







**PART: A: INVITATION TO BID:**

**MBD1**

<b>YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (POLOKWANE MUNICIPALITY)</b>					
BID NUMBER:	<b>PM36/2018</b>	CLOSING DATE:	<b>21 AUGUST 2018</b>	CLOSING TIME:	<b>10:00</b>
BID DESCRIPTION	<b>GA-MAJA SPORTS COMPLEX</b>				
<b>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7) or SERVICE LEVEL AGREEMENT OF POLOKWANE MUNICIPALITY.</b>					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (Polokwane Municipality, Civic Centre, corner, Bondenstein and Landdros Mare Street) not later than 10:00 on 28 August 2018.					
An official and compulsory site inspection will be held on <b>14 August 2018 at 10:00</b> . Bidders are requested to meet the New Peter Mokaba Stadium Complex, Executive Lounge, 1 <sup>st</sup> Floor, Polokwane					
The Bid box is generally open 24 hours, 7 days a week.					
Completed Bid document, fully priced and signed must be sealed in an envelope marked <b>"PM36/2018: GA-MAJA SPORTS COMPLEX"</b>					
Bidders should ensure that bids are delivered timeously to the correct address. If the bid is late, it will not be accepted for consideration.					
<b>Bids documents containing the Conditions of Bid and other requirements in terms of the Supply Chain Management Policy will be downloaded from e-tender Publication Portal at <a href="http://www.etenders.gov.za">www.etenders.gov.za</a> as from 08 August 2018 at no fee.</b>					
<b>SUPPLIER INFORMATION</b>					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	
B-BBEE STATUS LEVEL NUMBER			<b>TOTAL BID PRICE</b>	<b>R</b>	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	<input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES &amp; QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]</b>					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3 ]	
MINIMUM WORK OPPORTUNITIES TO BE CREATED	21		CIDB GRADING	6CE OR HIGHER	
SIGNATURE OF BIDDER	.....		DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					
<b>BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:</b>			<b>TECHNICAL INFORMATION MAY BE DIRECTED TO:</b>		
MUNICIPALITY	POLOKWANE		ACT. MANAGER PMU	Mapula Mamabolo	
CONTACT PERSON	Mr. K. Mashian		TELEPHONE NUMBER	015 290 2335	
TELEPHONE NUMBER	015 290 2148		FACSIMILE NUMBER	N/A	
FACSIMILE NUMBER	N/A		E-MAIL ADDRESS	<a href="mailto:mapula@polokwane.gov.za">mapula@polokwane.gov.za</a>	
E-MAIL ADDRESS	<a href="mailto:kwenaMa@polokwane.gov.za">kwenaMa@polokwane.gov.za</a>		Principal agent: Ravain Moodley Telephone: 012 336 9800 Cell: 082 923 8906 E-mail address: <a href="mailto:ravain@tlouconsult.co.za">ravain@tlouconsult.co.za</a>		
     <p><b>EXPANDED PUBLIC WORKS PROGRAMME</b> Creating opportunities towards human fulfilment</p>			 <p><b>Municipal Infrastructure Grant</b></p>		

## PART B

### TERMS AND CONDITIONS FOR BIDDING

<b>1. BID SUBMISSION:</b>
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
1.2. <b>ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR ONLINE</b>
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
<b>2. TAX COMPLIANCE REQUIREMENTS</b>
2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE <a href="http://WWW.SARS.GOV.ZA">WWW.SARS.GOV.ZA</a> .
2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
<b>3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS</b>
3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? <input type="checkbox"/> YES <input type="checkbox"/> NO
3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA? <input type="checkbox"/> YES <input type="checkbox"/> NO
3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? <input type="checkbox"/> YES <input type="checkbox"/> NO
3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? <input type="checkbox"/> YES <input type="checkbox"/> NO
3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? <input type="checkbox"/> YES <input type="checkbox"/> NO
<b>IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.</b>

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

**NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.**

SIGNATURE OF BIDDER: .....

CAPACITY UNDER WHICH THIS BID IS SIGNED: .....

DATE: .....



**BID NUMBER: PM36/2018: GA - MAJA SPORTS COMPLEX**

**DIRECTORATE: COMMUNITY DEVELOPMENT**

**BUSINESS UNIT: FACILITY MANAGEMENT**

**Bids are hereby invited for GA - MAJA SPORTS COMPLEX.**

The Council also reserves the right to negotiate further conditions and requirements with the successful bidder.

**THIS BID IS SUBJECT TO THE, PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATION, 2011, AND THE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS (THIRD EDITION) (2015) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.**

The Municipality shall adjudicate and award bids in accordance with B-BBEE status level of contribution on 80/20-point system, 80 points for the price and 20 points for contribution. Prospective bidders must accept that the bid will be adjudicated, according to the said legislation. Bids will remain valid for 90 (ninety) days.

**MR. D.H. MAKUBE  
MUNICIPAL MANAGER  
CIVIC CENTRE  
LANDDROS MARE STREET,  
POLOKWANE**



**POLOKWANE MUNICIPALITY**

**CONTENTS OF TENDER DOCUMENTATION**

<b>Volume 1: Tender requirements, Contract and Pricing Data</b>		
<b>Number</b>	<b>Heading</b>	<b>Colour</b>
<b>Part T1: Tendering procedures</b>		
T1.1	Tender Notice and Invitation to Tender	White
T1.2	Tender Data	Pink
T1.3	Standard and Particular Conditions of Tender	Pink
<b>Part T2: Returnable Documents</b>		
T2.1	List of Returnable Documents	Yellow
T2.2	Returnable Schedules	Yellow
<b>Part C1: Agreements and Contract Data</b>		
C1.1	Form of Offer and Acceptance	White
C1.2	Contract Data	White
C1.3	Forms for Adjudicators Appointment	White
C1.4	Occupational Health and Safety Agreement	White
<b>Part C2: Pricing data</b>		
C2.1	Pricing Instructions	Yellow
C2.2	Bill of Quantities	Yellow
<b>Part C3: Scope of Work</b>		
C3.1	Description of the Works	Blue
C3.2	List of Drawings	Blue
C3.3	Procurement	Blue
C3.4	Construction	Blue
C3.5	Variations and Additions to SABS 1200 Standardized Specifications for Civil Engineering Construction	Blue
C3.6	Particular Specifications – Civil and Building Work	Blue
C3.7	Health and Safety Specifications	Blue
C3.8	Environmental Management during Construction	Blue
C3.9	Management of the Works	Blue
<b>Part C4: Site information</b>		
C4	Site Information	Green

## POLOKWANE MUNICIPALITY

### T1.2 Tender Data

#### **1. CONDITIONS OF TENDER**

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (SFU) of May 2010, as published in Government Gazette No 33239, Board Notice 86 of 2010 of 28 May 2010. Those Standard Conditions of Tender remained the same as those published in the previous edition of the SFU as published in Government Gazette No 31823, Board Notice 12 of 2009 of 30 January 2009 - See [www.cidb.org.za](http://www.cidb.org.za).

Each Tenderer shall obtain its own copy of the Standard Conditions of Tender.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. In the interpretation of any ambiguity or inconsistency between the Tender Data and the Standard Conditions of Tender, the Tender Data shall have precedence.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

<b>Clause number</b>	<b>Tender Data</b>
<b>2. <u>EMPLOYER</u></b> <b>CI. F1.1</b>	<p>The "Employer" is "Polokwane Municipality"</p> <p>The Employer's domicilium citandi et executandi (permanent physical business address) is: Polokwane Municipality, Civic Centre, Landdros Mare Street, Polokwane</p> <p>The Employer's address for communication relating to this project is: PO Box 111, Polokwane, 0700</p>
<b>3. <u>TENDER DOCUMENTS</u></b> <b>CI. F.1.2</b>	<p>"The following documents form part of this tender:</p> <p><b>VOLUME 1</b></p> <p><b>Part T1 Tendering procedures</b></p> <p>T1.1 Tender notice and invitation to tender</p> <p>T1.2 Tender data</p> <p>T1.3 Standard and Particular conditions to tender</p> <p><b>Part T2 Returnable Documents</b></p> <p>T2.1 List of Returnable Documents</p> <p>T2.2 Returnable Schedules that will be incorporated into the Contract</p> <p><b>Part C1 Agreements and Contract Data</b></p> <p>C1.1 Form of offer and acceptance</p> <p>C1.2 Contract data</p> <p>C1.3 Form for Adjudicators Appointment</p> <p>C1.4 Agreement in terms of Occupational Health and Safety</p> <p><b>Part C2 Pricing Data</b></p> <p>C2.1 Pricing Instructions</p>

Clause number	Tender Data														
	<p>C2.2 Bill of Quantities</p> <p><b>Part C3 Scope of Work</b></p> <p>C3.1 Description of the Works</p> <p>C3.2 List of Drawings</p> <p>C3.3 Procurement</p> <p>C3.4 Construction</p> <p>C3.5 Variations and Additions to <b><u>SABS 1200</u></b> Standardized Specifications</p> <p>C3.6 Particular Specifications</p> <p>C3.7 Health and Safety Specifications</p> <p>C3.8 Environmental Management during Construction</p> <p>C3.9 Management of the Works</p> <p><b>Part C4 Site information</b></p> <p><b>VOLUME 2</b></p> <p>Tender Drawings</p>														
<p><b>4. <u>EMPLOYER'S AGENT</u></b> <b>Cl. F.1.4</b></p>	<p>The Employer's agent's are:</p> <p>a) Principal Agent <b>Tlou Consulting (pty) Ltd</b></p> <table border="0"> <tr> <td><u>Physical Address:</u></td> <td><u>Postal Address:</u></td> </tr> <tr> <td>121 Boshoff street</td> <td>PO Box 1309</td> </tr> <tr> <td>Nieuw Muckleneuk</td> <td>Pretoria</td> </tr> <tr> <td>Pretoria</td> <td>0001</td> </tr> <tr> <td>0181</td> <td></td> </tr> <tr> <td>Tel.: (012) 336 9800</td> <td>Fax: 086 683 6914</td> </tr> <tr> <td>E-mail: ravain@tlouconsult.co.za</td> <td></td> </tr> </table>	<u>Physical Address:</u>	<u>Postal Address:</u>	121 Boshoff street	PO Box 1309	Nieuw Muckleneuk	Pretoria	Pretoria	0001	0181		Tel.: (012) 336 9800	Fax: 086 683 6914	E-mail: ravain@tlouconsult.co.za	
<u>Physical Address:</u>	<u>Postal Address:</u>														
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Pretoria	0001														
0181															
Tel.: (012) 336 9800	Fax: 086 683 6914														
E-mail: ravain@tlouconsult.co.za															
<b>5. <u>TENDERER'S OBLIGATIONS</u></b>															
<b>5.1. <u>Eligibility</u></b> <b><u>Cl. F.2.1</u></b>	A tender offer may only be submitted if the Tenderer satisfies the criteria stated in the Tender Data and if the Tenderer, or any of his principals, not under any restriction to do business with the Employer.														
<b>5.2. <u>F2.18</u></b>	The tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.														
<b>5.3. <u>Site Visit and Clarification Meeting</u></b> <b><u>Cl. F.2.7</u></b>	<p>The arrangements for a compulsory pre-tender meeting are:</p> <p><b>Location:</b> New Peter Mokabe Stadium Complex, Executive Lounge 1<sup>st</sup> Floor.</p> <p><b>Date:</b> <b>14 August 2018 at 10:00 after we proceed to site.</b></p>														
<b>5.4. <u>Insurance</u></b>	No insurance cover will be provided by the Employer.														

