<th>Description</th>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
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</table>
**BASIC METHOD REQUIREMENT**

The Contractor shall, through a Service Provider, conduct onsite workshops with the Workers

The Service Provider shall develop and compile a Service Provider Workshop Plan to be presented at the workshops and which will be best suited for this project to achieve the specified objectives with regard to HIV/AIDS awareness.

The Service Provider Workshop Plan shall be based on the following information provided by the Contractor:

- Number of Workers and Sub-contractors on site
- When new Workers or Sub-contractors will join the construction project
- Duration of Workers and Sub-contractors on site
- How the maximum number of Workers can be targeted with workshops
- How the Contractor prefers workshops to be scheduled, *e.g.* three hourly sessions per Worker, or one 2.5 hour workshop per Worker
- Profile of Workers, including educational level, age and gender (if available)
- Preferred time of day or month to conduct workshops
- A Gantt chart reflecting the construction programme, for scheduling of workshops
- Suitable venues for workshops

The Contractor shall submit the Service Provider Workshop Plan for approval within 21 days after the tender acceptance date. After approval by the Representative/Agent, the Contractor shall make available a suitable venue that will be conducive to education and training.

The Service Provider Workshop Plan shall address, but will not be limited to the following:

- The nature of the disease;
- How it is transmitted;
- Safe sexual behaviour;
- Post exposure services such as voluntary counselling and testing (VCT) and nutritional plans for people living with HIV/AIDS;
- Attitudes towards other people with HIV/AIDS;
- Rights of the Worker in the workplace;
- How the Awareness Champion will be equipped prior to commencement of the HIV/AIDS awareness programme with basic HIV/AIDS information and the necessary skills to handle questions regarding the HIV/AIDS awareness programme on site sensitively and confidentially;
- How the Service Provider will support the Awareness Champion;
- Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems;
- How the workshops will be presented, including frequency and duration;
- How the workshops will fit in with the construction programme;
- How the Service Provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly;
- How the video will be used;
- How the Service Provider will elicit maximum participation from the Workers;
- A questions and answers slot (interactive session)
The Service Provider Workshop Plan shall encompass the Specific Learning Outcomes (SLO) as stipulated.

SH 04 HIV/AIDS AWARENESS EDUCATION AND TRAINING

SH 04.01 WORKSHOPS

The Contractor shall ensure that all Workers attend the workshops.

The workshops shall adequately deal with all the aspects contained in the Service Provider Workshop Plan. In order to enhance the learning experience, groups of not exceeding 25 people shall attend the interactive sessions of the workshops.

SH 04.02 RECOMMENDED PRACTICE

SH 04.02.01 WORKSHOP SCHEDULE

Presenting information contained in the Service Provider Workshop Plan can be divided in as many workshop sessions as deemed practicable by the Contractor, provided that all Workers are exposed to all aspects of the workshops as outlined in the Service Provider Workshop Plan.

Breaking down the content of information to be presented to Workers into more than one workshop session however, has the added advantage that messages are reinforced over time while providing opportunity between workshop sessions for Workers to reflect and test information. Workers will also have an opportunity to ask questions at a following session.

SH 04.02.02 HIV/AIDS SPECIFIC LEARNING OUTCOMES AND ASSESSMENT CRITERIA

Workers shall be exposed to workshops for a minimum duration of two-and-a-half hours. In order to set a minimum standard requirement, the following specific learning outcomes and assessment criteria shall be met.

04.02.02.01 UNIT 1: The nature of HIV/AIDS

After studying and understanding this unit, the Worker will be able to differentiate between HIV and AIDS and comprehend whether or not it is curable. The Worker will also be able to explain how the HI virus operates once a person is infected and identify the symptoms associated with the progression of HIV/AIDS.

Assessment Criteria:
1. Define and describe HIV and AIDS
2. List and describe the progression of HIV/AIDS

04.02.02.02 UNIT 2: Transmission of the HI virus

After studying and understanding this unit, the Worker will be able to identify bodily fluids that carry the HI virus. The Worker will be able to recognise how HIV/AIDS is transmitted and how it is not transmitted.

Assessment Criteria:
1. Record in what bodily fluids the HI virus can be found
2. Describe how HIV/AIDS can be transmitted
3. Demonstrate the ability to distinguish between how HIV/AIDS is transmitted and misconceptions around transmittance of HIV/AIDS

04.02.02.03 UNIT 3: HIV/AIDS preventative measures

After studying and understanding this unit, the Worker will comprehend how to act in a way that would minimise the risk of HIV/AIDS infection and to use measures to prevent the HI virus from entering the bloodstream.

Assessment Criteria:
1. Report on how to minimise the risk of HIV/AIDS infection
2. Report on precautions that can be taken to prevent HIV/AIDS infection
3. Explain or demonstrate how to use a male and female condom
4. List the factors that could jeopardize the safety of condoms provided against HIV/AIDS transmission

04.02.02.04 UNIT 4: Voluntary HIV/AIDS counselling and testing

After studying and understanding this unit, the Worker will be able to recognise methods of testing for HIV/AIDS infection. The Worker will be able to understand the purpose of voluntary HIV/AIDS testing and pre- and post-test counselling.

Assessment Criteria:
1. Describe methods of testing for HIV/AIDS infection
2. Report on why voluntary testing is important
3. Report on why pre- and post-test counselling is important

04.02.02.05 UNIT 5: Living with HIV/AIDS

After studying and understanding this unit, the Worker will be able to recognise the importance of caring for people living with HIV/AIDS and be able to manage HIV/AIDS.

Assessment Criteria
1. List and describe ways to manage HIV/AIDS
2. Describe nutritional needs of people living with HIV/AIDS
3. Describe ways to embrace a healthy lifestyle as a person living with HIV/AIDS
4. Explain the need for counselling and support to people living with HIV/AIDS

04.02.02.06 UNIT 6: Treatment options for people with HIV/AIDS

After studying and understanding this unit, the Worker will be familiar with the various treatments available to HIV/AIDS infected or potentially HIV/AIDS infected people.

Assessment Criteria
1. Discuss anti-retroviral therapy
2. List methods of treatment to prevent HIV/AIDS transmission from mother-to-child
3. Describe the need for treatment of opportunistic diseases for people living with HIV/AIDS

4. Describe post exposure prophylactics

04.02.02.07 UNIT 7: The rights and responsibilities of Workers in the workplace with regard to HIV/AIDS

After studying and understanding this unit, the Worker will be able to identify the rights and responsibilities of the Worker living with HIV/AIDS in the workplace. The Worker will recognise the importance of accepting colleagues living with HIV/AIDS and treating them in a non-discriminative way

Assessment Criteria:
1. Discuss the rights of a person living with HIV/AIDS in the workplace
2. Discuss the responsibilities of a person living with HIV/AIDS in the workplace
3. Report on why acceptance and non-discriminatory treatment of colleagues living with HIV/AIDS is important

SH 04.03 DISPLAYING OF PLASTIC LAMINATED POSTERS AND DISTRIBUTION OF INFORMATION BOOKLETS

The above-mentioned posters and information booklets are available from the Department of Health and have been prepared to raise awareness and to share information about HIV/AIDS and STIs

Posters or display stands shall be displayed on site as soon as possible, but not later than 14 days after the date of site handover

Posters shall be displayed in areas highly trafficked by Workers, including toilets, rest areas, the site office and compounds

The posters on display must always be intact, clear and readable

Information booklets must be distributed to all Workers as soon as possible, but not later than 14 days after site handover, or as soon as the Worker joins the site

SH 05 PROVIDING WORKERS WITH ACCESS TO CONDOMS

The Contractor shall provide and maintain condom dispensers and make both male and female condoms, complying with the requirements of SABS ISO 4074, available at all times to all Workers at readily accessible points on site, for the duration of the contract. The Contractor may obtain condom dispensers from the Department of Health and condoms may be obtained from the Local Clinic or the Department of Health.

At least one male and one female condom dispenser and a sufficient supply of condoms, all to the approval of the Representative/Agent, shall be made available on site within 14 days of site handover. Contractors should note that arrangements to obtain condoms from the Department of Health Clinics prior to site handover may be necessary, to ensure that condoms are available within 14 days of site handover.

Condoms shall be made available in areas highly trafficked by Workers, including toilets, the site office and compounds.
SH 06 **ENSURING ACCESS TO HIV/AIDS TESTING AND COUNSELLING FACILITIES AND TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS (STI)**

The Contractor shall provide Workers with the names of the closest Service Providers that provide HIV/AIDS testing and counselling and Clinics providing Sexually Transmitted Infection (STI) diagnosis and treatment. Information on these Service Providers and Clinics must be displayed on a poster of a size not smaller than A1 in an area highly trafficked by Workers.

SH 07 **APPOINTMENT OF AN HIV/AIDS AWARENESS CHAMPION**

Within 14 days of site handover the Contractor shall appoint an Awareness Champion from amongst the Workers, who speaks, reads and writes English, who speaks and understands all the local languages spoken by the Workers and who shall be on site during all stages of the construction period. The Contractor shall ensure that the Awareness Champion has been trained by the Service Provider on basic HIV/AIDS information, the support services available and the necessary skills to handle questions regarding the HIV/AIDS programme in a sensitive and confidential manner.

The Awareness Champion shall be responsible for:

7.1 Liaising with the Service Provider on organising awareness workshops;
7.2 Filling condom dispensers and monitoring condom distribution;
7.3 Handing out information booklets;
7.4 Placing and maintaining posters

SH 08 **MONITORING**

The Contractor shall grant to the Representative/Agent reasonable access to the construction site, in order to establish that the Contractor complies with his obligations regarding HIV/AIDS awareness under this contract.

The Contractor must report problems experienced in implementing the HIV/AIDS requirements to the Representative/Agent.

The attached SITE CHECKLIST (SCHEDULE A) shall be completed and submitted at every construction progress inspection to the Representative/Agent.

The attached SERVICE PROVIDER REPORT (SCHEDULE B) shall be completed and submitted on a monthly basis to the Project Manager, through the Representative/Agent.

The attached CONTRACTOR HIV/AIDS PROGRAMME REPORT (SCHEDULE C), a close out programme report, shall be completed by the Contractor at the end of the contract.
**SCHEDULE A**

**HIV/AIDS PROGRAMME: SITE CHECKLIST**

When did construction commence ________________________________

Name of Project Manager ________________________________

*Please refer to HIV/AIDS Programme activities during the reporting period*

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- Programme implemented within 14 days of site handover
- Awareness champion on site
- HIV/AIDS awareness service provider report
- Male condom dispenser
  - Sufficient male condoms available
  - Male condom dispenser in a highly trafficked area
- Female condom dispenser
  - Sufficient female condoms available
  - Female condom dispenser in a highly trafficked area
- All four types of posters displayed
  - Posters in a good condition
  - Posters in a highly trafficked area
  - Posters displayed on local support services: clinic & VCT centre
  - Support service poster/s in highly trafficked area
  - Support service poster/s in a good condition
### Please indicate the applicable number for the reporting period

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Workers on payroll (at PI)

Sub-Contractors who will be on site for longer than 30 days (at PI)

Workshop attendees

Number of workshops held

Scheduled workshops according to approved workshop plan

Booklets distributed

Male condoms distributed

Female condoms distributed

__________________________
Representative/Agent

__________________________
Contractor
Deviation from HIV/AIDS awareness programme plan:

Corrective actions

Representative/Agent

Date

Project Manager

Date
SCHEDULE B

HIV/AIDS AWARENESS PROGRAMME: SERVICE PROVIDER REPORT

Reporting period: (dd/mm/yy) _______________ to (dd/mm/yy) _______________

Number of workshops conducted in reporting period _______________

Number of scheduled workshops according to approved workshop plan _______________

Deviations from workshop plan:

State reasons for deviating from workshop plan:

Corrective actions:

_________________________________________  __________________________________________
Service Provider                             Contractor

_________________________________________  __________________________________________
Date                                        Date
HIV/AIDS AWARENESS PROGRAMME: WORKSHOP CONTENT ADDRESSED

Fill in the applicable information with regard to each workshop conducted

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Content of workshop:

(Mark the content included)

- SLO1
- SLO2
- SLO3
- SLO4
- SLO5
- SLO6
- SLO7
- HIV/AIDS in construction video

Indicate the duration of the workshop in hours

Total number of Workers

Indicate workshop venue
## HIV/AIDS AWARENESS PROGRAMME: ATTENDANCE REGISTER

**Fill in your name and indicate attendance by ticking the appropriate date**

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SCHEDULE C

CONTRACTOR HIV/AIDS PROGRAMME REPORT

Project name

Project Location

Contract value of project (R)

Project Manager

HIV/AIDS Programme duration: (dd/mm/yy) _______________ to (dd/mm/yy) _______________

AWARENESS MATERIAL

Describe location of posters displayed during the programme __________________________________________

Comments on posters __________________________________________

Indicate total number of booklets distributed __________________________________________

Comments on booklets __________________________________________

CONDOMS

Indicate total number of male condoms distributed __________________________________________

Indicate total number of female condoms distributed __________________________________________

Describe where male condom dispenser was placed __________________________________________

Describe where female condom dispenser was placed __________________________________________

HIV/AIDS WORKSHOPS

Indicate the total number of HIV/AIDS workshops conducted __________________________________________

Indicate the duration of workshops __________________________________________

Indicate the total number of Workers that participated in the HIV/AIDS workshops __________________________________________

Indicate the total number of Workers that were exposed to the video on HIV/AIDS in the Construction Industry __________________________________________

Comments on HIV/AIDS workshops on site __________________________________________
**GENERAL**

Briefly describe programme activities and satisfaction with outcome

Additional comments, suggestions or needs with regard to the HIV/AIDS awareness programmes on site

Please indicate if your company has a formal HIV/AIDS policy focussing on HIV/AIDS awareness raising and care and support of HIV/AIDS Workers

<table>
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<tr>
<th>Yes</th>
<th>No</th>
<th>Currently developing one</th>
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</table>

Please indicate if, to your knowledge, you have lost any workers during the duration of the project to HIV/AIDS related sicknesses. One or more of the following might indicate an HIV/AIDS related death:

- Excessive weight loss
- Reactive TB
- Hair loss
- Severe tiredness
- Coughing or chest pain
- Pain when swallowing
- Persistent fever
- Diarrhoea
- Vomiting
- Meningitis
- Memory loss
- Pneumonia

Number of HIV/AIDS-related deaths

**Contractor**

**Date**

**Project Manager**

**Date**
ANNEXURE D: CONTRACT PARTICIPATION GOAL REQUIREMENTS
ADDITIONAL SPECIFICATION

SO 01  CONTRACT PARTICIPATION GOAL REQUIREMENTS

CONTENTS

SO 01  SCOPE
SO 02  CONTRACTUAL OPPORTUNITIES FOR POTENTIALLY EMERGING CONTRACTORS
SO 03  IDENTIFYING SCOPE OF WORK FOR SUBCONTRACTORS, SUPPLIERS AND LABOUR TO ACHIEVE PARTICIPATION TARGETS
SO 04  RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR
SO 05  DEVELOPMENT OF EMERGING CONTRACTORS
SO 06  MONITORING OF COMPLIANCE FOR DEVELOPMENT OF EMERGING CONTRACTORS
SO 07  PRINCIPAL CONTRACTOR'S PRICING STRATEGY
SO 08  TERMS OF REFERENCE FOR COMMUNITY LIAISON OFFICER (CLO)
SO 09  TRAINING OF WORKERS
SO 10  MEASUREMENT AND PAYMENT

SO 01  SCOPE

This project and contracts also aims to create work opportunities for emerging contractors and to provide a platform for sustainable growth in experience and capacity.