Clause number	Tender Data
Cl. F.2.9	
<p><b>5.5. <u>Alternative Tender Offers</u></b> <b>Cl. F. 2.12</b></p>	<p>Unless anything to the contrary has been determined in the Contract Data, a Tenderer may, together with his tender for the original designs contained in the contract documents, submit alternative designs and tender offers for consideration. All designs, calculations, drawings and Operation and Maintenance manuals shall be fully endorsed by a third party registered engineer, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor. Such alternative designs and offers shall be subject to the following conditions and requirements:</p> <p>5.4.1. <u>Tenders</u></p> <p>An alternative offer or design will be considered only if the tender for the original items has been fully priced and completed. The alternative tender offer is to be submitted in <b>the same envelope as the main tender offer</b>, together with a schedule that compares the requirements of the tender documents with the alternative requirements the Tenderer proposes. No alternative tender will be considered unless a tender free from qualifications is also submitted.</p> <p>Unless the alternative offer stipulates to the contrary, it shall be assumed that the period for completion of the Works shall be the same as for the original design.</p> <p>Designs, calculations, drawings and a modified schedule of quantities (as determined hereafter) in respect of each alternative offer or design shall accompany the alternative tender offer and shall be endorsed fully by a third party registered engineer, accomplished in such specific field of practice.</p> <p>5.4.2. <u>Preliminary calculations</u></p> <p>Preliminary calculations for an alternative design shall be submitted with the tender. Such calculations shall give adequate details so as to enable an assessment to be made of the general efficacy of the design and of its principal elements, also of the degree to which the design prescriptions and codes of the Employer are being complied with. The calculations shall be clear and in a logical sequence and shall clearly reflect all the design assumptions.</p> <p>5.4.3. <u>Preliminary drawings</u></p> <p>Preliminary drawings of the alternative designs shall also be submitted with the tender. These drawings shall comprise adequate layout plans, elevations and sections and shall clearly illustrate the general efficacy of the design and its principal elements.</p> <p>5.4.4. <u>Quantities</u></p>

Clause number	Tender Data
	<p>Each alternative offer shall be accompanied by a modified priced schedule of quantities compiled in accordance with the specifications, in so far as it is applicable, which clearly shows the manner in which the price for the alternative offer has been determined and the items in the original schedule of quantities which fall away or are being changed. In addition to the schedule of quantities, a set of calculations shall be supplied to show how the quantities have been determined. All assumptions in regard to factors which will determine quantities shall be clearly and conspicuously marked by underlining or colouring and shall indicate whether or not the assumptions have been based on information furnished in the Contract Data (with the necessary references).</p> <p>5.4.5. <u>Further details</u></p> <p>Should the Employer's Agent find that the calculations and drawings submitted for alternative designs are not complete enough for proper adjudication of the alternative designs, the Employer reserves to itself the right to call on the Tenderer to submit such further calculations and drawings as may be required. If such further details are not submitted within ten days of having been requested, the alternative designs will not be given further consideration.</p> <p>5.4.6. <u>Preliminary adjudication of alternative designs</u></p> <p>The Employer's Agent will undertake a preliminary scrutiny of any alternative designs for compliance with the specified requirements of the Employer. Should he find any mistakes or unsatisfactory aspects, he may afford the Bidder the opportunity to rectify them within a period to be determined by the Employer's Agent. However, it is emphasized that the preliminary scrutiny of the design and tender by the Employer's Agent, by its very nature, cannot be comprehensive, and no guarantee can be given in this regard that all the mistakes made by the Bidder will in fact be detected. Any correction of such mistakes shall be made with the tender price of the bidder being retained, and, wherever necessary, the priced schedule of quantities for the alternative design shall be adjusted accordingly.</p> <p>5.4.7. <u>Acceptance of alternative design</u></p> <p>The Bidder shall note that the acceptance of a tender which includes alternative designs shall mean that the alternative designs have been approved in principle only. If the final calculations, drawings and details do not comply with the specified requirements, such alternative designs may be rejected, unless they are suitably amended by the Bidder so as to be acceptable to the Employer.</p> <p>5.4.8. <u>Final drawings and calculations and the priced schedule of quantities</u></p>

Clause number	Tender Data
	<p>Where a tender with an alternative design has been accepted, the Contractor shall, not less than two months before he intends starting with the construction of such design, submit to the Employer's Agent a complete set of working drawings, detailed calculations and a complete schedule of quantities, for approval. The schedule of quantities shall be based on the preliminary schedule of quantities, but with the necessary adjustments in quantities and prices and with the tendered price for the alternative design being retained.</p> <p>Within three weeks of having received the above, the Employer's Agent will indicate which drawings, calculations, quantities, prices and other particulars are acceptable to him and which not, with reasons furnished. The Contractor shall then submit to the Employer's Agent in good time any modified drawings and other particulars for approval, for which he will require two weeks. Any delay arising from the fact that the amended particulars do not meet the requirements shall be the responsibility of the Contractor.</p> <p>No work which will be affected by an alternative design may be commenced, unless the drawings, schedule of quantities and prices for such alternative design have been approved. Should the Contractor fail to modify any drawings, calculations, quantities, prices or any other particulars to the satisfaction of the Employer's Agent, the alternative design will be rejected and the original design shall be constructed for the same amount as has been tendered for the alternative design.</p> <p><b>5.4.9. <u>Responsibility for alternative design</u></b></p> <p>The approval of a design by the Employer's Agent shall not in any way relieve the Bidder of his responsibility to produce a design which conforms in all respects to all the specified requirements and which will be suitable for the purpose envisaged.</p> <p>Should it appear later during construction or during the maintenance period that the design does not conform to the specified requirements, the Contractor only, shall be liable for any damage arising there from and he shall, at his own expense, do all the necessary work to ensure that the Works conforms to all the specified requirements.</p> <p><b>5.4.10. <u>Indemnity</u></b></p> <p>Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Employer, its agents and assigns, against all claims howsoever arising out of the said design whether in contract or delict.</p>
<b>5.1. <u>Submitting a Tender Offer</u></b>	<b>5.5.1. <u>Whole of the Works</u> (Cl. F.2.13.1)</b>

Clause number	Tender Data
Cl. F2.13	<p>Tenderers shall offer to provide for the whole of the Works identified.</p> <p>5.5.2. <u>Original tender documents</u> (Cl. F2.13.3)</p> <p>The original tender document, issued to the Bidder, shall be submitted in its entirety. No copies are required.</p> <p>5.5.3. <u>Marking of Tender Submissions</u> (Cl. F2.13.5)</p> <p>The complete tender documents shall be enclosed and sealed in a single envelope, marked:  <b>BID NO. PM36/2018: GA - MAJA SPORTS COMPLEX</b></p> <p>The Employer's address for delivery of tender offers to be shown on each tender submission package is the Tender Box located at:</p> <p style="text-align: center;">Polokwane Municipality  Civic Centre  Landdros Mare Street  Polokwane</p> <p>5.5.4. <u>Two envelope system</u> (Cl. F2.13.6)</p> <p>A two-envelope procedure will not be followed.</p> <p>5.5.5. <u>Closing time</u> (Cl. F2.15)</p> <p>The closing time for submission of tender offers is: <b>10H00</b></p> <p>Telegraphic, telephonic, telex, facsimile, e-mail, electronic and late tender offers will not be accepted.</p> <p>5.5.6. <u>Tender offer validity</u> (Cl. F2.16)</p> <p>The tender offer validity period is <b>90 days</b> after tender closing date.</p> <p>5.5.7. <u>Clarification of tender offer after submission</u> (Cl. F2.17)</p> <p>Delete the last part of the second sentence, commencing with the word "and". Furthermore, delete the last two sentences of Cl. F2.17.</p> <p>Add the following sentence:  "The rates stated by the Bidder shall be binding".</p> <p>5.5.8. <u>Provide other Material</u> (Cl. F2.18.1)</p> <p>Upon request by the Employer, the Bidder shall promptly supply any other material that has a bearing on the tender offer, the bidder's commercial</p>

Clause number	Tender Data
	<p>position (including, where applicable, notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair assessment. Should the Bidder not provide the information or material called for, by the time for submission stated in the Employer's request, the Employer will regard the tender offer as being non-responsive.</p> <p>5.5.9. <u>Certificates</u> (Cl. F.2.23)</p> <p>The following certificates are to be provided with this tender:</p> <ul style="list-style-type: none"> <li>a) a valid CSD number</li> <li>b) Compensation Fund registration certificate</li> <li>c) Certificate of Contractor Registration issued by the Construction Industry Development Board or a copy of the application Form for registration in terms of the Construction Industry Development Board Act (Form F006).</li> </ul> <p>A minimum grading of 6CE is required.</p> <p><b><u>Important Note:</u></b></p> <p>Failure to provide the required particulars as per the above-listed certificates implies a non-responsive tender and warrants rejection of the tender on account of non-compliance with the requirements of the Tender Data</p>
<p><b>6. <u>EMPLOYER'S UNDERTAKING</u></b></p>	
<p><b>6.1. <u>Opening of Tender Submissions</u></b> <b>Cl. F3.4</b></p>	<p>The time and location for opening of the tender offers are:  <b>10:00 on 21 August 2018</b>  <b>Location: Tender Box, Polokwane Municipality, Civic Centre, Landdros Mare Street, Polokwane</b></p>
<p><b>6.2. <u>Arithmetical Errors</u></b> <b>Cl. F.3.9.1</b></p>	<p>Delete paragraphs (b) and (c) of Cl. F.3.9.1 and replace with:</p> <ul style="list-style-type: none"> <li>b) If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding and the error of extension as entered in the tender offer will be corrected by the Employer in determining the Contract Price.</li> <li>c) Where there is an error in addition, either as a result of other corrections required by this checking process or in the Bidder's addition of prices, such error will be corrected by the Employer in determining the Contract Price.</li> <li>d) The Contract Price for the completed Contract shall be computed from the actual quantities of authorised work done and compliant with the Contract Data, valued at rates contracted against the respective items in the bill of quantities, schedule of Quantities or schedule of rates and shall</li> </ul>



Clause number	Tender Data
	include such authorised Provisional Sums and items of extra work as have become payable in terms of the Contract Data.
<p><b>7. <u>ACCEPTANCE</u></b>  <b><u>OF TENDER OFFER</u></b>  <b>Cl. F3.13</b></p>	<p>Tender offers will only be accepted if:</p> <ul style="list-style-type: none"> <li>a) The bidder has in his or her possession a valid CSD number</li> <li>b) The bidder is registered with the Construction Industry Development Board in an appropriate contractor grading designation. A minimum grading of <b>6CE</b> is required for the main contractor;</li> <li>c) The bidder has demonstrated previous experience with the type of work required under this contract having successfully completed a <b>project of similar scope and size.</b></li> <li>d) The bidder or any of its principals is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and</li> <li>e) The bidder has not abused the Employer's Supply Chain Management System.</li> <li>f) The bidder has not failed to perform on any previous contract.</li> <li>g) has complete the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the bidder's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.</li> </ul>
<p><b>8. <u>PROVIDE</u></b>  <b><u>COPIES OF THE</u></b>  <b><u>CONTRACT</u></b>  <b><u>DOCUMENT</u></b>  <b>Cl. F.3.18</b></p>	<p>The number of paper copies of the signed Contract to be provided by the Employer to the successful bidder is <b>one</b>.</p>

## PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2011

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

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

### 1. GENERAL CONDITIONS

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

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

1.2

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

b) The 80/20 preference point system will be applicable to this tender

Points for this bid shall be awarded for:

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

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

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

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

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

### 2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in

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

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

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

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

#### 5. BID DECLARATION

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

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

- 6.1 B-BBEE Status Level of Contributor: = .....(maximum of 10 or 20 points)  
(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

#### 7. SUB-CONTRACTING

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

(*Tick applicable box*)

YES		NO	
-----	--	----	--

- 7.1.1 If yes, indicate:

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

YES		NO	
-----	--	----	--

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

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

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

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

**8.4 TYPE OF COMPANY/ FIRM**

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

[TICK APPLICABLE BOX]

**8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....

.....

.....

.....

**8.6 COMPANY CLASSIFICATION**

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

[TICK APPLICABLE BOX]

**8.7 MUNICIPAL INFORMATION**

**Municipality where business is situated:** .....

**Registered Account Number:** .....

**Stand Number:** .....

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

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

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
  - (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution.

WITNESSES

1. ....

2. ....

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

DATE: .....

## **ATTACH B-BBEE VERIFICATION CERTIFICATE**

### **ANNEXURE A**

#### **SUPPLY CHAIN MANAGEMENT**

##### **EVALUATION PROCESS AND CRITERIA**

The following evaluation process and criteria will be used to evaluate all bids submitted:

#### **1. Administrative Compliance – Phase One**

- 1.1 All bids duly lodged will be examined to determine compliance with bidding requirements and conditions. Bids with obvious deviations from the requirements/conditions, will be eliminated from further evaluation.
- 1.2 **Critical Criteria:**  
The following critical criteria have been identified for this bid and any non-compliance thereto will lead to the bid being regarded as non-responsive and disqualified from further evaluation:
- Provide Central Supplier Database (CSD) number (Attach CSD registration summary report)
  - All Pages of the Bid document must be initialled.
  - Compulsory site inspection attended.
  - Completed and signed declaration on past SCM practices form
  - Compulsory enterprise questionnaire completed
  - Signed J/V agreement must be attached (Where applicable)
  - Proof of registration with CIDB attached.
  - Complete **MBD 5** and submit audited statements (**AFS**) – (only where the tender amount exceeds **R10Mil**- including VAT)
  - Proof of Municipal Rates and Taxes or letter for Tribal Authority or lease agreement must be attached (Not older than 3 months).
  - Completed and signed declaration of interest (**MBD4**)

#### **2. Functionality – Phase Two (50 points allocation)**

The bidders who complied administratively are considered for further evaluation on ability to execute the project.

The assessment of functionality will be done in terms of the evaluation criteria and minimum threshold as specified. A bid will be disqualified if it fails to meet the minimum threshold for functionality as per the bid invitation.

##### **1.1. Relevant Experience of Company (25 points)**

This will take into consideration similar contracts successfully completed by the bidder.

**NB. Proof of largest similar project must be attached (Completion certificate). Failure to provide proof will result in disqualification of points.**

The score will be calculated as follows:

$$R_t = \frac{L_c}{T_{avg}} \times R_{max}$$

**Where:**

**R<sub>t</sub>** = Points for relevant experience of company

**Lc** = Largest similar contract over the last **three (3) years. (Determined on project size).**

**Tavg** = Average value of tendered amounts of eligible tenders.

**Rmax** = Maximum points allocated for relevant experience of company.  
(R max = 25)

## 2.2 Plant and Equipment (15 points)

This will be assessed against a minimum number of different types of plant and equipment required to successfully complete the project within the stipulated construction period as determined by the engineer.

Access to plant may be in a form of ownership, hire or leasing arrangements, orders etc. A letter of intent from hiring or leasing companies stating the number and type of plant and equipment on which arrangement has been made must be submitted. Any changes to the lease/hire agreement must be approved by the Municipality prior commencement.

**NB. 50% of points will be allocated to equipment leased/hired.**

Consultants Estimation				
(A) Plant and equipment required	points allocation	(B) Minimum Plant required	(C) Bidder Plant own	(D) Bidder Plant hire
Grader (140G or equivalent)	3	1		
Tipper Truck (6 – 10m <sup>3</sup> )	4	2		
10 Ton Roller Compactor (smooth)	2	1		
Water Tanker	2	1		
Excavator (20-ton minimum)	2	1		
TLB (4X4)	2	1		

**NB. Proof of ownership on equipment indicated above must be submitted with the bid document. Failing to submit will result in disqualification of points.**

## 2.3 Financial Status (10 points)

This will be assessed against Bank ratings as follows: **(A Bank letter must be submitted, it should be specific for this project and not older than 30 days)**

Bank Rating	Score
A	10
B	10
C	7
D	5
E	2
F,G,H	0

**NB: A bid will be disqualified if it fails to meet the minimum threshold of 60% on functionality and a minimum of 15 points on relevant experience.**



## 2.4 Commercial Risk Analysis

Prior to being recommended for further evaluation, a bid will be subjected to risk analysis to ensure that it would, if accepted, not place the Municipality or the bidder, at undue risk.

A risk analysis will be performed to ascertain if any of the following might present an unacceptable commercial risk to the Municipality:

- Unduly low tendered sums
- Unduly high individual rates
- Unduly low rates
- Imbalances in pricing

It is in the best interests of the Municipality to amend an error which will cause the bid to be rejected on the basis of it presenting an unacceptable commercial risk.

### ❖ EVALUATION OF BIDS

- a) All bids received shall be evaluated in terms of the Supply Chain Management Regulations, Polokwane Municipality Supply Chain Management Policy (on request from Municipality), the preferential procurement regulation 2011, and other applicable legislations.
- b) The Council reserves the right to accept all, some, or none of the bids submitted – either wholly or in part – and it is not obliged **to accept the lowest bid.**

❖ **By submitting this bid, bidder authorizes the Council or its delegate(s) to carry out any investigation deemed necessary to verify the correctness of the statements and documents submitted and that such documents reasonably reflect the ability of the Bidder to provide the goods and services required by the Council.**

### PLEASE NOTE

❖ **The Municipal Manager may cancel a contract awarded to a person if:**

- a) The person committed a corrupt or fraudulent act during the procurement process or in the execution of the contract, or
- b) An official or other role player committed any corrupt or fraudulent act during the procurement process or in the execution of the contract that benefited that person.

❖ **The Municipal Manager may reject the bid or quote of any person if that person or any of its directors has:**

- c) Failed to pay municipal rates and taxes or municipal service charges and such rates, taxes and charges are in arrears for more than three months;
- d) Failed, during the last five years, to perform satisfactorily on a previous contract with the Polokwane Municipality or any other organ of State after written notice was given to that bidder that performance was unsatisfactory;
- e) Abused the supply chain management system of the Municipality or have committed any improper conduct in relation to this system;

- f) Been convicted of fraud or corruption during the past five years;
- g) Wilfully neglected, reneged on or failed to comply with any government, municipal or other public-sector contract during the past five years; or
- h) Been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No. 12 of 2004) or has been listed on National Treasury's database as a person prohibited from doing business with public sector.

## 2.5 Tendered rates

Rates for all the bids which have complied with the bid conditions will be assessed for the following:

- Comparison of rates and amounts with the average tendered amount.
- Sensitivity Analysis of Rates (i.e. whether the rates are balanced, acceptable, etc).
- Expected cash flows requirements.

**NB: Bids with unbalanced rates will be disqualified for further evaluation on price and preference points system**

### **3 Business Registration**

Prospective bidders shall be registered:

- (a) With the South African Revenue Services for all categories of taxes applicable to it.
- (b) With the Compensation Commissioner
- (c) With the Construction Industry Development Board. (Minimum grading **6CE**).

### **4 Acceptance of Tender Offer (Cl. F3.13)**

Tender offers will only be accepted if:

- a) The bidder has in his or her possession a valid CSD number;
- b) The bidder is registered with the Construction Industry Development Board in an appropriate contractor grading designation. (Minimum grading of **6CE** is required);
- c) The bidder or any of its principals is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and
- d) The bidder has not abused the Employer's Supply Chain Management System.
- e) The bidder has not failed to perform on any previous contract.

- f) has complete the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the bidder's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.

<b>5. Provide copies of the Contract Document (Cl. F3.18)</b>
---

The number of paper copies of the signed Contract to be provided by the Employer to the successful bidder is **one**

## **Annexure A: Standard Conditions of Tender**

### **F.1 General**

#### **F.1.1 Actions**

The employer and each Tenderer submitting a Tender offer shall comply with these conditions of Tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently.

#### **F.1.2 Tender Documents**

The documents issued by the employer for the purpose of a Tender offer are listed in the Tender data.

#### **F.1.3 Interpretation**

**F.1.3.1** The Tender data and additional requirements contained in the Tender schedules that are included in the returnable documents are deemed to be part of these conditions of Tender.

**F.1.3.2** These conditions of Tender, the Tender data and Tender schedules which are only required for Tender evaluation purposes, shall not form part of any contract arising from the invitation to Tender.

**F.1.3.3** For the purposes of these conditions for the calling for expressions of interest, the following definitions apply:

- a) **Comparative offer** means the Tenderer's financial offer after the factors of non-firm prices, all unconditional discounts and any other Tendered parameters that will affect the value of the financial offer have been taken into consideration
- b) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the Tender process; and
- c) **Fraudulent practice** means the misrepresentation of the facts in order to influence the Tender process or the award of a contract arising from a Tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- d) **Quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

#### **F.1.4 Communication and employer's agent**

Each communication between the employer and a Tenderer shall be to or from the employer's agent only, and in a form that can be read, copied and recorded. Writing shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a Tenderer. The name and contact details of the employer's agent are stated in the Tender data.

## **F.1.5 The employer's right to accept or reject any Tender offer**

**F.1.5.1** The employer may accept or reject any variation, deviation, Tender offer, or alternative Tender offer, and may cancel the Tender process and reject all Tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a Tenderer for such cancellation and rejection but will give written reasons for such action upon written request to do so.

**F.1.5.2** The employer may not subsequent to the cancellation or abandonment of a Tender process or the rejection of all responsive Tender offers re-issue a Tender covering substantially the same scope of work within a period of six months unless only one Tender was received and such Tender was returned unopened to the Tenderer.

## **F.2 Tenderer's obligations**

### **F.2.1 Eligibility**

Submit a Tender offer only if the Tenderer satisfies the criteria stated in the Tender data and the Tenderer, or any of his principals, is not under any restriction to do business with employer.

### **F.2.2 Cost of Tendering**

Accept that the employer will not compensate the Tenderer for any costs incurred in the preparation and submission of a Tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.

### **F.2.3 Check documents**

Check the Tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

### **F.2.4 Confidentiality and copyright of documents**

Treat as confidential all matters arising in connection with the Tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a Tender offer in response to the invitation.

### **F.2.5 Reference documents**

Obtain, as necessary for submitting a Tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the Tender documents by reference.

### **F.2.6 Acknowledge addenda**

Acknowledge receipt of addenda to the Tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the Tender data, in order to take the addenda into account.

### **F.2.7 Clarification meeting**

Attend, where required, a clarification meeting at which Tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the Tender data.

**F.2.8 Seek clarification**

Request clarification of the Tender documents, if necessary, by notifying the employer at least five working days before the closing time stated in the Tender data.

**F.2.9 Insurance**

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The Tenderer is advised to seek qualified advice regarding insurance.

**F.2.10 Pricing the Tender offer**

**F.2.10.1** Include in the rates, prices, and the Tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful Tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the Tender data.

**F.2.10.2** Show VAT payable by the employer separately as an addition to the Tendered total of the prices.

**F.2.10.3** Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

**F.2.10.4** State the rates and prices in Rand unless instructed otherwise in the Tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

**F.2.11 Alterations to documents**

Not make any alterations or additions to the Tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the Tenderer. All signatories to the Tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

**F.2.12 Alternative Tender offers**

**F.2.12.1** Submit alternative tender offer only if a main tender offer, strictly in accordance with all the requirements of the tender document, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender document with the alternative requirements the tenderer proposes.

**F.2.12.2** Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

**F.2.13 Submitting a Tender offer**

**F.2.13.1** Submit a Tender offer to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the Tender data.

**F.2.13.2** Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing in black ink.

**F.2.13.3** Submit the parts of the Tender offer communicated on paper as an original plus the number of copies stated in the Tender data, with an English translation of

any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

- F.2.13.4** Sign the original and all copies of the Tender offer where required in terms of the Tender data. The employer will hold all authorized signatories liable on behalf of the Tenderer. Signatories for Tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the Tender offer.
- F.2.13.5** Seal the original and each copy of the Tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the Tender data, as well as the Tenderer's name and contact address.
- F.2.13.6** Where a two-envelope system is required in terms of the Tender data, place and seal the returnable documents listed in the Tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the Tender data, as well as the Tenderer's name and contact address.
- F.2.13.7** Seal the original Tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the Tender data.
- F.2.13.8** Accept that the employer will not assume any responsibility for the misplacement or premature opening of the Tender offer if the outer package is not sealed and marked as stated.

#### **F.2.14 Information and data to be completed in all respects**

Accept that Tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

#### **F.2.15 Closing time**

- F.2.15.1** Ensure that the employer receives the Tender offer at the address specified in the Tender data not later than the closing time stated in the Tender data. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept Tender offers submitted by telegraph, telex, facsimile or e-mail, unless stated otherwise in the Tender data.
- F.2.15.2** Accept that, if the employer extends the closing time stated in the Tender data for any reason, the requirements of these conditions of Tender apply equally to the extended deadline.

#### **F.2.16 Tender offer validity**

- F.2.16.1** Hold the Tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the Tender data after the closing time stated in the Tender data.
- F.2.16.2** If requested by the employer, consider extending the validity period stated in the Tender data for an agreed additional period.

#### **F.2.17 Clarification of Tender offer after submission**

Provide clarification of a Tender offer in response to a request to do so from the employer during the evaluation of Tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the total of the prices or substance of the Tender offer is sought, offered, or permitted. The total of the prices stated by the Tenderer shall be binding upon the Tenderer.

**Note:** Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred Tenderer following a competitive selection process, should the Employer elect to do so.

#### **F.2.18 Provide other material**

- F.2.18.1** Provide, on request by the employer, any other material that has a bearing on the Tender offer, the Tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the Tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the Tender offer as non-responsive.
- F.2.18.2** Dispose of samples of materials provided for evaluation by the employer, where required.

#### **F.2.19 Inspections, tests and analysis**

Provide access during working hours to premises for inspections, tests and analysis as provided for in the Tender data.

#### **F.2.20 Submit securities, bonds, policies, etc.**

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.



### **F.2.21 Check final draft**

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

### **F.2.22 Return of other Tender documents**

If so instructed by the employer, return all retained Tender documents within 28 days after the expiry of the validity period stated in the Tender data.

### **F.2.23 Certificates**

Include in the Tender submission or provide the employer with any certificates as stated in the Tender data.

## **F.3 The employer's undertakings**

### **F.3.1 Respond to clarification**

Respond to a request for clarification received up to five working days before the Tender closing time stated in the Tender Data and notify all Tenderers who drew procurement documents.

### **F.3.2 Issue Addenda**

If necessary, issue addenda that may amend or amplify the Tender documents to each Tenderer during the period from the date that Tender documents are available until seven days before the Tender closing time stated in the Tender Data. If, as a result a Tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all Tenderers who drew documents.

### **F.3.3 Return late Tender offers**

Return Tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a Tender submission to obtain a forwarding address), to the Tenderer concerned.

### **F.3.4 Opening of Tender submissions**

**F.3.4.1** Unless the two-envelope system is to be followed, open valid Tender submissions in the presence of Tenderers' agents who choose to attend at the time and place stated in the Tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

**F.3.4.2** Announce at the meeting held immediately after the opening of Tender submissions, at a venue indicated in the Tender data, the name of each Tenderer whose Tender offer is opened, the total of his prices, preferences claimed and time for completion, if any, for the main Tender offer only.

**F.3.4.3** Make available the record outlined in F.3.4.2 to all interested persons upon request.

### **F.3.5 Two-envelope system**

**F.3.5.1** Where stated in the Tender data that a two-envelope system is to be followed, open only the technical proposal of valid Tenders in the presence of Tenderers' agents who choose to attend at the time and place stated in the Tender data and announce the name of each Tenderer whose technical proposal is opened.

**F.3.5.2** Evaluate the quality of the technical proposals offered by Tenderers, then advise Tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of Tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the Tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to Tenderers whose technical proposals failed to achieve the minimum number of points for quality.

### **F.3.6 Non-disclosure**

Not disclose to Tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of Tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful Tenderer.

### **F.3.7 Grounds for rejection and disqualification**

Determine whether there has been any effort by a Tenderer to influence the processing of Tender offers and instantly disqualify a Tenderer (and his Tender offer) if it is established that he engaged in corrupt or fraudulent practices.

### **F.3.8 Test for responsiveness**

**F.3.8.1** Determine, on opening and before detailed evaluation, whether each Tender offer properly received:

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the Tender documents.

**F.3.8.2** A responsive Tender is one that conforms to all the terms, conditions, and specifications of the Tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- a) Detrimentially affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) Change the Employer's or the Tenderer's risks and responsibilities under the contract, or,

- c) Affect the competitive position of other Tenderers presenting responsive Tenders, if it were to be rectified. Reject a non-responsive Tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

### **F.3.9 Arithmetical errors**

**F.3.9.1** Check responsive Tender offers for arithmetical errors, correcting them in the following manner:

- a) Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.
- b) If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the Tenderer's addition of prices, the total of the prices shall govern and the Tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the Tendered total of the prices.