The contractual opportunities will be structured in such a way as to address and overcome specific constraints that prevent growth in the emerging sector, such as for example:

- Lack of experience
- Lack of managerial skill and limited marketing ability
- Access to capital and credit
- Insufficient cash flow management
- Insufficient site and labour supervision.

In addition, provision will be made for on-site training by an established Contractor, in order to improve business skills and to develop the trade skills of the Emerging Contractor's operatives.

SO 02  CONTRACTUAL OPPORTUNITIES FOR POTENTIALLY EMERGING CONTRACTORS

It is foreseen that Contracts will be in the value categories that represent Contractors with a CIDB designation grading of 6 and higher.

To manage the technical and financial risk for the Client, Contractors with the applicable grading will have the opportunity to tender for these contracts in line with the CIDB regulations. These Contractors will be the Principal Contractors responsible to employ Potentially Emerging local Sub-Contractors of lesser CIDB grading designations, for portions of the scope of work which will be identified, and measured for each Contract.

Potentially Emerging subcontractors or suppliers shall be identified as an Entity whose business is at least 51% Black Owned.

In addition, work opportunities will also be created for person / persons who are not registered on the CIDB Contractors Register, with aspirations of becoming registered contractors.

Potential Emerging Contractors and Suppliers will be identified by the Contractor at 28 days after the Tender has been awarded in order to ensure participation from all interested parties in the local community.

The Contractor and subcontractors will employ and utilise local labour within a 10 km radius from the sites of construction. Local specialised and general labour will be used for skilled and unskilled work, placing responsibility on the Contractors to provide the required on-site training to achieve a competent work force.
SO 03 IDENTIFYING SCOPE OF WORK FOR SUBCONTRACTORS, SUPPLIERS AND LABOUR TO ACHIEVE PARTICIPATION TARGETS

The tenderers tender price will determine the sum of the Participation goal based as a percentage of the total actual repair cost as shown in the summary pages of the Bill of Quantities stated as a compulsory minimum of 30% of the value of work done.

Each Contract will consist of:

• Building structural
• Civil infrastructure
• Mechanical equipment
• Electrical infrastructure and equipment.

Depending on the extent and value of the Scope of Work, the tenderer will identify certain portions of the work in the Bill of Quantities, to be sub-contracted, identify work for skilled and general labour, as well as the utilisation of local suppliers.

The Contractor will be required to ensure a minimum Contract Participation Goal as indicated in the Bill of Quantities.

The Contract Participation Goal can be obtained by means of:

• Local Sub-Contractors
• Local Suppliers
• Skilled labour
• General Labour

SO 04 RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR

The Contractor will be guided by the Project Specification and Schedule of Quantities, in order to determine his tender tariffs and price structure for the identified work earmarked for a Sub-Contractor.

During the tender stage the Contractor shall identify specific local Potentially Emerging subcontractors whose business is registered within the particular province. These subcontractors can be selected by the Contractor but the Client may also have the opportunity to indicate a list of local subcontractors that must be afforded the opportunity to provide the Contractor with rates for the identified work.

The subcontractor will price the appropriate schedule of quantities for the identified work groups. The Principal Contractor shall familiarise himself with the submitted tender rates from the subcontractor. He must ensure that the rates are market related and will guide the subcontractor to understand the cost structures of the different individual rates.

The Contractor will be responsible for the quality of work, which will be a result of his effort of training and mentoring.

In a situation where the appointed Sub-Contractor fails to complete the work or to comply with the specification, the main Contractor will be responsible to step in and complete or rectify all work.

SO 05 DEVELOPMENT OF EMERGING CONTRACTORS

In the case where the Contractor must appoint an un-designated subcontractor, if so required by the Client provision will be made in the Schedule of Quantities (Preliminary and General) for the Contractor to:

a) Register the Sub-Contractor as a Grade 1, within the appropriate discipline
b) Bear the cost of such registration
c) Assist in the administrative requirements for registration of the Sub-Contractor.
SO 05.01 For an un-designated Contractor:

- The Contractor shall be responsible for registering the Contractor
- Development of the capability and capacity of the newly established Contractor, through joint participation in repair activities
- Supply of materials
- Assist in the employment of workers
- On the job training and manage of quality of work
- Assist the Contractor with obtaining tools and material.

SO 05.02 For Contractors with a grading 2 and 3, the Main Contractor will be responsible for:

- Development of the capability and capacity of the sub-contractor by ensuring quality control on an daily basis
- Assistance in procuring material and equipment
- Assistance in the appointment of labour and supervision
- Assistance in compiling a programme of work and management of resources.

SO 05.03 For Contractors with a grading 3 and 4, the Main Contractor will be responsible for:

- Assistance in servicing and maintaining equipment guiders in managing labour and payment
- Assistance in managing cash flow
- Controlling quality and ensure work in accordance with specification
- Ensuring that a contractual programme is compiled and adhered to.

SO 06 MONITORING OF COMPLIANCE FOR DEVELOPMENT OF EMERGING CONTRACTORS

SO 06.01 Monitoring Scorecard for evaluation of Emerging subcontractors by the PSP

During construction, the appointed Professional Service Provider (PSP) will be responsible to monitor the Principal Contractors guidance of the Sub-Contractors to comply to the requirements.

The scorecard has been developed and form part of Specification SO for the Utilisation, training and guidance of Sub-Contractor

In the event where any of the Sub-Contractors has failed to proceed with the Works in accordance with the approved programme, the PSP will proceed to implement the general Condition of Contract Clause 5.7.1 and 9.2 if required.

If it happens that the Contract with a Sub-Contractor is cancelled, the Main Contractor may be instructed to appoint an alternative Sub-Contractor to complete the work.

SO 07 PRINCIPAL CONTRACTOR’S PRICING STRATEGY

SO 07.01 Tender Rates

The Contractor will be guided by the Project Specification and Schedule of Quantities, in order to determine his tender rates and price structure for the identified work earmarked for a emerging subcontractor.

The specific portion of work earmarked for a specific designation graded Contractor will be priced by the subcontractor. As indicated above the Principal Contractor will assist the emerging subcontractor to submit rates that is relevant to the scope of work and market related to enable the principal contractor to submit a competitive tender.

The Contract Participation Goal will require the Contractor to allocate certain Scope of Work for:
• Sub-Contractors  (within the particular province)
• Local Suppliers  (within the particular province)
• Skilled labour  (within a maximum 10 km radius)
• General labour  (within a maximum 10 km radius)

The Contractor will be required to comply to the minimum Contract Participation Goal as indicated in the Bill of Quantities.

The Contractor will be responsible for the quality of work, which will be a result of his effort of training and mentoring.

SO 07.02 Compliance with the Contract

(i) The contractor shall enter into written contractual agreements with all the emerging and CIDB graded subcontractors Local Suppliers, skilled labourers and general labourers cited in the Contract Data as well as provisional and general items and in compliance to obtain the required CPG compliance and shall, as soon as is practicable, furnish the employer's representative with copies of such agreements and the written acceptances thereof. The contract to be performed by the Sub-Contractor shall thereafter neither be reduced in scope, nor terminated without the prior written approval of the Project Manager, which shall not be unreasonably withheld or delayed.

Substitutions

(i) In the event that, through no fault of the Contractor, a contracted subcontractor is found to be unable to perform, or to perform on time due to any of the following;

• Unable to produce acceptable work;
• Unwilling to perform work required; or
• Not fit to perform the service then

The contractor shall notify the Project Manager of the apparent necessity to reduce or terminate such a subcontractor's Contract, citing the reasons therefore.

(ii) In the event that the employer approves the contractor's request to be relieved of his obligation to make use of an alternative enterprise, the contractor shall either provide a substitute subcontractor to take over the contract, or engage a subcontractor on another Portion of the contract so as to secure the required conclusion of the works.

(iii) The contractor may only terminate contracts with contracted subcontractor's and enter into agreements with substitute enterprises for the purpose of ensuring the completion of the works, with the Project Manager's approval, which shall not be unreasonably withheld.

SO 07.03 Claims procedure

The Contractor shall prepare and attach to his claim for payment, in a form approved by the Project Manager, the following:

• A brief report which describes the commercially useful functions performed by the Sub-Contractor in the performance of the contract, both over the interim period and on a cumulative basis;
• A schedule reflecting the estimated total value of the contracts, the cumulative value of the contracts and the value of supplies provided or work and services performed (or both) over the period for which payment is claimed in respect of each and every targeted enterprise performing commercially useful functions;
• A schedule which lists the names, identity numbers, gender, trade/occupation, period of employment, employment number and the like, as directed by the employer's representative, together with the respective wage rates and allowances payable in respect of targeted labour, including the monetary value of wages and allowances paid both on a cumulative basis and over the period for which payment is claimed; and
• A schedule of wages and allowances paid to all employees, indicating the status of such employees, where the contractor fulfils his contract obligations by virtue of his status as the Principal Contractor.
Should random inspections conducted by the PSP’s on targeted enterprise activities indicate that such enterprises are not performing in accordance with the requirements, the contractor shall provide, separate weekly resource returns and any other relevant information in respect of such enterprises in a format approved by the Project Manager.

The Contractor shall, upon completion of each individual subcontractor’s contract, issue a completion certificate and certify the amount paid to such subcontractor’s. He shall submit the certificates, counter-certified by the relevant subcontractor’s, to the PSP’s for record-keeping purposes.

In a situation where the appointed subcontractor fails to complete the work or to comply with the specification, the main Contractor will be responsible to step in and complete or rectify all work.

In the case where the Contractor must appoint an un-designated subcontractor, provision will be made in the Schedule of Quantities (Preliminary and General) for the Contractor to:

a) Register the Sub-Contractor as a Grade 1, within the appropriate discipline  
b) Bear the cost of such registration  
c) Assist in the administrative requirements for registration of the Sub-Contractor.

These cost items will form part of the schedule of quantities for the identified Scope of Work.

**SO 08**  
**TERMS OF REFERENCE FOR COMMUNITY LIAISON OFFICER (CLO)**

**SO 08.01 Introduction**

The terms of reference provide a framework for which the Community Liaison Officer (CLO) would operate within the context of the related projects.

The CLO must be a respected member of the community and the method of appointment should be transparent and agreed with the Project Steering Committee (PSC).

**SO 08.02 Scope of Work**

The CLO will be responsible for the following responsibilities:

- Be available on Site daily between the hours agreed on by the Contractor, the Employer and the Engineer from time to time;

- Assist social facilitator (if appointed) in convening of workshops;

- Disseminate information to the Professional Service Providers (PSP).

- Determine, in consultation with the Contractor, the needs of the temporary Labourers for relevant skills Training. He is responsible for the identification of suitable trainees and shall attend one of each of the training sessions;

- Communicate with the Contractor and the Engineer to determine the labour requirements with regard to the numbers and skills;

- Assist in maintaining good labour relations, and when applicable partake in Labourer grievance and dispute procedures,

- Assist in and facilitate the recruitment of suitable temporary labour and the establishment of the Labour Register;

- Attend all meetings in which the Local Community and/or Labourers are present or are required to be represented;

- Inform temporary Labourers of their conditions of temporary employment, and inform temporary Labourers as early as possible when their period of employment will be terminated;

- Articulate policies to Labourers
Communicate labour requirements.

Attend Induction training programmes for workers and induct labourers.

Verify labour records and ensure all engaged qualify as per EPWP code and prepare EPWP reports for issuing to Department of Public Works.

Investigate and report all labour dispute matters to the PSC, advice site agent on resolution. Attend all disciplinary proceedings and ensure procedures are adhered to and hearing are fair and sanctions reasonable.

Organise and assist the contractor in explaining to all workers the labour-based construction model.

Ensure labourers understand their task and the principles behind task work.

Ensure labourers are informed of their conditions of temporal employment.

Attend all site meetings and briefings for work procedures.

Keep written record of interviews and community liaison which should be summarized and included in the monthly progress reports.

Collect monthly welfare reports and submit to social facilitators.

Ensure that Contractor’s workers are paid what is due to them in time.

**SO 08.03 Remuneration for CLO**

The Contractor, the Engineer and the Employer shall determine the remuneration of the Liaison Officer jointly. A Prime Cost Sum is provided in the Schedule of Quantities to cover the remuneration of the Liaison Officer.

The Liaison Officer shall only be employed and paid for the period in which the duties of a Liaison Officer are required as agreed on by the Engineer and the Contractor.

**SO 08.04 Transport of Liaison Officer (If Applicable)**

The Contractor shall provide transport for the Liaison Officer as agreed upon by the Employer, the Engineer and the Contractor.

**SO 09 TRAINING OF WORKERS**

The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

Three types of training are applicable, namely

- Life skills;
- Technical Skills training including First Aid & Health and Safety training
- On the job training

Training will be implemented by CETA accredited training instructors / facilitators.

- Workers shall be employed on the projects for a minimum period of 12 months.
- Workers shall be employed on projects in the vicinity of their homes. The same arrangements applicable for other workers regarding accommodation, subsistence and travel shall be applicable to EPWP workers.
(a) The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

(b) Where not allowed for in the Bill of Quantities, the cost of the formal training of targeted labour, will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor, must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

(c) The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he/she is employed for 4 months or more.