**F.3.9.2** Consider the rejection of a Tender offer if the Tenderer does not correct or accept the correction of his arithmetical errors in the manner described in F.3.9.1.

### **F.3.10 Clarification of a Tender offer**

Obtain clarification from a Tenderer on any matter that could give rise to ambiguity in a contract arising from the Tender offer.

### F.3.11 Evaluation of Tender offers

#### F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive Tender offer to a comparative offer and evaluate it using the Tender evaluation method that is indicated in the Tender Data and described below:

Method 1: Financial offer	1) Rank Tender offers from the most favourable to the least favourable comparative offer.
	2) Recommend highest ranked Tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 2: Financial offer and preferences	1) Score Tender evaluation points for financial offer.
	2) Confirm that Tenderers are eligible for the preferences claimed and if so, score Tender evaluation points for preferences.
	3) Calculate total Tender evaluation points.
	4) Rank Tender offers from the highest number of Tender evaluation points to the lowest.
	5) Recommend Tenderer with the highest number of Tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 3: Financial offer and quality	1) Score quality, rejecting all Tender offers that fail to score the minimum number of points for quality stated in the Tender data.
	2) Score Tender evaluation points for financial offer.
	3) Calculate total Tender evaluation points.
	4) Rank Tender offers from the highest number of Tender evaluation points to the lowest.
	5) Recommend Tenderer with the highest number of Tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 4: Financial offer, quality and preferences	1) Score quality, rejecting all Tender offers that fail to score the minimum number of points for quality stated in the Tender data.
	2) Score Tender evaluation points for financial offer.
	3) Confirm that Tenderers are eligible for the preferences claimed, and if so, score Tender evaluation points for preferencing.
	4) Calculate total Tender evaluation points.
	5) Rank Tender offers from the highest number of Tender evaluation points to the lowest.
	6) Recommend Tenderer with the highest number of Tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

Score financial offers, preferences and quality, as relevant, to two decimal places.

### F.3.11.2 Scoring Financial Offers

Score the financial offers of remaining responsive Tender offers using the following formula:

NFO =  $W1 \times A$  where:

NFO = the number of Tender evaluation points awarded for the financial offer.

W1 = the maximum possible number of Tender evaluation points awarded for the financial offer as stated in the Tender Data.

A = a number calculated using either formulas 1 or 2 below as stated in the Tender Data.

Formula	Comparison aimed at achieving	Option 1	Option 2
1	Highest price or discount	$A = (1 + \frac{P - P_m}{P_m})$	$A = P / P_m$
2	Lowest price or percentage commission / fee	$A = (1 - \frac{P - P_m}{P_m})$	$A = P_m / P$

where:

$P_m$  = the comparative offer of the most favourable Tender offer.

$P$  = the comparative offer of Tender offer under consideration.

### F.3.11.3 Scoring quality (functionality)

Score quality in each of the categories in accordance with the Tender Data and calculate total score for quality.

#### F.3.12 Insurance provided by the employer

If requested by the proposed successful Tenderer, submit for the Tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

#### F.3.13 Acceptance of Tender offer

**F.3.13.1** Accept Tender offer only if the Tenderer complies with the legal requirements stated in the Tender Data.

**F.3.13.2** Notify the successful Tenderer of the employer's acceptance of his Tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the Tender data, or agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful Tenderer as described in the form of offer and acceptance.

#### F.3.14 Notice to unsuccessful Tenderers

After the successful Tenderer has acknowledged the employer's notice of acceptance, notify other Tenderers that their Tender offers have not been accepted.

#### F.3.15. Prepare contract documents

If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the Tender documents to take account of:

- a) addenda issued during the Tender period,
- b) inclusion of some of the returnable documents,
- c) other revisions agreed between the employer and the successful Tenderer, and
- d) the schedule of deviations attached to the form of offer and acceptance, if any.

#### **F.3.16 Issue final contract**

Prepare and issue the final draft of contract documents to the successful Tenderer for acceptance as soon as possible after the date of the employer's signing of the form of offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of Tender require the Tenderer to submit, after acceptance by the employer, shall be included.

#### **F.3.17 Complete adjudicator's contract**

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

#### **F.3.18 Provide copies of the contracts**

Provide to the successful Tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

**A: SCHEDULE OF LABOUR CONTENT**

The Tenderer must complete the table below to reflect the labour force anticipated to be employed on this contract, including labour employed by sub-contractors.

The specified target value is **5%** of the contract value

Type of Labour	Man-hours	Minimum Wage Rate per Unit	Total Wage Cost (Excl VAT)
Permanent Labour			
Temporary Labour			
SMME/HDI's Labour			
TOTAL PERCENTAGE			

**Notes to Tenderer:**

- (1) Labour is defined as hourly paid personnel.
- (2) The penalty will be applied for non-compliance during the contract or for fraudulent disclosure
- (3) Daily labour rate is R191.60

SIGNED ON BEHALF OF THE TENDERER: .....

**B: EMPLOYMENT OF AFFIRMATIVE BUSINESS ENTERPRISE (ABE)**

Target values of work to be executed by and goods & services to be procured from ABEs shall be **10%**.

Schedule Item No	Name of ABE	Item Description/ Goods & Services to be provided	Value	
			Rands (Excl VAT)	% of Tender Sum (Excl VAT)
<b>TOTAL</b>				

**Notes to tenderer:**

- 1. Regardless whether the tenderer fits the classification of an SMME/PDI, as defined in Section 3.3 of this specification, the tenderer nevertheless retains the obligation to commit to the target values prescribed**
- 2. Tenderers shall insert “unknown” if an SMME/PDI has not been selected prior to tender closing date.**
- 3. The penalty will be applied for non-compliance during the contract or for fraudulent disclosure**

SIGNED ON BEHALF OF THE TENDERER .....



**B.1 EMPLOYMENT OF AFFIRMATIVE BUSINESS ENTERPRISE DECLARATION  
AFFIDAVIT (ABE).**

It is understood and agreed that should this contract be awarded to me, an ABE Declaration Affidavit will be completed by each and every ABE employed by me on this contract and will be submitted to the Employer immediately upon demand by the Employer.

SIGNED ON BEHALF OF THE TENDERER .....

## 1. TRAINING

Name of Training Institution:.....

Name of Programme:.....

Trainer's Name	Qualification	Subject

### Notes to tenderer:

Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.

SIGNED ON BEHALF OF THE TENDERER .....

## 2. ENGINEERING STUDENT TRAINING

Name of Training Institution:.....

Name of Programme:.....

Trainer's Name	Qualification	Subject

### Notes to tenderer:

1. Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.
2. Provision should also include on-job student / (in-service) training for the duration of the construction at a monthly stipend of R 4 500.00

SIGNED ON BEHALF OF THE TENDERER .....

## **POLOKWANE MUNICIPALITY**

### **T2.1 List of Returnable Documents**

The Tenderer must complete the following returnable documents:

#### **1. Returnable Schedules required only for Tender evaluation purposes**

- A. Certificate of Authority of Signatory
- B. Certificate of Registration with the Construction Industry Development Board
- C. Certificate of authority for joint ventures (where applicable)
- D. Compulsory Enterprise Questionnaire
- E. Record of Addenda to Tender Documents
- F. Proposed Amendments and Qualifications
- G. Form of Intent to Provide a Demand Guarantee
- H. Schedule of Subcontractors
- I. Schedule of Available Infrastructure, Resources and Experience
- J. Financial Information of the Tenderer
- K. Certificate for Municipal Services and Payments: Annexure B
- L. Authorisation for deduction of outstanding amounts owed to Council: Annexure C
- M. Declaration of Tenderer's Past Supply Chain Management Practices: MBD 8
- N. Declaration of interest : MBD 4
- O. National industrial participation programme :SBD 5
- P. Declaration for procurement above R10 Million :MBD 5
- Q. Declaration certificate for local production and content: MBD 6.2
- R. Certificate of the Independent Tender Determination: MBD 9
- S. Compliance with OHSA (Act 85 of 1993)
- T. Original Bank rating letter
- U. Day Works
- V. Names of management and supervisory staff for the LIC works

#### **2. Other documents required only for Tender evaluation purposes**

- Compensation Fund Registration Certificate
- Curricula Vitae of Personnel
- Rates of Labour and Materials (Day work Rates)
- A valid CSD number
- Schedule of Labour Content
- Employment of ABE'S
- ABE Declaration Affidavit
- Generic Training
- Complete MBD 5 where the Tender amount inclusive of VAT exceeds R 10 million:

#### **3. Other documents that will be incorporated into the contract**

- 3.1 The offer portion of the C1.1 Offer and Acceptance
- 3.2 C1.2 Contract Data (Part 2)
- 3.3 C2.2 Bills of Quantities

## A. CERTIFICATE OF AUTHORITY OF SIGNATORY

Indicate the status of the Tenderer by ticking the appropriate box hereunder. The Tenderer must complete the certificate set out below for the relevant category.

1	Company	
---	---------	--

2	Partnership	
---	-------------	--

3	Joint Venture	
---	---------------	--

4	Sole Proprietor	
---	-----------------	--

5	Close Corporation	
---	-------------------	--

### 1. Certificate for company

I, ..... chairperson of the board of directors of

....., hereby confirm that by resolution of the board

(copy attached) taken on ..... 20.....,

Mr/Ms .....,

acting in the capacity of ....., was authorised to sign all documents in connection with this Tender and any contract resulting from it on behalf of the company.

As witnesses:

1. ....

.....  
Chairman

.....  
Print Name

.....  
Print Name

2. ....

.....  
Date

.....  
Print Name

## 2. Certificate of partnership

We, the undersigned, being the key partners in the business trading as ....., hereby authorise Mr/Ms ....., acting in the capacity of ....., to sign all documents in connection with the Tender for Contract ....., and any contract resulting from it on our behalf.

Name	Address	Signature	Date

**NOTE:** This certificate is to be completed and **signed by each and all of the key partners** upon whom rests the direction of the affairs of the Partnership as a whole.

## 3. Certificate for Joint Venture

We, the undersigned, are submitting this Tender offer in Joint Venture and hereby authorize Mr/Ms ....., authorised signatory of the firm ....., acting in the capacity of lead partner, to sign all documents in connection with the Tender offer for Contract ..... and any contract resulting from it on our behalf.

This authorisation is evidenced by the attached power of attorney signed by legally authorised signatories of all the partners to the Joint Venture.

Name of Firm	Address	Authorising	
		Signature	Name
Lead Partner			

#### 4. Certificate for sole proprietor

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

As witnesses:-

1. ....  
Signature: Sole Owner  
.....  
Print Name Print Name

2. ....  
.....  
Print Name Date

#### 5. Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as ..... hereby authorise ..... Mr/Ms ..... acting in the capacity of ....., to sign all documents in connection with the Tender for Contract ..... and any contract resulting from it on our behalf.

Name	Address	Signature	Date

Note: This Certificate is to be completed and signed by each and all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.

## **B. CERTIFICATE OF REGISTRATION WITH THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD**

### **1. General**

The Register of Contractors is established by the Construction Industry Development Board in terms of the CIDB Act 38 of 2000 and Construction Industry Development Regulations as published in Government Gazette number 26427 of 2004.

The Act makes it mandatory for public sector clients to apply this register when considering Tenders. Any enterprise that submits a Tender or enters into contract for construction works with the public sector, must be registered.

Once-off joint ventures do not have to register, provided that each partner of the joint venture is separately registered.

### **2. Status**

Tenderers shall fill in the following sections of this form, depending on their status:

#### **2.1 Section A**

Tenderers who have accomplished registration and can provide proof of their grading designation.

#### **2.2 Section B**

Tenderers who are in the process of registration of an update to an existing registration or a renewal.

#### **2.3 Section C**

Tenderers who have submitted the first application.

#### **2.4 Section D**

Tenderers submitting this Tender offer in Joint Venture and can provide proof that each partner of the Joint Venture is separately registered.



**Note: Only complete one of Sections A, B, C or D.**

SECTION A							
I, ..... Acting in capacity of .....							
was authorised to sign all documents in connection with this Tender an any contract resulting from it on behalf of the following entity: .....							
hereby declare that the above mentioned entity has achieved registration with the Construction In- dustry Development Board on date ..... and declare that the grading designation is reflected in the following <b>symbols</b> on the registration certificate.							
		Contract Value					
		Type of Work					
.....				.....			
Signature of Tenderer				Signature of Witness			
.....				.....			
Print Name				Print Name			

## SECTION B

I, ..... acting in capacity of .....  
was authorised to sign all documents in connection with this tender and any contract resulting from it on

behalf of the following entity: .....  
hereby declare that the above mentioned entity has achieved registration with the Construction Industry Development Board on date ....., furthermore declare that the existing grading designation is:

Contract Value	
----------------	--

Type of Work		
--------------	--	--

and the following update has been applied for:

Amendment of category status	
Change of Particulars	
Annual confirmation of Particulars	
Renewal of Registration	

mark with "❄"

.....  
Signature of Tenderer

.....  
Signature of Witness

.....  
Print Name

.....  
Print Name

**C.**

## SECTION C

I, ..... acting in capacity of .....  
was authorised to sign all documents in connection with this tender and any contract resulting from  
it on

behalf of the following entity: .....  
hereby declare that the above mentioned entity has submitted its FIRST APPLICATION FOR  
REGISTRATION with the Construction Industry Development board on date .....