(d) The contractor shall do nothing to dissuade targeted labour from participating in the above mentioned training programmes.

(e) An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of (d) above.

(f) Proof of compliance with the requirements of (a) to (e) must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

SO 10 SANCTIONS

Add the following:

The Contractor will be assessed on a quarterly basis in the event that the Contractor fails to substantiate that any failure to achieve the Individual Contract Participation Goals (CPG_E, CPG_ES, CPG_EW, CPG_EL, CPG_S, CPG_SS, CPG_SW, CPG_SL, CPG_L) relating to the granting of a preference was due to quantitative underruns, the elimination of items, or any other reason beyond the Contractor's control which may be acceptable to the Employer, the Contractor shall pay to the Employer penalties (P) in an amount determined in accordance with the following formula:

\[ P = 0.50 \times \left( \frac{D - Do}{100} \right) \times N_A \]

where \( D \) = tendered Contract Participation Goal (CPG_E, CPG_ES, CPG_EW, CPG_EL, CPG_S, CPG_SS, CPG_SW, CPG_SL, CPG_L) percentage.

\( Do \) = the Contract Participation Goal (CPG_E, CPG_ES, CPG_EW, CPG_EL, CPG_S, CPG_SS, CPG_SW, CPG_SL, CPG_L) which the Employer’s Representative, based on the credits passed, certifies as being achieved upon completion of the Contract.

\( N_A \) = Net Amount, being Tender Sum excluding VAT, contingencies, escalation, provisional sums and prime cost items.

\( P \) = Rand value of penalty payable.
SO 11 MEASUREMENT AND PAYMENT

SO 11.01 Registering Emerging Contractors on CIDB data register …………………Unit: Number

The unit of measurement shall be the number of new Contractors registered at the CIDB. The tender rate shall include remuneration for facilitating the Contractor in completing application forms and payment of registration fees.

SO 11.02 Obtaining a higher designated grading for Subcontractors……………………Unit: Number

The unit of measurement shall be the number of Contractors successfully obtaining a higher CIDB designation after completion of the work.

SO 11.03 Formal training of Subcontractors ………………………………………………….Unit: PC Sum

The unit of measurement shall be the number of subcontractors identified for formal training courses.

SO 11.04 Remuneration of CLO………………………………………………………………..Unit: PC Sum

An amount has been allowed for the payment of the CLO. The Contractor will submit a monthly invoice for the remuneration of the CLO for the required Contract period.

SO 11.05 Transport Cost for CLO…………………………………………………………………..Unit: Km

(If applicable)

The unit of measurement shall be the cost per km based on the total km travelled during the month for the CLO from his home to the Construction sites.

SO 11.06 PAYMENT FOR EMPLOYMENT AND TRAINING OF LOCAL UNSKILLED WORKERS

SO 11.06.01 Orientation and Life Skills development training for local unskilled workers for an average of 10 days per worker………………………………………………………..Unit: worker / days

SO 11.06.02 Technical skills training for local unskilled for an average of 20 days per worker………………………………………………………………..Unit: worker / days

The tendered sum shall include full compensation for identification of pre-qualification criteria and training needs, staff assessment and evaluation prior to training, all technical research, development and compilation of an accredited training course and course material, and all other actions necessary for commencement of official training sessions in accordance with the specification.

The tendered sum shall also include full compensation for the compilation of a draft syllabus and for incorporation of all the Engineer’s comments and corrective requirements.

SO 11.07 IMPLEMENTATION OF CONTRACT PARTICIPATION GOALS

SO 11.07.01 Allow for the provision of monthly reports ……………………Unit: months
ANNEXURE E: ELECTRICAL TECHNICAL SPECIFICATIONS
PROVINCIAL ADMINISTRATION
WESTERN CAPE

GENERAL TECHNICAL
SPECIFICATION
FOR
ELECTRICAL INSTALLATION:

PART A:
GENERAL
AND
LOW VOLTAGE (400 V) INSTALLATION:

ADDENDUM:
PVC CONDUITING:

Specification No.
Revision: October 1999
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5. PVC CONDUIT IN CONCRETE SLABS ..................................... 3
1. GENERAL

This specification covers the installation method required for the use of approved PVC conduit and accessories where specified for the electrical and electronic services installation.

The conduit and conduit accessories shall comply fully with the applicable SANS 950: Non-metallic Conduit and Accessories. Conduit shall bear the mark of approval of the South African Bureau of Standards.

PVC non-metallic conduits shall be supplied in 2400mm lengths and shall display the SABS label on each length supplied. The markings shall be legible and permanent.

The conduit shall be manufactured from polyvinyl chloride (PVC) compound which includes inert modifiers to improve heat distortion.

The conduit and fittings shall be free from visible cracks, holes or foreign inclusions. The conduit bore shall be smooth and free of blisters, nicks or other imperfections that may cause the conductors to be damaged.

All conduits, conduit fittings and the solvent cement shall all be produced by the same manufacturer to assure system integrity.

External diameter for conduit shall be as follows:

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>20mm</td>
<td>lighting and switched socket circuits</td>
</tr>
<tr>
<td>25mm</td>
<td>communications circuits</td>
</tr>
<tr>
<td>32mm</td>
<td>where specified</td>
</tr>
<tr>
<td>Sized</td>
<td>for wiring capacity in compliance with SANS 10142.</td>
</tr>
</tbody>
</table>

PVC conduits shall be manufactured with a minimum thickness of 1.2mm.

PVC conduit and conduit accessories shall not be used for:

- flameproof or explosion proof installations,
- suspension of luminaires,
- load bearing applications.

2. CONDUIT AND ACCESSORIES

All conduit jointing shall be glued with solvent cement adhesive as recommended by the manufacturer of the conduit.

Steel Couplings shall be used to join conduit lengths.

Conduits terminated into steel Trunking shall be fitted with Steel Termination fixed with two steel locknuts and male bush.
All bushes shall be female type additional washers shall be installed where necessary.

Conduit ends not connected to any fittings shall be terminated in a female bush.

All conduit fittings except pre-manufactured bends and tubular couplings, shall be of the inspection type.

Only pre-manufactured conduit bends shall be used for 90 degree bends. All bends required shall as far as possible be set or bent to ninety (90) degree angles and follow the line of the roof truss or ceiling support structure.

Conduit runs between shall comprise a maximum of 2-off 90deg. bends.

Running Joints in PVC conduit shall be provided in long straight lengths of conduit to prevent distortion and snaking.

Draw-boxes are to be provided in accordance with the requirements of SANS 10142 and facilitate easy wiring. They shall be manufactured of galvanised steel complete with matching coverplates. PVC non metallic type outlet boxes and draw boxes will not be allowed.

Bending and setting of conduit, where necessary, must be done with special bending apparatus manufactured for the purpose and which are obtainable from the manufacturers of the conduit systems.

3. SURFACE MOUNTED PVC CONDUIT

Wherever possible, the conduit installation shall be concealed in the building work; however, where unavoidable or otherwise specified, conduit installed on the surface must be plumbed or levelled and only straight lengths shall be used.

To avoid distortion from temperature changes and plastic deformation, conduit runs shall be rigidly fixed to the building structure by means of approved spaced saddles at:

450mm centres,  
450mm from changes in direction

Where several conduits are installed side by side, they shall be evenly spaced and each conduit fixed with individual saddles.

The use of inspection bends shall be avoided and instead the conduit shall be set uniformly and inspection coupling used where necessary.

Crossing of PVC non metallic conduits is to be avoided wherever possible. Should it however become necessary then purpose-made galvanised metal boxes shall be provided at the junction. The finish of the boxes and positioning shall be in keeping with the general layout.

In situations where there are no ceilings the conduits are to be run along the wall plates and the beams.

Painting of surface conduit shall match the colour of the adjacent wall finishes.

Only approved plugging materials such as aluminium inserts, fibre plugs, plastic plugs, etc., and round-head screws shall be used for fixing saddles, and conduit outlet boxes. to building structure. Wood plugs and the plugging in joints in brick walls are not acceptable.
4. PVC CONDUIT IN ROOF SPACES

Conduit installed in Roof Spaces shall comply generally with Clause “Surface Mounted PVC Conduit.”

Conduit in roof spaces shall be installed parallel or at right angles to the roof members and shall be secured at intervals not exceeding 450mm by means of manufactured saddles screwed to the roof timbers.

Where PVC non-metallic conduit has been specified for a particular service, the electrical contractor shall supply and install all additional supporting timbers in the roof space as required to ensure that a saddle spacing of 450mm is maintained throughout the installation.

Where roof space provides for less than 900mm height clearance or is inaccessible by electricians or where the ceiling is covered with insulating material, the arrangement of the conduit shall be a “loop-in” system accessible from the room space below, to facilitate wiring to be done from an accessible location.

To facilitate the wiring, a drawtray shall be installed above or near the distribution board, into which drawtray the conduits shall be terminated.

Where a galvanised steel wireway system is specified to run in the roof space, the conduits shall be made off to this wireway system.

In false ceiling spaces under ceiling slabs, which spaces are accessible through a demountable false ceiling, conduits shall be installed as detailed in Clause “Surface Mounted PVC Conduit.”

5. PVC CONDUIT IN CONCRETE SLABS

In order not to delay building operations the Contractor must ensure that all conduits and other electrical equipment, which are to be cast in the concrete columns and slabs, are installed in good time.

The Contractor shall have a representative in attendance at all times when the casting of concrete takes place.

Draw-boxes, expansion joint boxes and round conduit boxes are to be provided where necessary. Sharp bends of any nature will not be allowed in concrete slabs.

Draw and/or inspection boxes shall be grouped under one common cover plate and shall be installed in passages or male toilets.

All boxes, etc., are to be securely fixed to the shuttering to prevent displacement when concrete is cast. The conduit shall be supported and secured at regular intervals (minimum 450mm spacing) and installed as close as possible to the neutral axis of concrete slabs and/or beams.
All non metallic conduit lengths shall be properly joined using steel couplings fixed with solvent cement to ensure that the conduits do not pull loose when the concrete is being poured.

Before any concrete slab is cast, all conduit droppers to switchboards, switch drops or socket outlets shall be neatly spaced and rigidly fixed.

End of document.
PROVINCIAL ADMINISTRATION  
WESTERN CAPE  

GENERAL TECHNICAL  
SPECIFICATION  
FOR  
ELECTRICAL INSTALLATION:  

PART C:  
HOSPITAL INSTITUTIONS  

Specification No.  
Revision No:  
October 1999
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1. INTRODUCTION

This PART C shall be read together with GENERAL TECHNICAL SPECIFICATION: ELECTRICAL INSTALLATION: PART A: GENERAL AND LOW VOLTAGE (400 VOLT) INSTALLATION where Hospital Institutions are referred to in the Project Specification.

This General Technical Specification will form part of the contract documents, but will only be issued on request.

2. OPERATING THEATRE LAMPS

Facilities to be provided to enable the Installation of Operating Theatre Lamps

2.1. GENERAL

**Where the theatre lamp shall be installed the following provisions shall be made, unless otherwise specified in the Project Specification.

The ceiling (lamp suspension point) shall be designed to support a lamp mass point load of 150 kg. The torque exerted by the lamp on the suspension point is 4000 Newton metres.

***The lamp anchorage ring as per Chief Engineer Reference Drawing 004 01 00 E, shall be provided with 14 mm countersunk holes, which have adequate clearance for the M.12 securing bolts. These holes may not, under any circumstances, be enlarged.

***The countersunk 14 mm holes, in the anchorage ring, as per Chief Engineer Reference Drawing 004 01 00 E provided for mounting the anchorage ring provide for adequate clearance for the M.12 securing bolts, and may not under any circumstances be enlarged.

2.2. FINISHED FLOOR TO CEILING HEIGHTS

The mounting height of the anchorage ring shall be 3 300 mm a.f.f.l.

***Where the mounting height of the anchorage ring exceeds 3 300 mm, an extension piece shall be provided, manufactured in accordance with Chief Engineer Reference Drawing number 004 02 00 E.

***The bottom flange of the extension piece, Chief Engineer Reference Drawing 004 02 00 E shall be flush with the bottom of the false ceiling and shall be absolutely level.

2.3. TIMBER JOIST CEILING SUSPENSION

***Where timber joist ceilings apply, the same anchorage ring, as detailed on Chief Engineer Reference Drawing 004.01.00 E shall be used, but drawings shall be referred to the Structural Engineer for detailing of fixing.

2.4. CONDUIT ENTRY

Conduit entry to the fitting shall be by means of 3 x 25 mm diameter conduits
from a draw tray, terminating in a flush 150 mm x 150 mm deep conduit box in the centre of the anchorage ring.

A draw tray shall be mounted in one of the following positions:

- Space above the ceiling if access is convenient (above slab).
- In the false ceiling above the corridor.
- High up on the wall of the corridor.

The draw tray shall be of minimum size 300 x 300 x 50 mm deep.

***The general arrangement of the wireways for the operating theatre lamp is shown on Chief Engineer Reference Drawing 004 03 00 E.

2.5. WIRING

Power supply to the operating theatre lamp will be from the following two sources:

- 220 volt single phase A.C. supply to each theatre.
- 24 volt DC. from a theatre standby battery supply.

Wiring will be brought through the draw tray into the change-over box with tails of 1000 mm coiled up for the lamp supplier to connect.

Conductor sizes shall be as follows:

- For the 220 volt single phase AC supply: 2,5 mm².
- For the 24 volt DC. supply: 10 mm².

For each operating theatre lamp switch draw in 2 x 6 mm² PVC. insulated conductors from the change-over box via the draw tray to the switches and from the switches to the operating theatre lamp outlet box via the draw tray.

The conductors shall be terminated to the switch and at the other end coiled up in the theatre lamp outlet box.

2.6. SWITCH FOR OPERATING THEATRE LAMP FLUSH MOUNTING

The switch shall be double pole, rated for at least 25 amperes per pole, 32 volts, D.C, and A.C. (50 Hz) and of the rotary type. It shall be provided with terminals to take 10 mm² wiring connections.

Separate switches shall be provided for the main lamp and each satellite.

Each switch shall be mounted in a purpose made 100 mm x 100 mm x 100 mm deep box and shall be supplied complete with a stainless steel coverplate and chromium plated, or other approved corrosion resistant fixing screws.

The switch and the coverplate shall be flush with the wall, i.e. there shall be no gaps between the wall and coverplate.

The switches shall be the Santon Type RP225, rated at 25 A AC/DC, or other approved.
2.7. BATTERY MAINTAINED THEATRE LAMP SUPPLY SYSTEM

2.7.1. General

***This section shall only apply where the Project Specification calls for a Battery Maintained System to supply theatre lamps as opposed to an Uninterrupted Supply System to supply the theatre lamps.

The equipment specified under this particular section of the Specification refers specifically to battery maintained supplies for operating theatre lamps.

2.7.2. Operating lamp Supplies

The standby battery power supply for operating theatre lamps shall comprise:

A single electrical supply connected to the standby plant.

A regulated nominal 220 volt a.c. output via a regulating transformer;

A regulated DC. voltage output via a Battery Charger,

A double-pole DC. m.c.b. protecting DC. outgoing supplies to operating lamp loads as detailed further.

2.7.3. Battery

The battery shall either be of the stationary heavy duty low gassing lead-acid type, or of the nickel alkaline type.

**The battery shall comprise a set of cells, tubular lead acid or nickel alkaline, connected in series operating at 25°C capable of providing a discharge voltage of 26 volts maximum to 23.4 volts minimum after 2 hrs, or as specified in the Project Specification at the specified load with a minimum finishing voltage of 1.8 volts per cell for lead acid and 1.05 volts per cell for nickel alkaline units respectively. The cells shall be contained in sealed-in glass or similarly acceptable transparent material containers, in which the electrolyte and sediment levels are clearly visible. Maximum and minimum electrolyte level markings are required.

Upon handing over, the battery shall be in a fully charged condition, ready for use.

The cell polarity shall be clearly and indelibly marked.

2.8. BATTERY AND CHARGER

2.8.1. Cubicle

This shall be a floor standing sheet metal self contained unit, well ventilated and vermin proof. It shall have adequate space to allow for
easy servicing of components and battery but the overall dimensions shall not exceed 600 mm wide x 700 mm deep and 2,000 mm high. Final paint finish shall be epoxy powder coated. Access to the panel shall be from the front only.

The housing shall be fitted with hinged lockable doors to all compartments. The unit shall be suitable to accept cable, trunking or conduit entry at the top or bottom with the necessary glanding off facilities. Where conduit wireways are used separate wireways for a.c. and DC. shall be provided.

The layout of charger components shall conform to good engineering practice. The instruments and pilot lamps shall be mounted on the face of the Battery Charger compartment door. All switches, circuit breakers and fuses shall be concealed behind these doors. The wiring to the above shall be neatly loomed to enable the door to be opened unrestricted.

All components in the battery charger, such as contactors, circuit breakers, copper bars, wiring, etc. shall have ample current carrying capacity to handle the applicable currents.

The charger shall be complete with all indicating labels, terminals and the main and auxiliary wiring in colour coded or numerically ferruled multi-strand PVC. insulated copper cable. The DC. polarity shall be clearly and indelibly marked on all circuit terminals.

Suitably rated terminals of the sprung cage clamp type or other approved shall be provided for all main circuits and for the control and protection circuits.

For cable terminations lugs or ferrules of the crimped type or other approved shall be used.

All termination points shall be numerically ferruled to correspond to terminal numbers of the wiring diagram(s)

All devices, relays and plug-in bases shall be suitably and uniquely labelled in accordance with the wiring diagram.

The DC. system shall be electrically isolated from the A.C. mains input system and earth, using a double wound transformer with an earthed screen between the primary and secondary windings.

2.8.2. Operation

The battery charging equipment shall be specifically designed for the specified batteries and for this application, and shall be of the full wave rectifier type.

The float voltage shall be set according to the battery manufacturer’s recommendation. Above the recommended battery float voltage, the charger output shall be constant voltage controlled. Below the recommended float voltage the charger’s output shall be current limited to a recommended maximum setting regardless of output voltage.

The system shall be designed to only connect the load to the batteries when the power to the charger is off.
If the battery charger manufacturer is not the Battery Manufacturer, then a statement from the Battery Manufacturer shall be included in this tender, stating that the battery charger offered in this tender is acceptable by the Battery Manufacturer for use with and specifically designed for the batteries offered.

The tenderer shall guarantee that the battery and charger are compatible.

The charger shall be designed for a single phase mains supply of 220 volts (10%) , 50 Hz (2.5%) and the output shall be relatively unaffected by voltage fluctuations. The charger output shall be completely and automatically self-regulating to maintain the battery in a fully charged state.

The charger shall be capable of restoring the battery from a fully discharged state to 80 % of the fully charged state in ten (10) hours.

In order to prevent a build up of deposits on the electrodes, and to introduce a degree of gassing under controlled conditions an "equalising charge" mode, selectable by means of a key switch labelled "equalising mode initiate", shall be provided on the control panel door.

When this mode has been initiated the battery shall be charged to the manufacturers recommendations.

While the battery is in the equalising charge mode. a 10 min. to 60 min. timer shall maintain this mode and a local l.e.d. indication, labelled, "equalising charge mode on" shall be provided.

**Required alarm signals shall be as detailed in the Project Specification.

The operation of the alarm indication shall be as follows:

- When an alarm occurs it shall initiate a visual l.e.d. indication and a local audible signal.

  An "Alarm Accept" button shall be depressed to accept and silence the audible alarm.

  As the alarm is cleared the visual indication shall reset automatically.

2.8.3. Instrumentation and Protection

The charger shall be provided with:-

- A marked DC. voltmeter reflecting the battery voltage.

- A DC. ammeter with centre zero indicating the battery charge and discharge rate.

- Key switch for equalising mode charge.

2.8.4. Pilot Indicator Lamps
General Technical Specification:

Revision No: [103x794]PART C:
Electrical Installation: Date: October 1999 Hospital Institutions: 6

The following pilot indicator lamps shall be provided on the charger panel:

- Charger fail
- Mains "ON"
- On Battery
- Equalising charge mode.

These lamps shall be light emitting diodes, minimum 60 milli-candela, or other approved.

Provision shall be made via a 24 volt switched supply in the charger panel to enable the connection of remote indication for "General Alarm" and "On Battery" in the theatre corridor as indicated on the drawings.

2.8.5. Connections

Robust and suitable sprung cage clamp or other approved terminal connections, suitably rated and labelled shall be provided for each of the following circuits:

- Mains supply disconnector.
- The battery charger output fuses to the battery.
- The DC. fused output system output to each theatre via 10 mm² PVC. insulated conductors.
- Remote common alarm.
- The output of the Power Supply Units to each of the load cable terminals. (For at least 10 mm² to 16 mm² cable lugs for DC. and 6 mm² terminals for a.c.).

2.9. MAINTENANCE INSTRUCTIONS

2.9.1. Wiring Diagrams

A permanent non fading suitably protected print of the wiring diagram for the above unit shall be fixed in a suitable position adjacent to the panel or inside the panel.

This wiring diagram shall indicate all circuit numbers, terminal numbers, voltages and wiring colours used for the above unit.

One plastic sepia copy of the above shall be supplied to the Engineer.

Two (2) full sets of complete operating and maintenance instructions (including the charger settings), on the entire installed system, shall be supplied to the Engineer upon handing over the battery/charger set.

2.10. SPARES AND ACCESSORIES
A spare fuse of each size shall be supplied in an appropriate holder within the panel.

2.11. TESTING AND COMMISSIONING

Testing, commissioning and records to demonstrate the correct working of the installation shall be approved by the Engineer.

3. ISOLATED SUPPLY SYSTEMS

3.1. GENERAL

Isolated supply systems are generally required for theatres or those intermediate and critical care areas where the skin resistance is broken down or where invasive techniques are employed, e.g. intensive care and renal dialysis units.

These systems shall generally be supplied via an isolated supply transformer from the Alternate or emergency supply network where this exists.

**In general the isolated supply systems shall be applied as follows and as specified in the Project Specification:

Operating Room and Associated Induction Room:

This unit shall be supplied from one isolated supply system supplying Switch Sockets:

Intensive Care Unit:

Switch Socket Outlets (Clinical use only)
Special Bed Head Clinical Lights.

Recovery Rooms:

As for intensive care units.

3.2. ISOLATED SUPPLY TRANSFORMERS

3.2.1. General

Isolated supply transformers shall be double-wound single phase units to provide electrical isolation of the secondary winding from the primary winding and earth. It shall be constructed so as to have a low leakage to earth so as to limit earth fault currents that flow should either end of the secondary winding be shorted to earth.

3.2.2. Construction

The transformer shall be double-wound, dry type unit.
3.2.3. **Rated Output**

**Rated output shall be a minimum of 5 kVA unless otherwise detailed in the Project Specification.**

3.2.4. **Voltage Ratio and Tappings**

Primary winding: 220 volt  
Secondary winding: 110 / 110 volt  
Primary tappings: + 2.5 % +/- 0.5 %  
- 2.5 % +/- 0.5 %  
Secondary tapping: Centre-tapped.

3.2.5. **Polarity**

The primary and secondary shall be wound to provide the polarity as indicated on the diagram plate.

Terminal potential $A_3$ above $A_1$ when  
Terminal potential $a_3$ above $a_1$.

3.2.6. **Electrostatic Safety Shield**

An electrostatic safety shield shall be provided to conduct insulation faults on the primary winding safely to earth prior to them adversely affecting the secondary windings. This shield shall be brought out to a suitably marked terminal.

3.2.7. **Terminals**

Labelled terminals shall be provided for the following:

<table>
<thead>
<tr>
<th>CODE</th>
<th>WINDING</th>
<th>VOLTS</th>
<th>OUTLET</th>
</tr>
</thead>
<tbody>
<tr>
<td>A_4</td>
<td>primary winding</td>
<td>225.5 v</td>
<td>phase</td>
</tr>
<tr>
<td>A_3</td>
<td>primary tapping</td>
<td>220.0 v</td>
<td>phase</td>
</tr>
<tr>
<td>A_2</td>
<td>primary tapping</td>
<td>214.5 v</td>
<td>phase</td>
</tr>
<tr>
<td>A_1</td>
<td>primary winding</td>
<td>0 v</td>
<td>neutral</td>
</tr>
<tr>
<td>S</td>
<td>electrostatic</td>
<td></td>
<td>network earth</td>
</tr>
<tr>
<td></td>
<td>shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>core</td>
<td></td>
<td>network earth</td>
</tr>
<tr>
<td>E</td>
<td>earthing</td>
<td></td>
<td>network earth</td>
</tr>
</tbody>
</table>
3.2.8. Diagram and Rating Plate

A Diagram Plate shall be fixed in an easily observable and easily readable location detailing:

- Manufacturer's Name
- Serial Number
- Winding configuration
- Terminal markings
- Rated kVA output
- Voltage ratios
- Polarity

3.2.9. Enclosure

The transformer shall be installed in a metal enclosure fitted with an access cover to the terminal block and a removable cover to facilitate the removal of the transformer. The enclosure shall have the following features:

- ventilated
- vermin proof
- fitted with "unistrut" section for easy fixing to unistrut mountings
- provision for 4 off 20 mm conduit entries (two at the rear and two underneath).

ready access to:

- terminals
- diagram plate
- conduit entries
- switched disconnector.

3.2.10. Electrical Connection

The electrical connection shall be via double pole switched disconnector mounted on the fixed part of the enclosure. The disconnector shall not be affected by the removal of the access plate or the ventilated housing cover providing access to the transformer itself.

The circuit breaker, protecting the circuit supplying the transformer, shall be rated at 30 amp with delayed tripping characteristics in order to accommodate switching in-rush currents.
3.2.11. Voltage Regulation

Voltage regulation shall not exceed:

- <2 % at unity power factor
- <2 % at 0.8 power factor.

3.2.12. Leakage Current

With the rated voltage connected to the primary winding and the transformer core and electrostatic safety shield connected to earth, the leakage currents measured first between earth and Line L2 and thereafter between earth and line L1, shall not exceed 50 micro amps.

3.3. ISOLATED SUPPLY DISTRIBUTION BOARD

The Board shall be constructed as for Distribution Boards and fitted with:-

- 20 Amp 2,5 kA double pole disconnectors and M.C.B.'s.
- Earth bar mounted on insulators.
- Potential equalising bar which shall be used as a reference for equalising the potentials of all non current carrying conductive material associated with the isolated supply system. This bar shall be insulated from the Isolated Power Supply Panel and shall consist of either a 25 mm x 6 mm copper bar or other approved earthing terminal strip.
- A metal stud on the board for bonding the metal.

3.4. ISOLATED SUPPLY: LINE ISOLATION MONITOR

**A line isolation monitor shall be provided as specified in the Project Specification.**

The line isolation monitor shall continuously monitor the isolation of the system. It shall not cause interference to equipment, and shall have its own inherent leakage hazard current.

- A manual test feature shall be provided but operation of this shall not introduce additional hazard to the system.
- **Audible and visual alarms shall be provided as specified in the Project Specification.**

The audible alarm shall be provided with muting facilities.

3.5. WIRING

All line wiring shall be 2,5 mm².

Transformer secondary wiring insulation shall be coloured as follows:

Line 1 insulation shall be coloured amber.
Line 2 insulation shall be coloured white.

Potential equalising and earth continuity conductor insulation shall be coloured green/yellow.

3.6. WIREWAYS

Isolated supply systems shall be run in individual 20 mm dia metal wireways to outlets or service outlet trunking.

Separate Wireways shall be provided to run equipotential bonding conductors to potential equalising bars.

Insulating collars, to isolate these metal wireways from the rest of the installation shall be installed as follows:

- At the isolating transformer wireway to the isolated supply distribution board.
- At the isolating supply distribution board, wireways to non isolated supply earth connections eg. gas outlets etc.
- Both sides of the "q bar" outlet boxes.
- At the 16 amp isolated supply switch socket outlet boxes.

See Chief Engineer Reference Chief Engineer Reference Drawing No: 005 05 00.

3.7. SWITCHES AND SWITCHED SOCKET OUTLETS

All switches on isolated supply shall be double pole.