I furthermore accept that failure to achieve registration with the Construction Industry Development  
Board in a category stipulated in the Tender Data within 10 days from the date of closing this tender,  
implies a non-responsive tender and warrants rejection of the Tender on account of non-compliance  
with the requirements of the Tender Data.

.....  
Signature of Tenderer

.....  
Signature of Witness

.....  
Print Name

.....  
Print Name

## SECTION D

I, ..... acting in capacity of the LEAD PARTNER in the Joint Venture

.....  
 was authorised to sign all documents in connection with this tender and any contract resulting from it, hereby declare that each partner of the Joint Venture is separately registered with the Construction Industry Development Board and declare that the grading designation is reflected in the following **symbols** on the registration certificates:

Name of Lead Partner:		
Contract Value		
Type of Work		

Name of 2 <sup>nd</sup> Partner:		
Contract Value		
Type of Work		

Name of 3 <sup>rd</sup> Partner:		
Contract Value		
Type of Work		

.....  
 Signature of Tenderer

.....  
 Signature of Witness

.....  
 Print Name

.....  
 Print Name

**C. CERTIFICATE OF AUTHORITY FOR JOINT VENTURES (WHERE APPLICABLE)**

Employer: .....

Contract Number: .....

NOTE 1 This form need only be completed in the event of a Joint Venture submitting this Tender.

NOTE 2 Fill in all the information requested in the spaces provided. Attach additional sheets if required.

NOTE 3 Provide a copy of the Joint Venture agreement. Demonstrate that the partners to the Joint Venture share in the ownership, control, management responsibilities, risks and profits of the Joint Venture. The Joint Venture agreement shall include specific details relating to:

- a) the contributions of capital and equipment;
- b) portions of the Contract to be performed by the partner's own resources; and
- c) portions of the Contract to be performed under the supervision of each partner.

NOTE 4 Provide copies of all written agreements between partners concerning the Joint Venture, including those that relate to ownership options and to restrictions/limits regarding ownership and control.

**1. Joint Venture Particulars**

Name .....

Postal Address .....

Physical Address .....

.....

Telephone .....

Fax.....

Name of authorized representative:

.....

**2. Identity of Partner No. 1**

Name.....

Postal Address.....

Physical Address .....

.....

Telephone.....

Fax .....

Contact Person.....

**3. Identity of Partner No. 2**

Name .....

Postal Address .....

Physical Address .....

.....

Telephone.....

Fax.....

Contact Person .....

**4. Identity of Partner No. 3**

Name .....

Postal Address .....

Physical Address .....

.....

Telephone .....

Fax.....

Contact Person .....

**5. Description of the role of the partners in the joint venture**

Partner No. 1:.....

.....

Partner No. 2: .....  
.....

Partner No. 3: .....  
.....

**6. Ownership of the joint venture**

(i) Ownership percentage(s) Partner No. 1 .....%  
Partner No. 2 .....%  
Partner No. 3 .....%

(ii) Partner percentage in respect of:  
a) Profit and loss sharing: Partner No. 1 .....%  
Partner No. 2 .....%  
Partner No. 3 .....%

b) Initial capital contribution Partner No. 1 R.....  
Partner No. 2 R.....  
Partner No. 3 R.....

(iii) Anticipated ongoing capital contributions:  
Partner No. 1 R.....  
Partner No. 2 R.....  
Partner No. 3 R.....

(iv) Contributions of equipment (specify types, quality and quantities of equipment) to be provided by each partner:

Partner No. 1:  
.....  
.....

Partner No. 2:  
.....  
.....

Partner No. 3:

.....

.....

**7. Recent contracts performed by partners in their own right or as partners in other joint ventures**

a) Partner No. 1

(i)

.....

(ii)

.....

(iii)

.....

(iv)

.....

(v)

.....

b) Partner No. 2

(i)

.....

(ii)

.....

(iii)

.....

(iv)

.....

(v)

.....

c) Partner No. 3

(i)

.....

(ii)

.....



(iii)  
.....

(iv)  
.....

(v)  
.....

**8. Control and participation in the joint venture**

(Identify by name and firm those individuals who are, or will be, responsible for, and have authority to engage in the relevant management functions and policy and decision making, indicating any limitations in their authority, for example, co-signature requirements and monetary limits).

a) Joint Venture cheque signing  
.....  
.....  
.....

b) Authority to enter into contracts on behalf of the Joint Venture  
.....  
.....  
.....

c) Signing, co-signing or collateralizing of loans  
.....  
.....  
.....

d) Acquisition of lines of credit  
.....  
.....  
.....

e) Acquisition of demand bonds

- .....
- .....
- .....
- f) Negotiating and signing of labour agreements

.....

.....

.....

**9. Management of the performance of the Contract**  
(Fill in the name and firm of the responsible person)

- a) Supervision of field operations.....

- .....
- b) Major purchasing.....

- .....
- c) Estimating .....

- .....
- d) Technical management.....

.....

**10. Management and control of the joint venture**

- a) Identify the managing partner

- .....
- .....
- .....
- b) What authority does each partner have to commit or obligate the other to financial institutions, insurance companies, suppliers, subcontractors or other parties participating in the performance of the contemplated works:

Partner No. 1:

.....

.....

Partner No. 2: .....

.....

Partner No. 3:.....

.....

- c) Describe the management structure for the joint venture's work under this Contract

Management Function/Designation	Name	Partner

## 11. Personnel

- a) State the approximate number of operative personnel (by trade/function/discipline) needed to execute the Joint Venture contract.

Trade/function/discipline	Number

- b) State the number of operative personnel to be employed on the Contract who are currently in the employ of partners:

- .....
- c) State the number of operative personnel who are not currently in the employ of the respective partners and shall be engaged on the project by the Joint Venture:
- .....
- d) State the name of the individual who shall be responsible for hiring Joint Venture employees:
- .....
- e) State the name of the partner who shall be responsible for the preparation of Joint Venture payrolls:
- .....
- .....

## 12. Services

List the firms who provide the following services:

Service	Name	Contact Person	Telephone No.
Accounting			
Auditing			
Banking			
Insurance			
Legal			

## 13. Control and structure of the Joint Venture

Briefly describe the manner in which the Joint Venture is structured and controlled.

.....

.....

.....

The undersigned warrants that he/she is duly authorised to sign this Joint Venture disclosure form and affirms that the foregoing statements are correct and include all the material information necessary to identify and explain the terms and operations of the Joint Venture and the intended participation of each partner in the undertaking.

The undersigned further covenants and agrees to provide the Employer with complete and accurate information regarding actual joint venture work and the payment therefore, and any proposed changes in any provisions of the Joint Venture Agreement, and to permit the audit

and examination of the books, records and files of the Joint Venture, or those of each partner relevant to the Joint Venture, by duly authorized representatives of the Employer.

Duly authorized to sign on behalf of:

.....

..... **(the Joint Venture)**

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

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Duly authorized to sign on behalf of: .....

.....

**(Partner No. 1)**

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

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Duly authorized to sign on behalf of:.....

.....

**(Partner No. 2)**

Signature: .....

Print Name: .....

Name: .....

Address: .....

.....  
Telephone: .....

Date: .....

Duly authorized to sign on behalf of:  
.....

.....  
**(Partner No. 3)**

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

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

#### D. COMPULSORY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. In the case of a joint venture, **separate** enterprise questionnaires in respect of each partner must be completed and submitted.

**Section 1: Name of enterprise:** .....

**Section 2: VAT registration number, if any:** .....

**Section 3: CIDB registration number, if any:** .....

#### **Section 4: Particulars of sole proprietors and partners in partnerships**

<b>Name*</b>	<b>Identity number*</b>	<b>Personal income tax number*</b>

\* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

#### **Section 5: Particulars of companies and close corporations**

Company registration number .....

Close corporation number .....

Tax reference number .....

#### **Section 6: Record in the service of the state**

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

<input type="checkbox"/> a member of any municipal council	<input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
<input type="checkbox"/> a member of any provincial legislature	<input type="checkbox"/> a member of an accounting authority of any national or provincial public entity
<input type="checkbox"/> a member of the National Assembly or the National Council of Province	<input type="checkbox"/> an employee of Parliament or a provincial legislature
<input type="checkbox"/> a member of the board of directors of any municipal entity	
<input type="checkbox"/> an official of any municipality or municipal entity	

**If any of the above boxes are marked, disclose the following:**

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

\*insert separate page if necessary

#### Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

<input type="checkbox"/> a member of any municipal council <input type="checkbox"/> a member of any provincial legislature <input type="checkbox"/> a member of the National Assembly or the National Council of Province <input type="checkbox"/> a member of the board of directors of any municipal entity <input type="checkbox"/> an official of any municipality or municipal entity	<input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity <input type="checkbox"/> an employee of Parliament or a provincial legislature
--	---

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

\*insert separate page if necessary

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;



- ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I / we are not associated, linked or involved with any other Tendering entities submitting Tender offers and have no other relationship with any of the Tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed		Date	
Name		Position	
Enterprise name			

#### **E. RECORD OF ADDENDA TO TENDER DOCUMENTS**

We confirm that the following communications received from the Employer before the submission of this Tender offer, amending the Tender documents, have been taken into account in this Tender offer:

<b>No.</b>	<b>Date</b>	<b>Title or Details</b>
<b>1.</b>		
<b>2.</b>		
<b>3.</b>		
<b>4.</b>		
<b>5.</b>		
<b>6.</b>		
<b>7.</b>		
<b>8.</b>		

Attach additional pages if more space is required.

<b>Signed</b>		<b>Date</b>	
<b>Name</b>		<b>Position</b>	
<b>Tenderer</b>			

## F. PROPOSED AMENDMENTS AND QUALIFICATIONS

The Tenderer should record any deviations or qualifications he may wish to make to the Tender documents in this Returnable Schedule. Alternatively, a Tenderer may state such deviations and qualifications in a covering letter to his Tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal	
Signed		Date	
Name		Position	
Tenderer			

## G. FORM OF INTENT TO PROVIDE A DEMAND GUARANTEE

If my/our Tender is accepted, I/we will, when required and within the time stipulated, provide a guarantee of

(\*) Insurance Company (name) .....

(of address)

.....  
.....

(\*) Commercial Bank (Name)

.....

(Branch)

.....

(of address)

.....  
.....

to be approved by you, the Employer, for the amount stipulated.

(\*) : delete whichever is not applicable.

I/we understand that failure to produce an acceptable Demand Guarantee within the stipulated period is a fundamental breach of Contract, entitling the Employer to:

- (i) withhold all payments which may be due to the Contractor pending compliance with the stipulated requirements to produce an acceptable Demand Guarantee.
- (ii) instruct the Contractor to cease all work pending provision of the Demand Guarantee, and
- (iii) cancel the Contract.

Signed	.....	Date	.....
Print Name	.....	Position	.....
Tenderer	.....		

## H. SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

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

We confirm that all Subcontractors who are contracted to construct a house are registered as home builders with the National Home Builders Registration Council.

No	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor.
1.			
2.			
3.			
4.			
5.			
Signed		Date	
Name		Position	
Tenderer			

# **I. SCHEDULE OF AVAILABLE INFRASTRUCTURE, RESOURCES AND EXPERIENCE**

## **1. Tenderer's List of Third Party Design Engineers**

In the event that the Tenderer desires to design all or part of the Works or submit any alternative, he/she shall list here-following, the Design Engineers, accomplished in the specific field of practice, which he/she proposes to employ for the purpose of third party certification of all works designed by the Tenderer for the Works.

- Notes: (i) All costs of third party designs shall be borne solely by the Tenderer.  
(ii) This Schedule must be accurately completed. Phrases such as "to be advised" will not be accepted.

<b>Section of Works</b>	<b>Name and Address of Registered Engineer</b>				<b>ECSA Registration No.</b>

## **2. Tenderer's Personnel Profile**

<b>Key Staff Permanently employed, of foreman level and above</b>	<b>Number of staff</b>
Sub-Total	
<b>Other Permanent Staff</b>	<b>Number of staff</b>
Sub-Total	
<b>Temporary Staff</b>	<b>Number of staff</b>
Sub-Total	
<b>Total</b>	

3. **List the Firms who provide the following services:**

Service	Name	Contact Person	Telephone
Accounting			
Auditing			
Insurance			
Legal			

4. **Identify any amounts of money loaned to your enterprise, indicating the loan source, date and amount**

Loan Source	Address	Date of Loan	Loan Amount

5. **List a maximum of five contract which your enterprise is engaged in and has not yet completed**

Contract Description	Location	Client	Contract Amount	Expected Completion (month & year)

6. **List the four largest assignments completed by your enterprise in the last three years**

Nature of Work Performed	Client	Consultant Contact Person	Telephone No.	Contract Amount

7. **Address of workshop facilities from where maintenance of works will be undertaken**

.....

.....

8. **Address of Branch Offices in the RSA**

.....

.....

9. **Address of Nearest Representative to Polokwane**

.....  
 .....

10. **Has work previously been performed for the Employer?** YES/NO\* - Specify

.....

11. **Tenderer's Financial Ability to execute and complete the Works**

Provide the estimated cash flow on the project in terms of submissions of payment certificates or payment schedules of the Employer

**NOTES APPLICABLE:**

- (i) Value added tax to be included in all amounts
- (ii) Assume for the purpose of this estimate, payment of certificates within 30 days after receipt by the Employer.
- (iii) In calculation of the last column,
 

$j = d$                        $m = l + g$   
 $k = j + e$                  $n = m + h$   
 $l = k + f$                 etc
- (iv) Failure to detail the required information, shall automatically signify that the Tenderer lacks the infrastructure and resources necessary to execute and complete the Works

Month No. in Contract Period	Estimated amount in Rands (VAT included)			
	a Received	b Payments made	a-b Net cash flow	Cumulative cash flow
1	-		d	j
2			e	k
3			f	l
4			g	m
5			h	n
6			etc.	etc.
7				
8				
9				
10				
11				
12				
Maximum negative cash flow. Take the largest negative number in the last column and write in here →    →    →    →    →				
Signed	.....		Date	.....
Print Name	.....		Position	.....
Tenderer	.....			