3.8. POTENTIAL EQUALISING BONDING

Patient Potential Equalising Outlet:(q)

**These outlets shall be established at positions as described in the Project Specification.

3.9. PATIENT POTENTIAL EQUALISING OUTLET (q)

This outlet shall comprise a copper or brass bar mounted on insulators in a 150 mm x 100 mm x 50 mm box suitable for screw-connecting or clamping 2,5 mm² green PVC. insulated conductors. A 100 mm x 15 mm x 4 mm tinned copper bar shall be mounted on insulators on the box cover and connected to the inside bar by means of a 2,5 mm² PVC. insulated conductor.

This outlet shall be bonded to the following, using 2,5 mm² green, yellow PVC. insulated conductors:

Operating Rooms:

Switch Socket Outlet on isolated supply earth terminal.
Potential Equalising bar in Isolated Supply Distribution board (Q).

Intensive Care Bedheads On Isolated Supply:
- Switch Socket Outlet on isolated supply earth terminal.
- Clinical examination lamp earth terminal.
- Potential equalising bar in Isolated Supply Distribution Board (Q).

3.10. POTENTIAL EQUALISING BAR (Q)

This unit mounted in the Isolated Supply Distribution Board shall be bonded to:

Operating Room:
- Patient Potential Equalising Outlet.
- Operating Lamp earth terminal.

Terminals of non-isolated supply circuits in the patient area such as:
- General Lighting.
- X-Ray outlet.
- X-Ray viewer.
- Gas outlet.
- Localised Water outlet.
- Earth terminal on service pendant.
- Earth terminal on Line Isolation Monitor.
- Earth terminal On Isolating Supply Transformer.
- Terminal to Antistatic Floor.
- Electrical system earth bar at the Isolated Supply Distribution Board.

Intensive Care Units:

As above where applicable.

4. SPECIAL PURPOSE LIGHTING LUMINAIREs

Generally these luminaires shall comply with the Specification for Interior Luminaires for Fluorescent Lamps see Part A: Clause 29.

4.1. DARK ROOM SAFE LIGHTS

4.1.1. General

Safe Light units shall be of robust design and shall be neatly finished off.

This luminaire is intended for surface mounting (i.e. to a ceiling or to wall) and shall be designed for mounting via fixing screws through the base directly to the wall or a standard flush mounted 50 mm round draw-in conduit box.

The luminaire shall be connected to the electrical outlet by means of a 3-pin 5 amp plug and socket at the end of a 3-core cord.
Heat from the lamp shall not cause the filter to crack, craze, discolour or sag in any way, or affect the paint work.

Each safe light shall be provided with the following permanently mounted, permanently legible information:-

The name and address of the R.S.A. Manufacturer or the main R.S.A. Supplier, lamp type and wattage.

4.1.2. **Lampholder:**

This luminaire shall preferably be provided with a standard porcelain Edison screw brass lampholder. A standard bayonet brass lampholder will however also be accepted.

4.1.3. **Light Source:**

The light source shall be a standard 15 watt, 230 V pygmy lamp, preferably of the "Pearl" type.

4.1.4. **Filter:**

Filters shall be Kodak GBX-2 Compact Safe light or other approved.

Dimensions:

The outside plan dimensions shall be approximately 203 x 254 mm.

4.1.5. **Construction:**

All exposed metal edges shall be neatly finished off.

Filters shall slide easily into the luminaire body.

All metal work must be treated for corrosive conditions.

The pre-treatment of finished metalwork must be in accordance with S.A.B.S. O64/1960 "Preparation of steel surfaces for Painting", after manufacture.

The interior finish shall be non-yellowing white stove enamel, acrylic or epoxy resin, applied on a suitable primer after rustproofing.

The exterior finish shall be matt stove enamel.

Self tapping screws may not be used for any purpose.

4.1.6. **Swivel Action:**

It shall be possible to tilt the housing.
4.2. X-RAY VIEWING BOXES FLUSH MOUNTING

***These viewing boxes will be used only in operating theatres. Unless specifically stated in the Project Specification, for special cases, they will always be three plate viewing boxes, i.e. viewing area will be 430 mm x 1200 mm.

Internally, the boxes shall be finished in white stove enamel and equipped with three 40 watt fluorescent tubes and thermal trip switch start ballasts. No separation of plate viewing screens or switching is required, as switching will be effected from a flush switch adjacent to the panel.

The front of the panel shall be surrounded by a stainless steel architrave similar to that specified for flush mounting boards see the switchboard clause Part A, while the viewing plate and clips shall be mounted on a metal section finished flush with the architrave and secured by means of two coin slot knurled stainless steel screws at the top and locating pins at the bottom. Finish shall be stainless steel.

5. SPECIAL OUTLETS

5.1. POWER OUTLETS FOR LARGE MOBILE X-RAY MACHINES

These power outlets shall each consist of a 30 Amp triple pole miniature disconnector and a 4 pin, 25 Amp "Cekon" or other approved socket outlet. This unit shall be mounted at a height of 1500 mm from finished floor level.

The socket outlet shall be wired clockwise when viewed from the front as follows:-

1st pin (R) - Earth
2nd pin (S) - Phase
3rd pin (T) - Phase
4th pin (N) - Neutral

5.2. AUTOMATIC FILM PROCESSOR

The outlet shall consist of 4 x 6 mm² PVC, insulated conductors plus a 4 mm² green PVC insulated earth conductor run in 25 mm diameter conduit from the nearest distribution board to a 30 amp T.P. isolator, mounted on the wall, at a height of 1500 mm above finished floor (a.f.f.l.), over a 100 x 100 x 50 mm conduit outlet box.

Extend from the isolator with 4 x 6 mm² PVC insulated conductors plus a 4 mm² green PVC, insulated earth conductor run in 25 mm conduit to a flush mounted 100 x 100 x 50 mm conduit outlet box mounted 450 mm a.f.f.l.. Ends of conductors shall be left 1.5 m long and a blank coverplate shall cover the box.

5.3. FILM HOPPER

In the film cabinet install a micro switch which shall be wired in series with the light switch controlling the main light in the dark room.

This micro switch shall be installed in such a way that the main light in the dark room will be switched off as soon as the film cabinet door starts to open.
5.4. FAN IN THE DARK ROOM

The fan in the dark room shall be mounted 300 mm below the ceiling and shall be light trapped on both sides. Fans shall be Woods Xpelair 230 mm dia. Cat No GX 9 with speed regulator Cat No DC 9, or other approved.

Suitable PVC conductors and a 2.5 mm² green PVC insulated copper earth conductor in a 20 mm dia. conduit shall be extended from the nearest distribution board to a flush mounted 5 ampere three pin socket outlet next to the fan. From this outlet extend to the speed regulator specified above.

The speed regulator shall be installed over a flush mounted 100 mm x 100 mm x 50 mm deep outlet box, installed 1500 mm above finished floor level.

5.5. DARKROOM SAFELIGHT OUTLETS:

Install in positions as specified, 5 amp unswitched socket outlets, to provide power for the safelights.

These 5 amp three pin socket outlets shall be controlled by a separate light switch at the door mounted at a height of 1100 mm above finished floor level.

The light switch for the general light point in the darkroom shall be installed at a height of 1800 mm above finished floor level.

5.6. NURSE CALL

**Nurse call outlets shall be as specified in the Project Specification but shall in general be as follows:

All conduits shall be 25 mm diameter and provided with draw wires.

5.6.1. Bedhead Outlet

Install at each bed head an outlet point consisting of a 100 x 100 x 50 mm deep conduit outlet box complete with cover as specified. These outlets shall be linked with the wireway system for communications by means of 25 mm conduit.

5.6.2. Bathroom and Toilet Outlet

Bathroom and toilet call points shall be as specified above, but in bathrooms a ceiling outlet shall be installed in a position over the bath within easy reach of the patient. This outlet shall also consist of a 100 x 100 x 50 mm deep conduit outlet box complete with cover mounted flush with the ceiling.

5.6.3. Overdoor Indicator Outlet

Overdoor indicator light outlets shall relate to the door and be installed where they are visible from the corridor. These outlets shall consist of 100 mm x 100 mm X 50 mm conduit outlet boxes complete with covers and shall be linked to the communications wireway system by means of 25 mm conduit.
5.6.4. **Nurse Station Indicator Outlet**

Indicator panel outlets shall be installed at Nurses' stations as depicted on the drawing. These outlets shall consist of 100 x 100 x 50 mm conduit outlet box complete with cover as specified and shall be linked to the communications wireway system by means of 25 mm conduit.

5.6.5. **Power Outlet Point for Nurse Call System**

Install from the respective S.D.B. a 20 mm dia. conduit to a 100 mm x 100 mm x 50 mm deep sheet steel box with cover, next to the indicator panel outlet. Wiring shall consist of 2 x 2.5 mm² PVC insulated conductors and a 2.5 mm² PVC insulated green earth wire.

6. **INDICATION AND INFORMATION**

6.1. **GAS BANK ALARMS**

In the theatre complex in a position as depicted on the drawing, install a 300 mm x 300 mm x 75 mm deep purpose made conduit outlet box complete with cover plate.

**This outlet box shall be linked with the gas bank alarms, as specified in the Project Specification, by means of 25 mm conduit.**

6.2. **ANESTHETIZING LOCATION ANTI-STATIC FLOORS**

Where these are required they shall comply with S.A.B.S. 051 Part 2.

6.3. **LABORATORY BENCH PEDESTALS**

**Power services distribution in laboratories shall be accomplished as detailed in the Project Specification using galvanised steel trunking below the benches. Where actual outlet points are required, extend with 20 mm conduits isolated by means of PVC couplings from extruded aluminium pedestals with lids which shall be supplied, in lengths as detailed, to carry the necessary socket outlets.**

7. **MOUNTING HEIGHTS AND POSITIONS**

The required mounting heights and positions will be indicated on drawings.

The mounting heights of components will be given in parenthesis adjacent to the component symbol on plan drawings.

All dimensions are to the bottom of square boxes and the bottom of round boxes.

The undermentioned mounting heights are the most commonly required, and shall be used where no height is indicated on the drawings:-
7.1. WALL SWITCHES

1100 mm above finished floor level. Switches required adjacent to door frames shall be located between 150 mm and 300 mm from the door frame edges.

7.2. AMPERE SWITCH SOCKET OUTLETS

300 mm above finished floor level or as otherwise specified. 1500 mm above finished floor level in theatres.

7.3. STOVE, SINGLE AND THREE PHASE POWER OUTLETS

The disconnector shall be mounted at a height of 1400 mm above finished floor level.

The 50 mm round conduit end outlet box shall be mounted at a height of 450 mm above the finished floor level.

7.4. THREE PHASE SWITCHED SOCKET OUTLETS 16 AMP, 32 AMP AND 63 AMP.

1400 mm above finished floor level.

7.5. NURSE CALL SYSTEM

Over-door lights 300 mm above and approximately centre of the door frame, unless otherwise indicated.

7.6. NURSE CALL SYSTEM

Mimic Panels 1 200 mm above finished floor level.

7.7. OPERATING THEATRE CLOCKS

2100 mm above finished floor level.

7.8. BELL PUSHES

1100 mm above finished floor level.

7.9. TELEPHONE OUTLET BOXES

300 mm above finished floor level unless otherwise specified or 1400 mm above finished floor level in telephone booths.

7.10. INTERCOM OUTLET BOXES

300 mm above finished floor level unless otherwise specified.
7.11. **FANS AND FAN HEATERS**
   
   2100 mm above finished floor level.  
   Thermostats  
   2100 mm above finished floor level.

7.12. **X-RAY VIEWING SCREEN**

   1300 mm above finished floor level.

END OF PART C:

HOSPITALS INSTITUTIONS:
ANNEXURE F: HVAC TECHNICAL SPECIFICATION
DEPARTMENT OF HEALTH
WESTERN CAPE
BLANCO CLINIC

SPECIFICATION FOR THE MECHANICAL INSTALLATION

REF: 2121MV VENTILATION TENDER
SPECIFICATION DOCUMENT

PREPARED FOR CLIENT:

PREPARED BY CONSULTANT:

Address:
19 Vasco Boulevard
Goodwood
Cape Town
7460

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Cell: 082 578 7425
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Client Representative:

Engineer:
Abdus Peer (Pr.Tech.Eng. GIFireE)
This specification covers the mechanical ventilation systems, which include the following:

(a) Fans and attenuators
(c) Electric motors
(d) Air filters
(e) Duct work
(f) Air terminals
(g) Noise and vibration
(h) Painting and cleaning
(i) Labelling and identification.

This specification also addresses the training of
- User Client and associates, and
- Maintenance staff.

This specification shall form an integral part of the Mechanical Ventilation contract document, and shall be read in conjunction with the additional and particular specifications compiled as part of this document.

This specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence.
FD 02 STANDARD SPECIFICATIONS

FD 02.01 GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall deemed to form part thereof:

FD 02.01.01 SANS and other specifications and codes

- SANS 10046 - Copper tube manufacturing code of practice
- SANS 10400 - The applications of building regulations
- SANS 10103 - The measurement and rating of environmental noise with respect to annoyance and speech communication
- SANS 10139 - The prevention, automatic detection and extinguishing of fire in buildings
- SANS 10140 - Identification colour marketing
- SANS 10142 - Code of practice for the wiring of premises
- SANS 10147 - Refrigerating systems, including plants associated with air-conditioning systems
- SANS 10173 - Installation, testing and balancing of duct work
- SANS 630 - Decorative high-gloss enamel paint for interior and exterior
- SANS 763 - General coating thickness
- SANS 1238 - HVAC duct construction standards

FD 02.01.02 Department of Public Works Specifications

- OW 371 - Specification of materials and methods to be used (Fourth revision, October 1993)
- STD.PWD.VIII - Standard specification for refrigeration services

FD 02.01.03 Occupational Health and Safety Act of 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) shall be adhered to.

FD 02.01.04 Manufacturers’ specifications, codes of practice and installation instructions

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers’ specifications, instructions and codes of practice.

FD 02.01.05 Municipal regulations, laws and by-laws

All municipal regulations, laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

FD 03 VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS

The following additional general specifications and requirements shall be read in conjunction with this specification and shall be adhered to unless otherwise specified in the Particular Specification.
FD 03.01  GENERAL INSTALLATION REQUIREMENTS

(a) All materials and equipment supplied and installed shall be new and of high quality and manufactured to the relevant specifications, suitable for providing efficient, reliable and trouble-free service.

(b) All work shall be executed in a first-class workman-like manner by qualified tradesmen.

(c) All equipment, component parts, fittings and materials supplied and/or installed, shall conform in respect of quality, manufacture, test and performance to the requirements of the applicable current SABS specifications and codes, except where otherwise specified or approved by the Engineer in writing.

(d) All materials and workmanship which, in the opinion of the Engineer, is inferior to that specified for the work will be condemned. All condemned material and workmanship shall be replaced or rectified as directed and approved by the Engineer.

(e) The Contractor shall submit a detailed list of the equipment and material to be used to the Engineer for approval before placing orders or commencing installation.

(f) All equipment, materials and systems shall be installed and positioned such as to not impede on access routes, entrances and other services. The Contractor shall coordinate these items taking other services and equipment into account.

(g) All control equipment and serviceable items shall be installed and positioned such that they will be accessible and maintainable.

(h) The Contractor shall make sure that all safety regulations and measures are applied and enforced during the construction periods to ensure the safety of the public and User Client.

(i) Repair work shall be programmed in accordance with Additional Specification SC: General Decommissioning, Testing and Commissioning Procedures, to ensure the shortest possible down-time of any service and the least inconvenience to the User Client and public. The Contractor shall make sure that the necessary notifications and notices are timeously put into place for these activities.

FD 03.02  FANS AND ATTENUATORS

FD 03.02.01  General

(a) Requirements under this heading apply to fans that are not integral parts of complete units supplied by recognised suppliers. Selected fans shall be such that the operating point is as close as possible to maximum efficiency.

(b) Fan motors selected must be capable of supplying not less than 10 % above the specified air quantity without overloading.

(c) The system resistance must be calculated and the fan selected to meet the required static pressure, taking into consideration the site altitude, system air temperature and air density at which the system duty shall be met. The selection must be submitted to the Engineer for approval before ordering the equipment.

(d) Belt drives shall be designed for a minimum overload of 25 % and not less than two matched belts may be used. Belts shall be selected and installed according to BS 790.
(e) Pulleys shall be of the adjustable speed taper-lock type and shall be accurately keyed to the shafts and aligned before the system is put into operation.
(f) Belt guards shall be supplied in accordance with Occupational Health and Safety Act, No 85 of 1993. The guards shall have an expanded metal front and shall allow oiling and the use of a tachometer without removal of the guard.
(g) Bearings shall be selected for a minimum life expectancy of 200 000 hours at the given duty.
(h) Lubrication points shall be readily accessible and shall be extended to the outside to permit lubrication without removal of the fan. Fan shafts shall be suitably protected from rust and corrosion.

**FD 03.02.02 Axial flow fans**

(a) Axial flow fans shall be in-line direct-driven type with the motor mounted inside the fan housing.
(b) Fans shall be of the multi-bladed aerofoil type of a non-ferrous construction. The number of blades vary according to the application. The fans shall be provided with adjustable blade pitch indexed to permit field adjustment.
(c) Fan casings shall be constructed of hot-dip galvanized mild steel with a minimum thickness of 3 mm and mild steel galvanized flanges on each side drilled for connections to matching flanges on ducting.

**FD 03.02.03 Sound attenuators**

(a) Sound attenuators shall be installed in the positions indicated on the drawings and shall be selected to provide the noise criteria levels as specified. All sound attenuators shall be products of an accredited manufacturer who publishes selection data on these products. Data shall be submitted to the Engineer for approval before ordering.
(b) Metalwork shall be galvanized steel and acoustic insulation shall be non-combustible material, properly bonded and covered so as not to permit particles to be eroded by air moving over it.
(c) Sound absorbing lining material shall have a density not less than 48 kg/m³ and thickness of not less than 50 mm.

**FD 03.03 ELECTRIC MOTORS**

(a) All electric motors shall be of one make, unless integral with the equipment, and shall not operate in excess of 1500 r/min unless previously approved by the Engineer for specific reasons. Motors, unless otherwise specified, shall be 380 volt, three-phase, 50 hertz for all sizes from and including 0,37 kW upwards. Smaller motors may be 220 volt, single-phase, 50 hertz.
(b) All motors shall be totally enclosed, fan-cooled and have metric frame dimensions. Motors shall be quiet in operation to the full acceptance of the Engineer.
(c) Three-phase motors shall all be squirrel cage induction type, special high torque motors being used on high inertia loads such as centrifugal fans, where otherwise excessively large motors, necessary to overcome driven equipment inertia, cause operation BHP to be less than 70 % of motor nameplate kW.
(d) Starting methods for three-phase motors shall be as follows:

Motors up to 5,5 kW - DOL  
Above 5,5 kW - Star-delta started, provided that the starting current does not exceed three times the full load amps.

(e) Single-phase motors shall be capacitor started, induction run type with built-in manual reset overload protection.

(f) Nameplate rating of electric motors shall be at least 15 % larger than the required driven equipment brake drive losses duly accounted for, on motors below 15 kW. On larger motors a 10 % margin shall suffice.

(g) All switch panels shall have a phase failure and low voltage protection with automatic reset adjustable to a maximum period of 10 minutes.

FD 03.01 DUCT WORK

(a) This specification covers the air distribution system as shown on the drawings. Duct work shall be manufactured in accordance with the standard specification for air-conditioning duct work, SABS 1238. Duct work shall be erected in accordance with the code of practice for the installation, testing and balancing of duct work, SABS 0173.

(b) Fittings such as elbows, parallel flow branches, branch connections, off-sets and transitions shall be manufactured and installed in accordance with the SMACNA standards.

(c) All ducting shall be sufficiently airtight to ensure economical and quiet performance of the system, and joints shall be suitably sealed in accordance with the relevant SMACNA standard with suitable non-combustible filler compound.

(d) The Contractor shall provide all hangers and supports which are to be hot-dip galvanized after fabrication to SABS 193. No explosive fasteners to the building structure shall be allowed, only approved expanding bolts or clamps are permissible.

(e) The duct work shall be connected to the air terminals by means of flexible ducting. Flexible ducting shall be coated fiberglass fabric with a mineral base. Flexible ducting shall be installed with "easy" bends of not less than one duct diameter centre line and shall be supported to SMACNA specification to ensure that the ducting does not kink. The length of the flexible duct shall be kept to a minimum and shall not exceed lengths of 1200 mm.

FD 03.02 AIR TERMINALS

(a) Air distribution shall be effected by means of the supply air grilles as indicated on the drawing. The finish of the grilles shall be epoxy powder-coated, the colour of which shall be advised and approved by the Engineer. Supply air grilles shall be of the double deflection type, consisting of two rows of individually adjustable aerofoil section vanes, front vanes horizontal rear vanes vertical, all vanes housed in a surrounding fixing flange with neat mitred joints in the corner.

(b) Supply air grilles shall be of steel construction and shall be provided with burglar bars. The inner section will be only accessible from above and the face plate of the grille is fixed from above. No screws or fixing devices are accessible from below.
(c) Supply grilles are supplied with a plenum box with spigot and connected to the spigot on the ducting by means of flexible ducting.

(d) Transfer grilles shall be of steel construction and be provided with burglar bars. Standard door grilles may be installed with a burglar bar assembly in between.

FD 03.03 AIR FILTERS

FD 03.03.01 General

(a) Provide and install air filters in the positions as indicated on the drawings.

(b) Filters shall be standard products of a reputable manufacturer regularly engaged in the manufacture of the particular filter. The manufacturer shall submit evidence to the satisfaction of the Engineer that the filters have been tested by an independent authority and that they meet the minimum arrestance, efficiency and dust holding capacity.

(c) Filters shall be tested in accordance with ASHRAE test standard 52 - 76.

(d) A Megnahelic gauge calibrated from zero to 500 Pa shall be installed, connected with copper tubing to static pressure tips complete with isolating valves.

FD 03.03.02 Primary filters

(a) Primary filters shall, unless otherwise stated, be washable on woven polyester material, pleated to provide an extended surface with a dust spot efficiency of minimum 40 % and an arrestance of 85 %.

(b) Media shall be firmly held in place by rustproof wire screens to maintain pleat strength and spacing.

(c) Media and support screens shall be continuously bonded into aluminium support.

(d) Frames shall be folded to form a robust media support frame. The bonding between media and frame shall be continuous to prevent leakage.

(e) Each filter shall be provided with a factory made holding frame, constructed of not less than 1.0 mm thick galvanized mild steel provided with suitable seals and quick release spring type clips to securely hold the filter cell in place without permitting leakage of air.

(f) The holding frames of multiple cell filter banks shall be suitably joined and sealed so as to prevent leakage of air between the frames.

FD 03.03 LABELLING AND IDENTIFICATION

All equipment shall be labelled and identified using black Traffolite labels with 10 mm high white lettering on the labels. Labels will be secured using epoxy base glue.

The identification number used on these labels shall correspond with the equipment number on the complete inventory list.

FD 03.04 NOISE AND VIBRATION

(a) Particular care shall be taken in the selection, application and installation of all equipment used to ensure that the equipment will operate below the required
noise level for public areas of NC 35 and with the least vibration possible, all to
the satisfaction of the Engineer.

(b) Equipment shall be mounted on vibration isolators of the correct type and
selection depending on deflection requirement and vibrating frequency.

(c) Anti-vibration connections shall be used on duct work where it joins vibrating
equipment such as fans and air-conditioning units.

(d) Suitable sound attenuating devices shall be incorporated within the duct work to
reduce airborne noise to acceptable levels as specified.

(e) The subcontractor shall provide sound level data to the Engineer on the
completion of the installation detailing the noise levels in NC level for each
separate area. No measurement shall be taken closer than 1 metre from any
outlet.

FD 03.05  PAINTING AND CLEANING

(a) No untreated metal surfaces shall be allowed on the project. Items which are
not galvanized or similarly protected against rust and corrosion shall be painted
as detailed below. No equipment, hangers, brackets, etc., shall be delivered to
site in unprotected condition; they shall be factory coated with an approved
zinc-rich prime coat before being despatched.

(b) Painting shall comprise the following consecutive processes. Thoroughly clean,
descale and degrease all surfaces, apply one coat of approved zinc-rich primer
and one coat of universal undercoat, and finish off with two coats of quality
high-gloss enamel. Final finish shall be to the full approval of the Engineer.

(c) Items with galvanized finish, such as cable trays, need not be painted but shall
be properly cleaned with suitable galvanized iron cleaning fluid. Where
galvanized finish is painted, it shall be primed with a calcium plumbate primer.

(d) It is not a requirement to paint duct work, conduits or pipework installed in roof
voids and shafts, where they are not visible, if they are galvanized. Items as
mentioned above shall be properly cleaned and painted as specified above.

(e) Visible sections of the inside of ducting through grilles shall be painted matt
black after degreasing and priming as specified above.

(f) Plant and equipment shall be painted with the relevant colour in accordance
with SABS.

FD 04  AS-BUILT INFORMATION AND OPERATING AND MAINTENANCE MANUALS

The Contractor shall be responsible for the compilation of an inventory list and
operating and maintenance manuals and system data sheets.

This shall be done in accordance with Additional Specification SB: Operating and
Maintenance Manuals.

The Contractor shall allow for the required equipment and facilities to establish the
correct as-built information.

All information shall be recorded and reproduced in electronic format, as well as four
(4) sets of hard copies to be supplied to the Department.
Over and above what is specified in Additional Specification SB: Operating and Maintenance Manuals, the operating and maintenance manual to be compiled shall be structured to include at least the following:

(a) **System description**

Complete system description and the working of the plant.

(b) **Commissioning data**

Complete commissioning, test and inspection data of plant.

(c) **Operating data**

(i) Plant running check list and frequency of servicing required;
(ii) Safety precautions to be implemented;
(iii) Manual and automatic operation;
(iv) Maintenance duties and logging required;
(v) Lubricating oils and service instructions;
(vi) Pre-start checklist for each system;
(vii) Starting and stopping procedures.

(d) **Mechanical equipment**

(i) Description of all major items with the make, model number, names, addresses and telephone numbers of the suppliers, manufacturers or their agents;
(ii) Design capacities of all equipment, including selection parameters, selection curves, capacity tables, etc.;
(iii) Manufacturers’ brochures and pamphlets;
(iv) Schedule of spares with part numbers recommended to be held as stock.

(e) **Maintenance instructions**

(i) Schedule of maintenance particulars, frequency of services and replacements;
(ii) Trouble-shooting guide;
(iii) Part number of all replacement items and spares;
(iv) Capacity curves of pumps, fans and compressors;
(v) Serial numbers of all items of equipment.

(f) **Electrical equipment**

(i) Schedule of equipment, indicating manufacturer, type, model number, capacity and addresses and telephone numbers of suppliers;
(ii) Maintenance instructions;
(iii) Manufacturers’ brochures and pamphlets;
(iv) Complete as-built circuit diagrams and diagrammatic representation of interconnections of all electrical equipment.

(g) **Instrumentation and control**

(i) Description of each control system;
(ii) Schedule of control equipment indicating manufacturer, type, model number, capacity and addresses and telephone numbers of suppliers;
(iii) Maintenance instructions;
(iv) Manufacturers’ brochures and pamphlets.

(h) **Drawings**

(i) Paper prints of all as-built mechanical and electrical drawings;
(ii) Wiring diagrams framed behind glass shall be mounted adjacent to each relevant control panel.
FD 05 TRAINING OF OPERATORS FOR THE OPERATION OF THE INSTALLATION AND EQUIPMENT

In addition to the requirements of Additional Specification SD: General Training, the Contractor shall allow and provide for additional training of the HVAC maintenance staff as specified and set out in this specification. The objective of this training will be to ensure that the following is achieved:

(a) Understanding of equipment;
(b) High plant operating efficiencies to reduce operating costs;
(c) Reduce the maintenance cost of the plant to an acceptable level, and maintain the cost at this level in so far as they are affected by the operating conditions;
(d) Prevent the maloperation of the plant and its associated equipment.

In the event of the designated staff not achieving the set goals the Contractor shall be responsible to ensure that such personnel attend an approved maintenance course as available from the Department or manufacturer.

The Contractor shall, in collaboration with the Engineer, ensure that the maintenance personnel be re-evaluated on an annual basis by means of a set examination, to ensure the upkeep of skill level and knowledge.