## J. FINANCIAL INFORMATION OF TENDERER

This information sheet has to be filled in by the financier of the Tenderer, duly signed and stamped on behalf of the financial institution he represents.

### **Tenderer Details**

Tender Description : .....

Contract Period : .....

Name of Tenderer : .....

Bank Account Number : .....

Tendered Amount : .....

Demand Guarantee will be provided by this Bank: YES ☐ NO ☐

If yes, state amount of Demand Guarantee: R.....

### **Financial Institution**

Name of Commercial Bank : .....

Branch : .....

Name of Bank Manager : .....

Telephone Number : .....

I / We acting on behalf of the above Commercial Bank confirm that

.....  
(Tenderer)

has operated an account with us for the last ..... years.

We have been requested to provide a bank rating based in relation to the financial capability of the Tenderer, taking into account directives set out in the following two tables.

<b>Financial Capability</b>	
Maximum value of contract that the Tenderer is considered capable of	Value on which Bank Rating must be used
up to R300 000	R24 000
R1 000 000	R78 000
R3 000 000	R240 000
R5 000 000	R480 000
R10 000 000	R900 000
R30 000 000	R2 400 000
R100 000 000	R7 800 000

<b>BANK RATING</b>	
<b>Bank Code</b>	<b>Description of Bank Code</b>
A	Undoubted for the amount of enquiry
B	Good for the amount of enquiry
C	Good for the amount quoted if strictly in the way of business
D	Fair trade risk for amount of enquiry
E	Figures considered too high
F	Financial position unknown
G	Occasional dishonours
H	Frequent dishonours

The value on which our Bank Rating of the Tenderer is based is R.....

(In words ..... only)

**The Bank Rating is code:** .....

**ANNEXURE: B**

**K. CERTIFICATE FOR MUNICIPAL SERVICES AND PAYMENTS**

TO: MUNICIPAL MANAGER, POLOKWANE MUNICIPALITY

FROM: \_\_\_\_\_(Name of Tenderer)

FURTHER DETAILS OF TENDERER(S); DIRECTORS/SHAREHOLDERS/PARTNERS,  
ETC.

Directors/shar eholders/Part ner	Physical address of the Business	Municipal Account No.	Physical residential address of the Director/ Shareholder/ Partner	Municipal Account No.

**NB: Please attach certified copy of ID document(s)**

\_\_\_\_\_  
**Signatory**

\_\_\_\_\_  
**Date**

**Witnesses**

1. \_\_\_\_\_  
**Full Names**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

2. \_\_\_\_\_  
**Full Names**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

# **L. AUTHORISATION FOR DEDUCTION OF OUTSTANDING AMOUNTS OWED TO COUNCIL**

TO: MUNICIPAL MANAGER, POLOKWANE MUNICIPALITY

FROM: \_\_\_\_\_ (Name of the Tenderer or Consortium)

I, \_\_\_\_\_ the undersigned, hereby authorise the Polokwane Municipality to deduct the full amount outstanding by the business organisation/Director/Shareholder/Partner, etc. from any payment due by us/me.

Signed at \_\_\_\_\_ Date \_\_\_\_\_ Month \_\_\_\_\_ 20\_\_\_\_\_

Print Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Thus done and signed for and on behalf of the Tenderer/Contractor

\_\_\_\_\_  
**Signatory**

\_\_\_\_\_  
**Date**

## **Witnesses**

1. _____	_____	_____
<b>Full Names</b>	<b>Signature</b>	<b>Date</b>

2. _____	_____	_____
<b>Full Names</b>	<b>Signature</b>	<b>Date</b>

### M. DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1. This Municipal Tendering Document must form part of all Tenders invited.
2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are to combat the abuse of the supply chain management system.
3. **The of any Tenderer may be rejected if the Tenderer, or any of its directors have:**
  - a) Abused the Municipality's Supply Chain Management System or committed any improper conduct in relation to such system:
  - b) Been convicted for fraud or corruption during the past five years:
  - c) Wilfully neglected, reneged or failed to comply with any government, municipal or public sector contract during the past five years; or
  - d) Been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corruption Activities Act (No 12 of 2004).
4. **In order to give effect to the above, the following questionnaire must be completed and submitted with the Tender.**

ITEM	QUESTION	YES	NO
4.1	Is the Tenderer or any of its directors listed on the National Treasury's database as a company or person prohibited from doing business with the public sector? <b>(Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the audi alteram partem rule was applied).</b>		
4.1.1	If so, furnish particulars:		
4.2	Is the Tenderer or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corruption Activities Act (No 12 of 2004)? <b>(To access this Register enter the National Treasury's website <a href="http://www.treasury.gov.za">www.treasury.gov.za</a>, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012 326 5445).</b>		
4.2.1	If so, furnish particulars:		
4.3	Was the Tenderer or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?		
4.3.1	If so, furnish particulars:		
4.4	Does the Tenderer or any of its directors owe any municipal rates and taxes or municipal charges to the municipality/municipal entity, or any other municipality/municipal entity, that is in arrears for more than three months?		
4.4.1	If so, furnish particulars:		

4.5	Was any contract between the Tenderer and the municipality/municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?		
4.5.1	If so, furnish particulars:		

### CERTIFICATION

**I, THE UNDERSIGNED (FULL NAME)**

\_\_\_\_\_  
**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TO BE TRUE AND CORRECT.**

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

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Position**

\_\_\_\_\_  
**Name of Tenderer**

**N. DECLARATION OF INTEREST**

1. No Tender will be accepted from persons in the service of the State\*.
2. Any person, having a kinship with persons in the service of the State, including a blood relationship, may make an offer/s in terms of this invitation to Tender. In view of possible allegations of favouritism, should the resulting Tender, or part thereof, be awarded to persons connected with or related to persons in service of the State, it is required that the Tenderer or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the Tender.

Full Name: \_\_\_\_\_

Identity No: \_\_\_\_\_

Company Registration No: \_\_\_\_\_

Tax Reference No: \_\_\_\_\_

VAT Registration No: \_\_\_\_\_

Are you at present in the service of the State? **Yes/No**

If so, furnish particulars

---



---

- **Municipal Supply Chain Management Regulation:** "In the service of the State" means to be –
  - (a) A member of –
    - (i) Any Municipal council;
    - (ii) Any Provincial legislature; or
    - (iii) The National Assembly or National Council of Provinces
  - (b) A member of board of directors of any municipal entity;
  - (c) An official of any municipality or municipal entity;
  - (d) An employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
  - (e) A member of Parliament or provincial legislature.
  - (f) A member of the accounting authority of any national or provincial public entity; or
  - (g) An employee of Parliament or a provincial legislature

Have you been in the service of the State for the past twelve months? **YES/NO**

If so, furnish particulars.

---

---

Do you have any relationship (family, friend, other) with persons in the service of the State and who may be involved with the evaluation or adjudication of this Tender?  
**YES/NO**

If so, furnish particulars.

---

---

Are you aware of any relationship (family, friend, other) between a Tenderer and any persons in the service of the State who may be involved with the evaluation or adjudication of this Tender? **YES/NO**

If so, furnish particulars?

---

---

Are any of the company's directors, managers, principle shareholders or stakeholders in service of the State? **YES/NO**

If so, furnish particulars.

---

---

Are any spouses, child or parent of the company's directors, managers, principle shareholders or stakeholders in service of the State? **YES/NO**

If so, furnish particulars?

---

---

#### **CERTIFICATION**

**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT. I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**

---

**Signature**

---

**Date**

---

**Position**

---

**Name of Tenderer**



This document must be signed and submitted together with your Tender

## **O. THE NATIONAL INDUSTRIAL PARTICIPATION PROGRAMME**

### **INTRODUCTION**

The National Industrial Participation (NIP) Programme, which is applicable to all government procurement contracts that have an imported content, became effective on the 1 September 1996. The NIP policy and guidelines were fully endorsed by Cabinet on 30 April 1997. In terms of the Cabinet decision, all state and parastatal purchases / lease contracts (for goods, works and services) entered into after this date, are subject to the NIP requirements. NIP is obligatory and therefore must be complied with. The Industrial Participation Secretariat (IPS) of the Department of Trade and Industry (DTI) is charged with the responsibility of administering the programme.

### **1 PILLARS OF THE PROGRAMME**

- 1.1 The NIP obligation is benchmarked on the imported content of the contract. Any contract having an imported content equal to or exceeding US\$ 10 million or other currency equivalent to US\$ 10 million will have a NIP obligation. This threshold of US\$ 10 million can be reached as follows:
  - (a) Any single contract with imported content exceeding US\$10 million.or
  - (b) Multiple contracts for the same goods, works or services each with imported content exceeding US\$3 million awarded to one seller over a 2 year period which in total exceeds US\$10 million. or
  - (c) A contract with a renewable option clause, where should the option be exercised the total value of the imported content will exceed US\$10 million. or
  - (d) Multiple suppliers of the same goods, works or services under the same contract, where the value of the imported content of each allocation is equal to or exceeds US\$ 3 million worth of goods, works or services to the same government institution, which in total over a two (2) year period exceeds US\$10 million.
- 1.2 The NIP obligation applicable to suppliers in respect of sub-paragraphs 1.1 (a) to 1.1 (c) above will amount to 30 % of the imported content whilst suppliers in respect of paragraph 1.1 (d) shall incur 30% of the total NIP obligation on a *pro-rata* basis.
- 1.3 To satisfy the NIP obligation, the DTI would negotiate and conclude agreements such as investments, joint ventures, sub-contracting, licensee production, export promotion, sourcing arrangements and research and development (R&D) with partners or suppliers

A period of seven years has been identified as the time frame within which to discharge the obligation

## **2. REQUIREMENTS OF THE DEPARTMENT OF TRADE AND INDUSTRY**

- 2.1 In order to ensure effective implementation of the programme, successful Tenderers (contractors) are required to, immediately after the award of a contract that is in excess of **R10 million** (ten million Rands), submit details of such a contract to the DTI for reporting purposes.
- 2.2 The purpose for reporting details of contracts in excess of the amount of R10 million (ten million Rands) is to cater for multiple contracts for the same goods, works or services; renewable contracts and multiple suppliers for the same goods, works or services under the same contract as provided for in paragraphs 1.1.(b) to 1.1. (d) above.

## **3 TENDER SUBMISSIONS AND CONTRACT REPORTING REQUIREMENTS OF TENDERERS AND SUCCESSFUL TENDERERS (CONTRACTORS)**

- 3.1 Tenderers are required to sign and submit this Standard Tendering Document (SBD 5) together with the Tender on the closing date and time.
- 3.2 In order to accommodate multiple contracts for the same goods, works or services; renewable contracts and multiple suppliers for the same goods, works or services under the same contract as indicated in sub-paragraphs 1.1 (b) to 1.1 (d) above and to enable the DTI in determining the NIP obligation, successful Tenderers (contractors) are required, immediately after being officially notified about any successful Tender with a value in excess of R10 million (ten million Rands), to contact and furnish the **DTI with the following information:**
- Tender / contract number.
  - Description of the goods, works or services.
  - Date on which the contract was accepted.
  - Name, address and contact details of the government institution.
  - Value of the contract.
  - Imported content of the contract, if possible.
- 3.3 The information required in paragraph 3.2 above must be sent to the Department of Trade and Industry, Private Bag X 84, Pretoria, 0001 for the attention of Mr Elias Malapane within five (5) working days after award of the contract. Mr Malapane may be contacted on telephone (012) 394 1401, facsimile (012) 394 2401 or e-mail at [Elias@thedti.gov.za](mailto:Elias@thedti.gov.za) for further details about the programme.

## **4 PROCESSES TO SATISFY THE NIP OBLIGATION**

- 4.1 Once the successful Tenderer (contractor) has made contact with and furnished the DTI with the information required, the following steps will be followed:
- (a) the contractor and the DTI will determine the NIP obligation;
  - (b) the contractor and the DTI will sign the NIP obligation agreement;

- (c) the contractor will submit a performance guarantee to the DTI;
- (d) the contractor will submit a business concept for consideration and approval by the DTI;
- (e) upon approval of the business concept by the DTI, the contractor will submit detailed business plans outlining the business concepts;
- (f) the contractor will implement the business plans; and
- (g) the contractor will submit bi-annual progress reports on approved plans to the DTI.

4.2 The NIP obligation agreement is between the DTI and the successful Tenderer (contractor) and, therefore, does not involve the purchasing institution

Tender number ..... Closing date:.....

Name of Tenderer.....

Postal address .....

.....

Signature..... Name (in print).....

Date.....

**P. DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)**

For all procurement expected to exceed R10 million (all applicable taxes included), Tenderers must complete the following questionnaire

- 1 Are you by law required to prepare annual financial statements for auditing?
  - 1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

.....  
.....

- 2 Do you have any outstanding undisputed commitments for municipal services towards any Municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?

- 2.1 If no, this serves to certify that the Tenderer has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.

- 2.2 If yes, provide particulars.

.....  
.....  
.....  
.....