The evaluation and training course to be utilised for the evaluation of the HVAC maintenance staff shall include at least the following:

(a) Equipment and component recognition;
(b) Emergency procedures to be followed in the event of power failure, water shortage, and accidents related to refrigerator systems;
(c) Safety precautions to be followed and implemented;
(d) The identification, reporting and recording of faults and operation of equipment;
(e) The logging of boiler plant operation, readings and setting;
(f) In the event of plant running on ammonia, the full SAIRAC course on handling ammonia as refrigerant shall be attended by the maintenance staff.

FD 06 LOGGING AND RECORDING PROCEDURES

The Contractor shall under this contract institute a logging and recording system as part of his maintenance control plan as defined in Additional Specification SA: General Maintenance. This shall consist of a log and record book which shall be utilised to log and record all operations, faults, system checks, breakdowns, maintenance visits, inspections, etc.

The logbook shall be kept in a safe place at the maintenance section and shall only be utilised by the boiler house supervisor, the Contractor and the Engineer. A copy of the monthly entries and recordings into this logbook shall be submitted by the Contractor together with this monthly report to the Engineer.

The logbook shall be structured to include at least the following:

(i) Daily inspection and maintenance actions;
(ii) Monthly inspection and maintenance actions;
(iii) Six-monthly inspection and maintenance actions;
(iv) Breakdown reports;
(v) Statutory inspection and test comments and reports.
The Contractor shall also institute an attendance register, which shall be kept in a safe place at the maintenance section. This register shall be completed by all persons visiting the relevant plants, including:

(a) Contractor and maintenance personnel;
(b) Inspectors;
(c) User Client and associates;
(d) Engineer.

This register shall state the date, time-in, time-out, name, company and reason for visit. A copy of the register shall be submitted by the Contractor together with his monthly report.

On completion of repair work and/or the installation of new equipment the plant and equipment shall be put into operation after all tests and adjustments have been carried out to the satisfaction of the Engineer. Where new plant is installed the Contractor shall run and operate the system for a period of time specified by the Engineer and train the staff of the User Client to operate and maintain the system. This operation shall be done strictly in accordance with Clause SC 11 of the Additional Specification SC: General Decommissioning, Testing and Commissioning Procedures.

Logging of the operation of the installations shall commence immediately upon start-up.

The Contractor shall submit a full commissioning report as per attached commissioning data sheet.

**FD 07 TESTS AND INSPECTIONS ON COMPLETION OF WORK**

On completion of work the Contractor shall prior to recommissioning test the plant and its equipment. This operation shall be done strictly in accordance with Clause SC 08 of Additional Specification SC: General Decommissioning, Testing and Commissioning Procedures.

Except where otherwise provided in the Contract, the Contractor shall provide labour, materials, power, fuel, accessories and properly calibrated and certified instruments necessary for carrying out such tests. Arrangements for these tests shall be made by the Contractor and he shall give at least 72 hours written notice to the Engineer before commencing the test.

In the event of the plant or installation not passing the test, the Employer shall be at liberty to deduct from the Contract amount all reasonable expenses incurred by the Employer or the Engineer attending the repeated test.

Whenever any installation or equipment is to be operated for testing or adjusting as provided for above, the Contractor shall operate the entire system for as long a period as may be required to prove satisfactory performance at all times in the occupied space served by that system for up to twenty-four hours a day continuously until the certificate of practical completion of work is handed over.

The Contractor shall provide all labour and supervision required for such operation and the Department may assign staff as observers, but such observation time shall not be counted as instruction time.

After complete installation of the system all equipment shall be tested, adjusted and readjusted until it operates to the satisfaction and approval of the Engineer.

The Contractor shall submit certificates of tests carried out to prove the performance of all equipment, as well as certificates obtained from all the relevant authorities and statutory bodies, etc.
The Contractor shall only utilise departmentally approved inspection authorities for all inspections and tests to be conducted. This will be done and approved in writing among the relevant parties.

**FD 08 QUALITY ASSURANCE SYSTEM**

The Contractor shall institute an approved quality assurance (QA) system, which shall be submitted to the Engineer for his approval. The records of this QA system shall be kept throughout the duration of the Contract and be submitted to the Engineer at regular intervals as required.

**FD 09 COMMISSIONING AND RECOMMISSIONING OF PLANT AND INSTALLATION**

**FD 09.01 GENERAL**

On completion of repair work and/or the installation of new equipment the plant and equipment shall be put into operation after all tests and adjustments have been carried out to the satisfaction of the Engineer. Where new plant is installed the Contractor shall run and operate the system for a period of time as specified by the Engineer and train the staff of the User Client to operate and maintain the system. This operation shall be done strictly in accordance with Clause SC 11 of Additional Specification SC: General Decommissioning, Testing and Commissioning Procedures.

Logging of the operation of the installations shall commence immediately upon start-up.

The Contractor shall submit a full commissioning report as per attached commissioning data sheet.

**FD 09.02 RECOMMISSIONING OF PLANT AND ANCILLARY EQUIPMENT**

On completion of work the Contractor shall commission the plant and its equipment. This operation shall be done strictly in accordance with Clause SC 11 of Additional Specification SC: General Decommissioning, Testing and Commissioning Procedures. This operation shall also be carried out strictly in accordance with the manufacturer's specification and shall be witnessed by the Engineer.

Commissioning checks to be carried out shall be categorised under the following headings:

(a) Mechanical checks
(b) Electrical and control checks.

On completion of work the Contractor shall commission the plant and its ancillary equipment. This operation shall be done strictly in accordance with the manufacturer's specification and shall be witnessed by the Engineer. This shall include but not be limited to the following:

(a) All required commissioning mechanical checks
   (i) Check system for leaks;
   (ii) Check rotation of all fans;
   (iii) Check mountings of all equipment.

(b) All required commissioning electrical and control checks
   (i) Check all wiring connections for tightness and repair any hot connections.
(ii) Check that all electrical equipment have been properly connected in accordance with the manufacturer’s specification.

(iii) Perform and record all required electrical insulation tests on equipment.

(iv) Check and test all controls with main circuits isolated.

(v) Check all motor-driven equipment for correct rotational directions.

(vi) Check and test the operation of all indication and warning lights.

(vii) Check, set, record and readjust all equipment control and set points in accordance with manufacturer’s specification.

FD 09.03 COMMISSIONING AND COMPLETION OF INSTALLATION

On completion of the commissioning checks the Contractor shall proceed with the commissioning. This operation shall be done strictly in accordance with Clause SC 11.02 of Additional Specification SC: General Decommissioning, Testing and Commissioning Procedures. This operation shall also be carried out in accordance with the manufacturer’s specification and shall include but not be limited to the following for the different types of equipment:

FD 09.03.01 Ventilation system

(a) Check fans, fan speed control and fan motors.

(b) Check running amps of fans.

(c) Check pressure drop over filters.

(d) Check air quantity over filters or canopy face velocity.

(e) Check outlet air quantities.

The Contractor shall visit, inspect, test and readjust the plant during the 30-day period following the recommissioning to ensure the correct functioning of the plant and its associated equipment.

FD 10 GUARANTEE OF INSTALLATION AND EQUIPMENT

The Contractor shall provide and obtain guarantees from the manufacturer(s) and/or supplier(s) to the effect that each piece of new equipment supplied and installed under the contract, will comply with the required performance and will function as part of the complete system.

All new equipment, including the complete new installations and the systems as a whole, shall be guaranteed for a period of 12 (twelve) months commencing on the day of issue of a certificate of completion of the installation.

FD 11 MAINTENANCE TOOLS AND SPARES

Each maintenance workshop shall be equipped with the necessary maintenance tools and spares as required by the specific type of plants and installation for the daily operation and maintenance of the plant. At the start of the repair and maintenance contract the Contractor shall make an inventory of the existing tools and spares in the presence of the User Client, and any shortfall or damaged tools and spares shall be replaced with new. All replacement tools and spares shall be as specified by the boiler and equipment manufacturers. These tools and spares shall be kept in a
lockable room or cabinet of which the maintenance supervisor and the Contractor shall carry keys. The Contractor shall on a monthly basis take stock of these items in the presence of the maintenance supervisor and shall record and report to the Engineer. Any shortfall shall be replaced by the Contractor as part of his responsibility under this Contract.

The tools and spares to be carried shall include, but not be limited to at least the following:

(a) **Tools**

(i) Electric welding (arc welder)
(ii) Oxy-acetylene welding set
(iii) Soldering iron
(iv) Pipe cutter
(v) Swaging tool set
(vi) Flaring tool set
(vi) Leak detector (electronic or leak torch or Spectro light)
(vii) Vacuum pump
(viii) Service valve ratchet
(ix) Refrigerant reclaim unit
(x) Flow measuring hood
(xi) Pilot tube
(xii) Vacuum gauge
(xiii) Digital thermo anemometer
(xiv) Hygrometer
(xv) Tung tester
(xvi) Coil comb
(xvii) Multimeter
(xviii) Amp meter
(xix) Combination spanner set
(xx) Combination socket set
(xxi) Allen keys
(xxii) Screwdriver set
(xxiii) Drill set
(xxiv) Drilling (arc welder)
(xxv) Pop rivet gun
(xxvi) Tab and die set
(xxvii) Three-jaw gear pulley
(xxviii) Hacksaw
(xxix) Level
(xxx) Bench vice
(xxxi) Assorted files
(xxxii) Tape 5 m
(xxxiv) Torch.

(b) **Spares**

It is recommended that essential parts be maintained in inventory. Essential parts are those parts used frequently in responding to routine and urgent work requests. Consider the accessibility to spares and the time it takes to obtain them. The goal is to avoid stockpiling parts, as well as to avoid being without a needed part. The following parts are regarded as essential spares:

(i) Schreuder valves
(ii) Relevant refrigerants
(iii) Relevant refrigeration compressor oil
(iv) Filter/dryers
(v) Expansion valves
(vi) Filter sets
(vii) Relevant V-belts
(viii) Lubricants and greases.
FD 12 MAINTENANCE TO INSTALLATION AND EQUIPMENT

FD 12.01 GENERAL

Monthly maintenance responsibilities for each installation including all units and components as specified, shall commence with commencement of the Contract. A difference shall be made in payment for the maintenance prior to and after practical completion of work.

Maintenance responsibilities of the completed installation shall commence upon the issue of a certificate of practical completion for work, and shall continue for the remainder of the 36-month contract period.

This part of the Contract shall include:

(a) Routine preventative maintenance;
(b) Corrective maintenance; and
(c) Breakdown maintenance,

as defined in Additional Specification SA: General Maintenance, for the specified installations described under FD 01 of this specification.

The maintenance work to be performed and executed shall be done strictly in accordance with Additional Specification SA: General Maintenance, and as specified in Particular Specification PFD and this specification.

The said maintenance work shall be executed in accordance with the relevant codes of practice, statutory regulations, standards, regulations, municipal laws and by-laws and the manufacturers’ specifications and codes of practice.

The maintenance schedules and frequency shall be developed under the maintenance control plan to be instituted by the Contractor, as specified in Additional Specification SA: General Maintenance.

All new equipment, components and materials supplied and installed under the maintenance contract shall be furnished with prescribed manufacturer’s guarantees.

The maintenance work and items are to be categorised by the Contractor for each maintenance activity under the following headings:

(a) Fresh Air Ventilation systems

FD 12.02 DEFINITION AND QUALIFICATION OF ACTIONS

FD 12.02.01 Daily maintenance actions

Daily actions are the responsibility of the User Client. These checks are to be performed by staff responsible of the facility. The self-contained air-conditioning units and ventilation systems should run during working hours and/or continuously. The status of these systems can thus be monitored by observation on a daily routine.

(a) Ventilation systems:

- Are the systems running and is the operation quiet?
- Is the temperature in the areas concerned satisfactory?
**Monthly maintenance actions**

TABLE FD 13.02.02/1: VENTILATION SYSTEMS

<table>
<thead>
<tr>
<th>REFERENCE NUMBER</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-1</td>
<td>Inspect air intake for blockages</td>
</tr>
<tr>
<td>V-2</td>
<td>Check all accessible duct work for leakages, damages, and damages supports</td>
</tr>
<tr>
<td>V-3</td>
<td>Clean filters</td>
</tr>
<tr>
<td>V-4</td>
<td>Check electric motor running temperature</td>
</tr>
<tr>
<td>V-5</td>
<td>Check electric connections for tightness</td>
</tr>
<tr>
<td>V-6</td>
<td>Check operation of relief air grilles and check that they are not blocked</td>
</tr>
<tr>
<td>V-7</td>
<td>Check for motor noise and check bearings</td>
</tr>
<tr>
<td>V-8</td>
<td>Check for leaks on canvas collars</td>
</tr>
</tbody>
</table>

**Note:** The monthly actions shall include the activities of the daily maintenance actions.

**Biannual maintenance actions**

TABLE FD 13.02.03/1: VENTILATION SYSTEMS

<table>
<thead>
<tr>
<th>REFERENCE NUMBER</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-1</td>
<td>Inspect air intake for blockages</td>
</tr>
<tr>
<td>V-2</td>
<td>Check all accessible duct work for leakages, damages, and damages supports</td>
</tr>
<tr>
<td>V-3</td>
<td>Clean filters</td>
</tr>
<tr>
<td>V-4</td>
<td>Check electric motor running temperature</td>
</tr>
<tr>
<td>V-5</td>
<td>Check electric connections for tightness</td>
</tr>
<tr>
<td>V-6</td>
<td>Check operation of relief air grilles and check that they are not blocked</td>
</tr>
<tr>
<td>V-7</td>
<td>Check for motor noise and check bearings</td>
</tr>
<tr>
<td>V-8</td>
<td>Check for leaks on canvas collars</td>
</tr>
<tr>
<td>V-9</td>
<td>Clean fan blades and check for unbalance</td>
</tr>
<tr>
<td>V-10</td>
<td>Clean exterior casing</td>
</tr>
<tr>
<td>V-11</td>
<td>Clean all grilles</td>
</tr>
<tr>
<td>V-12</td>
<td>De-rust, neutralise and touch up paint work</td>
</tr>
<tr>
<td>V-13</td>
<td>Check vibration mounts of fan and tightness of mounting bolts</td>
</tr>
</tbody>
</table>

**Note:** The above biannual actions include the activities of the monthly maintenance actions.
# HVAC COMMISSIONING DATA SHEET - FRESH AIR FANS

<table>
<thead>
<tr>
<th>INSTALLATION:</th>
<th>.................................................................</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/C MAKE:</td>
<td>..................................................................................</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model number</th>
<th>Inside unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside unit</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Serial number</th>
<th>Inside unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside unit</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage:</th>
<th></th>
</tr>
</thead>
</table>

| Starting amps: |             |
| Running amps:  |             |

<table>
<thead>
<tr>
<th>COOLING</th>
<th>HEATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>System discharge gauge pressure: (kPa and running)</td>
<td></td>
</tr>
<tr>
<td>System suction gauge pressure: (kPa and running)</td>
<td></td>
</tr>
<tr>
<td>Condenser : cooling medium inlet temperature:</td>
<td></td>
</tr>
<tr>
<td>Condenser : cooling medium outlet temperature:</td>
<td></td>
</tr>
<tr>
<td>Evaporator : air inlet temperature:</td>
<td></td>
</tr>
<tr>
<td>Evaporator : air outlet temperature:</td>
<td></td>
</tr>
<tr>
<td>Room dry bulb temperature after 1 hour A/C operation:</td>
<td></td>
</tr>
<tr>
<td>Ambient dry bulb temperature:</td>
<td></td>
</tr>
</tbody>
</table>

**COMMISSIONED BY:**  
PRINT: ................................... SIGNATURE: ..................................  
DATE: .................................  