\* Delete if not applicable

- 3 Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract? **\*YES / NO**

- 3.1 If yes, furnish particulars

.....  
.....

- 4 Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? **\*YES/NO**

- 4.1 If yes, furnish particulars

.....  
.....

**CERTIFICATION**

**I, THE UNDERSIGNED (NAME)**

.....

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

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

.....  
**Signature**

.....  
**Date**

.....  
**Position**

.....  
**Name of Tenderer**

## Q. DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT

This Municipal Tendering Document (MBD) must form part of all Tenders invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, Tenderers must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:201x.

### 1. General Conditions

- 1.1. Preferential Procurement Regulations, 2011 (Regulation 9. (1) and 9. (3) make provision for the promotion of local production and content.
- 1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of Tenders local production and content is of critical importance, such Tenders must be advertised with the specific Tendering condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Regulation 9.(3) prescribes that where there is no designated sector, a specific Tendering condition may be included, that only locally produced services, works or goods or locally manufactured goods with a stipulated minimum threshold for local production and content, will be considered.
- 1.4. Where necessary, for Tenders referred to in paragraphs 1.2 and 1.3 above, a two stage Tendering process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.5. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.6. The local content (LC) as a percentage of the Tender price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 201x as follows:

$$LC = 1 - \left( \frac{x}{y} \right) \times 100$$

Where

x imported content

y Tender price excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by the South African Reserve Bank (SARB) at 12:00 on the date, one week (7 calendar days) prior to the closing date of the Tender as required in paragraph 4.1 below.

1.7. A Tender will be disqualified if:

- The Tenderer fails to achieve the stipulated minimum threshold for local production and content indicated in paragraph 3 below; and this declaration certificate is not submitted as part of the Tender documentation.

## 2. Definitions

- 2.1. **“Tender”** includes advertised competitive Tenders, written price quotations or proposals;
- 2.2. **“Tender price”** price offered by the Tenderer, excluding value added tax (VAT);
- 2.3. **“contract”** means the agreement that results from the acceptance of a Tender by an organ of state;
- 2.4. **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
- 2.5. **“Duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).
- 2.6. **“imported content”** means that portion of the Tender price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
- 2.7. **“local content”** means that portion of the Tender price which is not included in the imported content, provided that local manufacture does take place;
- 2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
- 2.9. **“Sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

## 3. The stipulated minimum threshold(s) for local production and content for this Tender is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
_____	_____ %
_____	_____ %
_____	_____ %

## 4. Does any portion of the services, works or goods offered have any imported content?

YES / NO

- 4.1 If yes, the rate(s) of exchange to be used in this Tender to calculate the local content as prescribed in paragraph 1.6 of the general conditions must be the rate(s) published by

the SARB for the specific currency at 12:00 on the date, one week (7 calendar days) prior to the closing date of the Tender.

The relevant rates of exchange information is accessible on [www.reservebank.co.za](http://www.reservebank.co.za).

Indicate the rate(s) of exchange against the appropriate currency in the table below:

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Tenderers must submit proof of the SARB rate (s) of exchange used.

**LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)**

**IN RESPECT OF TENDER No.** .....

**ISSUED BY:** (Procurement Authority / Name of Municipality / Municipal Entity):

.....

NB The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the Tenderer.

I, the undersigned, ..... (full names),

do hereby declare, in my capacity as

.....

of .....(name of Tenderer entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that the goods/services/works to be delivered in terms of the above-specified Tender comply with the minimum local content requirements as specified in the Tender, and as measured in terms of SATS 1286.
- (c) The local content has been calculated using the formula given in clause 3 of SATS 1286, the rates of exchange indicated in paragraph 4.1 above and the following figures:

Tender price, excluding VAT (y)	R
Imported content (x)	R



	Stipulated minimum threshold for Local content (paragraph 3 above)	
	Local content % as calculated in terms of SATS 1286	

If the Tender is for more than one product, a schedule of the local content by product shall be attached.

(d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286.

(e) I understand that the awarding of the Tender is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

**SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**WITNESS No. 1** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**WITNESS No. 2** \_\_\_\_\_ **DATE:** \_\_\_\_\_

## R. CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

- 1 This Municipal Tendering Document (MBD) must form part of all Tenders<sup>1</sup> invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive Tendering (or Tender rigging).<sup>2</sup> Collusive Tendering is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. take all reasonable steps to prevent such abuse;
  - b. reject the Tender of any Tenderer if that Tenderer or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the Tendering process or the execution of the contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when Tenders are considered, reasonable steps are taken to prevent any form of Tender-rigging.
- 5 In order to give effect to the above, the attached Certificate of Tender Determination (MBD 9) must be completed and submitted with the Tender:

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

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

## **CERTIFICATE OF INDEPENDENT TENDER DETERMINATION**

I, the undersigned, in submitting the accompanying Tender:

---

(Tender Number and Description)

in response to the invitation for the Tender made by:

---

(Name of Municipality / Municipal Entity)

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

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

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying Tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the Tenderer to sign this Certificate, and to submit the accompanying Tender, on behalf of the Tenderer;
4. Each person whose signature appears on the accompanying Tender has been authorized by the Tenderer to determine the terms of, and to sign, the Tender, on behalf of the Tenderer;
5. For the purposes of this Certificate and the accompanying Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
  - (a) has been requested to submit a Tender in response to this Tender invitation;
  - (b) could potentially submit a Tender in response to this Tender invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the Tenderer and/or is in the same line of business as the Tenderer
6. The Tenderer has arrived at the accompanying Tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive Tendering.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;

- (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a Tender;
  - (e) the submission of a Tender which does not meet the specifications and conditions of the Tender; or
  - (f) Tendering with the intention not to win the Tender.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this Tender invitation relates.
9. The terms of the accompanying Tender have not been, and will not be, disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official Tender opening or of the awarding of the contract.

<sup>3</sup> **Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.**

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

.....  
**Signature**

.....  
**Date**

.....  
**Position**

.....  
**Name of Tenderer**

## S. COMPLIANCE WITH OHSA (ACT 85 OF 1993)

Tenderers are required to satisfy the Employer and the Engineer as to their ability and available resources to comply with the above by answering the following questions and providing the relevant information required below.

1. Is the Contractor familiar with the OHSA (ACT 85 of 1993) and its Regulations?		<b>YES</b>	/	<b>NO</b>
2. Who will prepare the Contractor's Health and Safety Plan? (Provide a copy of the person/s curriculum vitae/s or company profile).		<b>YES</b>	/	<b>NO</b>
3. Does the Contractor have a health and safety policy? (If yes, provide a copy). How is this policy communicated to all employees?		<b>YES</b>	/	<b>NO</b>
4. Does the Contractor keep records of safety aspects of each construction site? If yes, what records are kept?		<b>YES</b>	/	<b>NO</b>
5. Does the Contractor conduct monthly safety meetings? If yes, who is the chairperson of the meeting, and who attend these meetings?		<b>YES</b>	/	<b>NO</b>
6. Does the Contractor have a safety officer in his employment, responsible for the overall safety of his company? If yes, please explain his duties and provide a copy of his CV.		<b>YES</b>	/	<b>NO</b>
7. Does the Contractor have trained first aid employees? If yes, indicate, who.		<b>YES</b>	/	<b>NO</b>
8. Does the Contractor have a safety induction-training programme in place? (If yes, provide a copy)		<b>YES</b>	/	<b>NO</b>

**Signature of Tenderer:** ..... **Date:** .....

**T. ORIGINAL BANK RATING LETTER**

**Attached the Bank Rating to this Page**

## **U. DAY WORK SCHEDULE**

This Day work Schedule shall be used for the valuation of any additional or substituted work which cannot conveniently be valued at the rates and prices submitted in the schedule of quantities.

In respect of labour and materials used in the additional or substituted work not covered in the Day work Schedule the Contractor shall be paid the actual cost plus the percentage allowance stated in the schedule of quantities.

The Tenderer shall quote hereunder rates which shall apply for payment purposes if the Engineer orders additional or substituted work to be carried out on a day work basis and shall therefore be in accordance with the requirements of clause 37(2) of the General Conditions of Contract.

### **1. LABOUR AND MATERIALS**

Rates and prices entered in the schedule shall be held to allow for net cost of labour and materials delivered to site respectively with the percentage allowances stated in the schedule of quantities.

### **2. PLANT AND EQUIPMENT**

The Tenderers shall list all major items of plant and equipment to be used on the works and which may be required for use on day works. The proposed hire rates of these items shall be entered against each type of machine, such rates to include for all relevant costs of plant hire inclusive of fuels and lubricants but exclusive of labour charges for the operators, which will be paid for under sub-clause (1) above.

The rates for plant items not listed in the schedule will be the ruling plant hire rates, inclusive of fuels and lubricants but exclusive of labour charges for the operators, inclusive of a 7,5% handling charge. It is therefore in the Tenderers interest to ensure that the list is complete.

Should there be insufficient space on the pages provided; the Tenderer shall add further pages as required.

THE RATES FOR THE PLANT AND EQUIPMENT MENTIONED IN THE SCHEDULE SHALL BE FILLED IN FOR THE ITEMS REQUESTED. SHOULD AN ITEM BE OMITTED IT SHALL BE DEEMED TO HAVE BEEN INCLUDED IN THE OTHER DAYWORKS RATES.

## I. LABOUR

DESIGNATION		RATE	
		R	C
Brick Layers	per hour		
Pipe Layers	per hour		
Plant Operators	per hour		
Truck Drivers	per hour		
Labour - unskilled	per hour		
- semi-skilled	per hour		
- skilled	per hour		

## II. MATERIALS

DESIGNATION		RATE	
		R	C
Cement	per 50 kg pocket delivered		
Concrete Sand	per m <sup>3</sup> delivered		
Concrete Aggregate	per m <sup>3</sup> delivered		

## III. TRANSPORT

DESIGNATION		RATE	
		R	C
Per cubic metre kilometre			

## IV. PLANT AND EQUIPMENT

ITEM	DESCRIPTION	NON WORKING RATE*		OPERATING RATE		PER UNIT
		R	c	R	C	
	Crawler excavator (70 - 80 kW)					
	Backhoe loader (50 - 60 kW)					
	Walk-behind vibrating roller					
	Compressor (175 cfm), including hoses and breakers					
	Concrete Mixer (150 - 250 litre)					
	Water Pump (75 mm), including suction hose and delivery hose (30m)					
	Tipper trucks (6 m <sup>3</sup> )					
	1 ton bakkie					
	Plate compactor					

\*Only applicable on authority of the Engineer.



**POLOKWANE MUNICIPALITY**

**PART C1: AGREEMENTS AND CONTRACT DATA**

**C1.1: FORM OF OFFER AND ACCEPTANCE**

**C1.2: CONTRACT DATA**

**C1.3: DEMAND GUARANTEE AND RETENTION MONEY GUARANTEE**

**C1.4: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL  
HEALTH AND SAFETY ACT No 85 OF 1993**

**C1.5: AGREEMENT WITH ADJUDICATOR**

## POLOKWANE MUNICIPALITY

### PROJECT DESCRIPTION: GA-MAJA SPORTS COMPLEX

#### C1.1 Form of Offer and Acceptance

##### Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of construction works viz.:

##### **Project Description: GA-MAJA SPORTS COMPLEX** **Contract No.**

The Tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

The offered total of the prices inclusive of value-added-tax is:

.....

.....

..... (Amount in words); R.....(Amount in figures)

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in terms of the Conditions of Contract identified in the Contract Data.

Signature(s) .....

Print Name(s).....

Capacity .....

For the Tenderer.....

.....

(Name and address of organization)

Signature of witness.....Date: .....

Print Name .....

**Important Note**

**This page to be duly completed by the Tenderer before submitting the Tender.**

## **ACCEPTANCE**

By signing this part of this Form of Offer and Acceptance, the Employer accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract are contained in

Part 1: Agreements and Contract Data (which include this Agreement)

Part 2: Pricing Data

Part 3: Scope of Work

Part 4: Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto, as listed in the Tender Schedules, as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which shall be signed by the authorized representative(s) of both parties.

The Tenderer shall, within 7 days of receiving a completed copy of this Agreement (including the Schedule of Deviations, if any), contact the Employer's Agent (whose details are given in the Contract Data) to arrange the delivery of any guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfill any of the obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed copy of this original document, including the Schedule of Deviations (if any). Such date should be confirmed in a manner that can be read, copied and recorded and shall be accepted by the contracting parties as the Commencement Date. This agreement shall constitute a binding contract between the parties.

Signature(s) .....

Print Name(s) .....

Capacity .....

For the Employer .....  
(Name of Organization)

.....  
.....  
(Address of Organization)

Signature of witness..... Date: .....

Print Name .....

## **SCHEDULE OF DEVIATIONS**

The extent of deviations from the Tender documents issued by the Employer before the Tender closing date is limited to those permitted in terms of the Conditions of Tender.

A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the Tender documents, and which it is agreed by the Parties becomes an obligation of the contract, shall also be recorded here.

Any change or addition to the Tender documents arising from the above agreements and recorded here shall also be incorporated into the final Contract Document.

3.1 Subject.....

Details .....

3.2 Subject.....

Details .....

3.3 Subject.....

Details .....

By the duly authorized representatives signing this Schedule of Deviations, the Employer and the Contractor agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Contractor and the Employer in concluding this process of offer and acceptance; in witness thereof the parties hereto have caused this agreement to be executed.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the Tender documents and the receipt by the Contractor of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

Signed by: ..... Signed by: .....