**CONSULTANT:**  
PRINT: ................................... SIGNATURE: ..................................  
DATE: .................................
PARTICULAR SPECIFICATION

PFD FRESH AIR VENTILATION EQUIPMENT AND OPERATION

CONTENTS

PFD 01 SCOPE
PFD 02 GENERAL DESCRIPTION OF INSTALLATION
PFD 03 TECHNICAL DETAILS OF EXISTING INSTALLATION
PFD 04 DETAILS OF WORK
PFD 05 SCHEDULE OF DRAWINGS
PFD 06 MECHANICAL EQUIPMENT

PFD 01 SCOPE

The scope of work, as also indicated on the drawings, and including all manufacturing, conveying and delivering, unloading, storing, unpacking, hoisting, scaffolding, setting out, fitting and fixing in position, cutting, waste, patterns, templates, plant, temporary works, commissioning, return of packing’s, establishment charges, protection and removal thereof on completion, cleaning down complete, profit and other obligations arising out of the conditions of contract.

PFD 02 GENERAL DESCRIPTION OF INSTALLATION

The mechanical ventilation installation shall comprise of two fresh air supply systems. They are inline fans with matching pod attenuators to ensure noise levels are kept to a minimum. These serve all rooms and passages in the clinic. The fans are located in the ceiling void and are fed through weather louvers. Filters are mounted in the weather louvres to ensure no contaminants enter the system.

Power and control wiring will connect each of the fans. All ducting will be mounted in the ceiling void securely. Disc valves will be mounted in the ceilings as per drawing to supply the fresh air into the areas.

The mechanical ventilation installation shall include the following areas:

Health Care Clinic
Consulting Rooms

PFD 03 TECHNICAL DETAILS OF EXISTING INSTALLATION

NA

PFD 04 DETAILS OF SCOPE

Charges for items required for the administration, insurance, completion of the installation as specified but not specifically billed separately as individual items:

- Fixed preliminary & general charges
- Value related preliminary & general charges
- Time related preliminary & general charges

PFD 04.01 SITE STORAGE

Providing, erecting and subsequently demolishing and removal of a temporary structure for storage/administration of the contract.

PFD 04.02 DESIGN & DRAWINGS

Design, drawing & approval obligations as specified.

PFD 04.03 OPERATING & MAINTENANCE MANUALS

Obtaining all relevant information, compiling, reproducing & finalizing three sets of documents and one set of sepias of documents as specified.

PFD 04.04 OPERATOR TRAINING

Presenting a training course for the Operators/Tenants.

PFD 04.05 STATUTORY INSPECTIONS AND TEST

Allow for the costs for inspections and tests required to comply with the specification and the Occupational Health & Safety Act.

PFD 04.06 COMMISSIONING

Commissioning of balance of plant where commissioning is not specifically included in the rates hereunder.

PFD 04.07 MAINTENANCE

Twelve months of maintenance of the entire installation from date of handover.

PFD 04.08 DETAILED WORK

Fresh air shall be supplied to the Consulting areas by means of fans and attenuators located in the ceiling voids and drawing air from weather louvres on the facade of the building. The fresh air shall be filtered and then distributed to each area.
All Ventilation equipment is to be approved by the engineer prior to placing the order.

**PFD 04.09.01 FANS**

Only good quality fans, from recognised manufacturers and suppliers with established local representation, and of the types as specified hereafter, shall be acceptable.

Alternative types of fans, suitable for the application and with dimensions to suit the allocated equipment spaces, may be offered to provide the most economical solution.

The fans offered shall nevertheless meet the specified air flow rates at the indicated system resistance. Fan efficiencies shall under no circumstances be less than 60%.

**Secondary Filters**
Fresh air filter 95% Pocket Filter size 595 x 595 x 300mm

**Primary Filters**
Fresh air filter Washable wire supported filter size 590 x 595 x 50mm

Filtered fresh air supply systems with air flows in excess of 150 L/s shall be complete with washable primary air filters equivalent to Peter McLeod Macs Pleat WP6 600.

Filter medium (25 mm thick) type filters, complete with galvanised sheet metal holding frame and wire mesh support may be provided in filtered fresh air supply systems with air flows lower than 150 L/s.

In systems where filters are provided, the face velocity over the filters shall not exceed 2.5 m/s and the fan duties shall be met with filters at 70% of their final resistance. It is also to be noted that pressure/flow characteristics of fans shall be reasonably steep in their operating range.

Tenderers are to note that the fan total/static pressures indicated in the schedules below are to be used as a guideline at tender stage only.

The required pressures are to be re-calculated by the Subcontractor to allow for the equipment, as well as any modifications to the duct sizes and routes, etc., offered by the Subcontractor. If the Subcontractor is unable to calculate the new system resistance, the Engineer will do so, and provided all the required information is made available by the Subcontractor. It shall nevertheless be the subcontractor’s responsibility to ensure that the system resistance of the new/altered duct layout is calculated and allowed for.

Prior to placing orders, the Subcontractor shall submit fan ordering advice schedules to the Engineer for approval. These schedules shall be in an approved format, showing the specified parameters as well as the parameters of the equipment that the Subcontractor intends to order. Performance curve graphs, showing the operating points of the selected fans shall accompany the ordering advice schedules.
Equal function fans shall be of the same type. Similar type fans shall be of the same make. Casings, cowls, etc. shall be in galvanised sheet metal of suitable thicknesses (industrial application).

Fans with motors larger than 1 kW shall be internally sprung within their casings, or shall be fitted with anti-vibration mountings. Axial fan motors shall be sized for fan blade angles $3\theta$ greater than that required at the specified fan duty point.

The fans and their associated equipment offered shall meet the sound levels specified herein. Tenderers or their suppliers shall calculate the noise levels generated by the offered fans, prior to close of tenders, and, if necessary, provide proprietary made attenuators down- and/or upstream of the fans, whether shown on the drawings or not.

The sound attenuator selection procedure followed shall be similar to the method described in the "Woods Design for Sound" publication, published by Woods Fans Limited of Colchester England. The successful tenderer shall submit the design data and sound calculation sheets to the engineer for approval before ordering any fans and sound attenuators.

Others shall provide maintenance isolators $\forall$ 1 m from the relevant fans. Tenderers shall allow for wiring the fans from these maintenance isolators.

All ducts shown on the drawings, specified or required for the various systems shall be provided by the contractor.

The ducts shall be manufactured from galvanised sheet metal in accordance with the specifications and requirements for low pressure ducts as per SANS 10147 and 1238, as amended, and shall be installed, balanced and tested as per SANS 10173, as amended. Where the SANS standards are silent, or unclear on a particular aspect, the SMACNA standard for low pressure ducts shall be applicable.

Where changes in the duct sizes indicated on the Engineers drawings are required, due to particular site conditions or requirements, the new sizes shall be determined using equivalent hydraulic diameters and not cross-sectional areas. Rectangular duct aspect ratios in excess of 4:1 shall not be allowed. The minimum internal rectangular duct dimension for low and medium velocity ducting shall be 150 mm.

All hangers, brackets and other duct supports required for the installation of the ducts shall be manufactured from galvanised mild steel. Where the galvanised finish is damaged by cutting, drilling, etc., it shall immediately be painted with cold galvanising.

All external ducts shall be joined by means of transverse flanged duct joints, such as the MEZZ flange system. Flanged joints shall be sealed by means of a gasket or non-hardening mastic sealant applied between the flanges.

Internal ducts may be joined by means of transverse flanged duct joints, such as the MEZZ flange system, or slip (S and Drive) type joints. All internal duct joints shall be sealed with non-hardening mastic sealant, gaskets or external tape.
The top surfaces of external ducts shall be sloped to ensure water run-off. Under no circumstances shall water be allowed to pool on top of the ducts, especially at the flanges.

**PFD 04.09.02 DUCT INSTALLATION**

Duct insulation shall generally be in accordance with SANS 0173, as amended.

All conditioned supply air ducting shall be flanged and externally insulated with 25 mm thick thermal insulation, complete with aluminium foil vapour barrier (FRK). The insulation shall be fixed over its full area with adhesive suitable for bonding between fibreglass blanketing and galvanised sheet metal and shall, in addition, be mechanically secured at maximum intervals of 400 mm with nylon strapping, or by means of spot welded pins with securing washers/heads of diameter not less than 30 mm.

**PFD 04.09.06 PIPE SUPPORTS**

All piping supports shall be in copper or other corrosion resistant material. Support intervals shall not be greater than 1,5 m.

Metal supports shall be thermally insulated by means of thermal breaks from the refrigerant piping to prevent heat loss or gain and to prevent condensation of moisture on the pipe supports.

**PFD 04.09.08 VIBRATION**

Vibration transmitted from any item of equipment or material to the building structure shall be 5 % maximum.

**PFD 04.09.09 NOISE GENERATION**

- Air-conditioned spaces : NC 35 / 40dBA
- Ventilated areas : NC 40 / 40dBA
- Site boundary : NC 45 / 50dBA

Sound levels inside the building shall be measured 1 m from the noise source, whether that may be an item of equipment or any fluid (eg. water, air, etc.) transfer piping, ducts, grilles, louvres, etc..
PFD 04.09.10  DAMPER QUADRANTS

Volume and splitter dampers shall have substantial locking quadrants. Quadrants shall be mounted outside the ducts in accessible positions.

Quadrants to dampers located in insulated ducts shall be fixed to bearing plates which are flush with the outside finish of the insulation. The open and closed positions of the dampers shall be indicated on the quadrant units.

PFD 04.09.11  FIRE DAMPERS

Fire dampers shall be supplied and fitted in locations where ducts penetrate fire walls or other fire barriers. They shall comply with the requirements of SANS 193 and NFPA bulletin 90A and have a fire rating of not less than two hours.

Trip mechanisms may be of the fusible link or of the bi metallic strip type. Fire dampers shall be complete with butterfly type damper blades, which shall remain locked in the closed positions after tripping. Dampers shall be of the manual reset type, resettable from outside the damper casing without the use of access doors or panels.

Each fire damper shall be clearly marked and the Open/Closed status of the damper shall be indicated outside the damper casing.

Dampers shall be sized to ensure that their nominal free area in the Open position is the same as the connected duct free area. The dampers shall be installed to allow easy access to their manual reset mechanism.

Where a damper cannot be installed immediately adjacent to the relevant fire partition, the section of duct between the damper and the fire partition shall be of the same thickness and fire rating as the damper casing. Any treatment to the ducting to ensure the fire rating shall be applied by the subcontractor.

PFD 04.09.12  AIR Registers

The contractor shall provide all air registers (supply, return, fresh air, transfer, relief, door, etc., grilles, louvres and diffusers) as required and shown on the drawings. They shall be supplied by reputable manufacturers with well-established local representatives. Where air flows through an air register needs to be set, the register shall be complete with an opposed bladed damper (grilles) or other integral damper (diffusers).

The contractor shall, prior to placing orders for any air registers, submit a catalogue or sample unit to the Architect for approval. The diffusers and grilles shall be finished to the Architects colour detail.
(i) Conditioned supply air diffusers

Brain Rickard constant volume cone diffusers in 595 x 595 plates shall be provided where shown on the drawings. The diffusers shall be epoxy powder coated to the Architects colour detail.

(ii) Fresh air supply grilles

Supply air grilles shall be of the double deflection type, equal to Europair DD type grille. The grilles shall be of an all-aluminium construction and be finished in epoxy powder coated paint to the Architects colour detail.

The grille sizes shown on the drawings relate to the neck sizes and not over flange sizes.

PFD 05 SCHEDULE OF DRAWINGS

<table>
<thead>
<tr>
<th>No</th>
<th>Title</th>
<th>Description</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blanco Clinic – Fresh Air Ventilation</td>
<td>Ventilation Layout</td>
<td>2121MV-001</td>
</tr>
<tr>
<td>2</td>
<td>Blanco Clinic – Extract Air Ventilation</td>
<td>Ventilation Layout</td>
<td>2121MV-001</td>
</tr>
</tbody>
</table>

PFD 06 MECHANICAL EQUIPMENT

<table>
<thead>
<tr>
<th>No</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FAF 01 – FRESH AIR FAN 01</td>
<td>Supply fresh inline air fan @ 635 l/s or equivalent</td>
</tr>
<tr>
<td>2</td>
<td>FAF 02 – FRESH AIR FAN 02</td>
<td>Supply fresh inline air fan @ 525 l/s or equivalent</td>
</tr>
<tr>
<td>3</td>
<td>EAF 01 – EXTRACT AIR FAN 01</td>
<td>Extract air inline fan @ 346 l/s or equivalent</td>
</tr>
<tr>
<td>4</td>
<td>EAF 02 – EXTRACT AIR FAN 02</td>
<td>Extract air inline fan @ 821 l/s or equivalent</td>
</tr>
<tr>
<td>5</td>
<td>EAF 03 – EXTRACT AIR FAN 03</td>
<td>Extract air inline fan @ 89 l/s or equivalent</td>
</tr>
</tbody>
</table>