Print Name: ..... Print Name:.....

Address: ..... Address: .....

.....

For and on behalf of the **Employer** in the  
Presence of

Witness: .....

Print Name: .....

Date: .....

For and on behalf of the **Contractor** in the  
presence of

Witness: .....

Print Name: .....

Date: .....

**POLOKWANE MUNICIPALITY**  
**(Not to be completed at tender stage)**

**C1.3 Performance Guarantee**

In accordance with clause 6.2.1 of General Conditions of Contract, 3<sup>rd</sup> Edition 2015

Contract No: -----

Description of Contract: -----

**GUARANTOR DETAILS AND DEFINATIONS**

"Guarantor" means: -----

----- (Please put name of firm)

Please address: -----

Postal address: -----

Tel:-----

Fax: -----

"Employer" means: **POLOKWANE MUNICIPALITY.**

"Contractor" means: -----

----- (Please put name of firm)

"Guarantee sum" means: 10% of the contract amount

"**Engineer**" means: -----

"**Works**" means: Permanent works together with temporary works

"**Site**" means: The land and other places, made available by the Employer for the purpose of the contract, on under over in or through which the works are to be executed or carried out.

"**Contractor**" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contractor as may be agreed in writing between the parties.

"**Contract Sum**" means: The accepted amount inclusive for tax of R-----

Amount in words: -----

"**Expiry Date**" This Guarantee shall expire upon the issue of the **Completion Certificate** issued by Polokwane Municipality signed by the Director of ENGINEERING Services, as such date is advised to the Guarantor in writing confirmed by the Employer.



## **CONTRACT DETAILS**

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Work as defined in the Contract.

## **PERFORMANCE GUARANTEE**

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. Expiry Date" This Guarantee shall expire upon the issue of the final completion certificate issued by Polokwane Municipality signed by the Director of ENGINEERING Services, as such date is advised to the Guarantor in writing confirmed by the Employer The Engineer and/or the Employer shall advise the Guarantor in writing of the date on the Certificate of the works has been issued.
3. The Guarantor hereby acknowledges that:
  - 3.1. Any reference in this performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a surety ship;
  - 3.2. Its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
  - 4.1. A copy of a first written demand issues by the Employer to the Contractor stating that payment of a sum certified by the Engineer and/ or Employer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
  - 4.2. A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address and / or postal address with a copy to the Contractor stating that period of seven (7) days has elapsed since the first written demand terms of 4.1 and the sum certificate has still not been paid;
  - 4.3. A copy of the aforesaid payment certificate which entails the Employer to receive payment in terms of the Contract sum in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed sum or the full outstanding balance upon receipt

of a first written demand from the Employer to the Guarantor at the Guarantor's physical address and/ or postal address calling up this Performance Guarantee, such demand stating that:

- 5.1. The contractor has been termination due to the Contractor's default and this performance Guarantee is called up in terms of 5; or
- 5.2. A provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
- 5.3. The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional /final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the guarantor.
8. Payment by Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
9. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from his Performance Guarantee on account alleged to be prejudicial to the Guarantor.
10. The Guarantor chooses the physical address and postal address as stated above for the service of all notices for all purposes in connection herewith.
11. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after on claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
13. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Court Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Sign at -----

Date -----

Guarantor's signatory (1) -----

Capacity -----

Guarantor's signatory (2) -----

Capacity -----

Witness signatory (1) -----

Witness signatory (2) -----

**RETENTION MONEY GUARANTEE**  
**(Not to be completed at tender stage)**

In accordance with clause 6.2.1 of General Conditions of Contract, 3<sup>rd</sup> Edition 2015

Contract No: -----

Description of Contract: -----

**GUARANTOR DETAILS AND DEFINATIONS**

“Guarantor” means: -----

----- (Please put name of firm)

Please address: -----

-----

Postal address: -----

-----

Tel:-----

Fax: -----

“Employer” means: **POLOKWANE MUNICIPALITY.**

“Contractor” means: -----

----- (Please put name of firm)

“Guarantee sum” means: 10% of the contract amount

“**Engineer**” means: -----

“**Works**” means: Permanent works together with temporary works

“**Site**” means: The land and other places, made available by the Employer for the purpose of the contract, on under over in or through which the works are to be executed or carried out.

“**Contractor**” means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contractor as may be agreed in writing between the parties.

“**Contract Sum**” means: The accepted amount inclusive for tax of R-----

Amount in words: -----

-----

“**Expiry Date**” This Guarantee shall expire upon the issue of the **Final Completion Certificate** issued by Polokwane Municipality signed by the Director of ENGINEERING Services, as such date is advised to the Guarantor in writing confirmed by the Employer.

## CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Work as defined in the Contract.

## RETENTION GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. Expiry Date" This Guarantee shall expire upon the issue of the final completion certificate issued by Polokwane Municipality signed by the Director of ENGINEERING Services, as such date is advised to the Guarantor in writing confirmed by the Employer. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on the Certificate of the works has been issued.
3. The Guarantor hereby acknowledges that:
  - 3.1. Any reference in this performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a surety ship;
  - 3.3. Its obligation under this Retention Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
  - 4.1. A copy of a first written demand issues by the Employer to the Contractor stating that payment of a sum certified by the Engineer and/ or Employer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
  - 4.2. A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address and / or postal address with a copy to the Contractor stating that period of seven (7) days has elapsed since the first written demand terms of 4.1 and the sum certificate has still not been paid;
  - 4.3. A copy of the aforesaid payment certificate which entails the Employer to receive payment in terms of the Contract sum in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address and/ or postal address calling up this Performance Guarantee, such demand stating that:
  - 5.1. The contractor has been terminated due to the Contractor's default and this Retention Guarantee is called up in terms of 5; or
  - 5.2. A provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Retention Guarantee is called up in terms of 5; and
  - 5.3. The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional /final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the guarantor.

8. Payment by Guarantor in terms of 5 will only be made against the return of the original Retention Guarantee by the Employer.
9. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from his Retention Guarantee on account alleged to be prejudicial to the Guarantor.
10. The Guarantor chooses the physical address and postal address as stated above for the service of all notices for all purposes in connection herewith.
11. This Retention Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after on claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This Retention Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
13. Where this Retention Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Court Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Sign at -----

Date -----

Guarantor's signatory (1) -----

Capacity -----

Guarantor's signatory (2) -----

Capacity -----

Witness signatory (1) -----

Witness signatory (2) -----

## **POLOKWANE MUNICIPALITY**

### **C.1.2 Contract Data**

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### **C.1.2.1 Part 1: Data provided by the Employer**

#### **C.1.2.1.1 Conditions of Contract**

The Conditions of Contract are:

- the “General Conditions of Contract” as they appear in the commercially-available publication “General Conditions of Contract for Construction Works, Third Edition, 2015”, hereinafter referred to as “GCC 2015”; and
- specific data as contained in this Contract Data.

Each party to the Contract shall purchase its own copy of the GCC 2015 that applies to this Contract, available from its publisher:

South African Institution of Civil Engineering  
Private Bag X200  
Halfway House  
1685  
South Africa

Tel +27 (0)11 805 5947

**The following Notes apply:**

#### **Note 1**

The GCC 2015 makes several references to the Contract Data.

Each item of data below is cross-referenced to the clause in the Conditions of Contract to which it applies. Notwithstanding anything specified to the contrary, the Contract Data shall take precedence in the interpretation of any ambiguity or inconsistency between it and the GCC 2015.

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purpose of interpretation, the priority of the documents shall be in accordance with the following order of precedence:

- (a) the Form of Offer and Acceptance.
- (b) amendments to the General Conditions of Contract within the Contract Data.
- (c) additional conditions to the General Conditions of Contract within the Contract Data.
- (d) corrigenda to the General Conditions of Contract.
- (e) the General Conditions of Contract.
- (f) the Specifications, Drawings, Schedules and other documents forming part of the Contract (in that order) contained in the Scope of Work and the Site Information.

If any ambiguity or discrepancy is found in the documents, the Engineer needs to be contacted to issue any necessary clarification or instruction.



## Note 2

Certain pro-forma forms and pro-forma agreements contained in the GCC 2015 have been adapted for this particular contract. Those pro-forma forms and pro-forma agreements contained in the GCC 2015 do not apply where replaced by similar pro-forma forms and pro-forma agreements in this document.

### C.1.2.1.2 Contract-specific Data

The following contract-specific data, referring to the General Conditions of Contract, are applicable to this Contract:

#### C.1.2.1.2.1 Compulsory Data

Clause	Data
1.1.1.13	The Defects Liability Period is <b>12 months</b>
1.1.1.14	The time for achieving Practical Completion is <b>8 months</b>
1.1.1.15	The name of the Employer is Polokwane Municipality
1.1.1.26	The Pricing Strategy of a Re-measurement Contract shall apply
1.2.1.2	<p>The address of the Employer is:</p> <p>Physical address: Civic Centre Landdros Mare Street Polokwane City</p> <p>Postal address: PO Box 111 Polokwane 0700</p> <p>e-mail address: mapula@polokwane.gov.za</p> <p>Contact numbers: Corporate: 015 290 2335 Direct: 015 290 2206</p>
1.1.1.16	<p>The name of the Engineer is:</p> <p>TLOU CONSULTING (PTY) LTD</p>

Clause	Data																																																											
1.2.1.2	<p>The address of the Engineer is:</p> <p>Physical address: 121 Boshof Street, New Muckleneuk, Pretoria</p> <p>Postal address: P O Box 1309 Pretoria, 0001</p> <p>e-mail address: <a href="mailto:ravain@tlouconsult.co.za">ravain@tlouconsult.co.za</a></p> <p>Contact numbers: Corporate:           012 336 9800 Mobile:             082 923 8907 Fax:                 012 460 2033</p>																																																											
3.1.3	<p>The Engineer shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following table:</p> <table><tr><th>GCC Clause No</th><th>Description</th><th>Requires EWA*</th><th>Delegated to ER*</th></tr><tr><td>3.3.1</td><td>Engineer's Representative's appointment and termination</td><td>Y</td><td></td></tr><tr><td>3.3.2</td><td>Engineer's Representative acting on Engineer's behalf</td><td>Y</td><td></td></tr><tr><td>4.5.4</td><td>Payment for notices and fees</td><td>Y</td><td></td></tr><tr><td>4.7.1</td><td>Fossils, etc on Site</td><td>Y</td><td></td></tr><tr><td>5.7.2</td><td>Work at night</td><td>Y</td><td></td></tr><tr><td>5.7.3</td><td>Acceleration of rate of progress</td><td>Y</td><td></td></tr><tr><td>5.7.3</td><td>Payment for acceleration</td><td>Y</td><td></td></tr><tr><td>5.9.1</td><td>Instructions and drawings on Commencement Date</td><td></td><td>Y</td></tr><tr><td>5.11.1</td><td>Suspension of the Works</td><td></td><td>Y</td></tr><tr><td>5.11.5</td><td>Proceeding with Works after suspension</td><td>Y</td><td></td></tr><tr><td>5.12.4</td><td>Acceleration instead of extension of time</td><td>Y</td><td></td></tr><tr><td>5.13.2</td><td>Reduction in penalty</td><td></td><td>Y</td></tr><tr><td>6.3.1</td><td>Variation orders</td><td>Y</td><td></td></tr></table>				GCC Clause No	Description	Requires EWA*	Delegated to ER*	3.3.1	Engineer's Representative's appointment and termination	Y		3.3.2	Engineer's Representative acting on Engineer's behalf	Y		4.5.4	Payment for notices and fees	Y		4.7.1	Fossils, etc on Site	Y		5.7.2	Work at night	Y		5.7.3	Acceleration of rate of progress	Y		5.7.3	Payment for acceleration	Y		5.9.1	Instructions and drawings on Commencement Date		Y	5.11.1	Suspension of the Works		Y	5.11.5	Proceeding with Works after suspension	Y		5.12.4	Acceleration instead of extension of time	Y		5.13.2	Reduction in penalty		Y	6.3.1	Variation orders	Y	
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Clause	Data			
	<b>GCC Clause No</b>	<b>Description</b>	<b>Requires EWA*</b>	<b>Delegated to ER*</b>
	6.3.2.1	Confirmation of a Variation Order	Y	
	6.4.1.4	Dayworks as a Variation Order	Y	
	6.5.2	Materials for dayworks	Y	
	6.8.4	Costs due to changes in legislation	Y	
	6.11.1	Variations exceeding 20%		Y
	8.2.2.2	Damage due to excepted risks		Y
	10.1.5	Consultation on Contractor's claim	Y	Y
	10.1.5	Ruling on Contractor's claim	Y	N
	*The following abbreviations apply: ER     Engineer's Representative EWA   Engineer's Written Action N      No NA     Not Applicable Y      Yes			
4.9.1	The Contractor shall deliver to the Engineer, on a monthly basis, a detailed inventory of Construction Equipment kept on Site, full particulars given for each day of the month. Distinction shall be made between Owned Equipment and Hired Equipment as well as Equipment in working order and Equipment out of order. Such inventory shall be submitted by the seventh day of the month following the month to be reported.			
4.10.2	The Contractor shall deliver to the Engineer, on a monthly basis, a return in detail of supervisory staff and the number of categorized classes of labour employed each day for the said period by the Contractor for execution of the Contract. Such return shall be submitted by the seventh day of the month following the month to be reported.			

Clause	Data
5.3.1	<p>The documentation required before commencement with Works execution are:</p> <p>Health and Safety Plan (Refer to Clause 4.3)</p> <p>A signed Agreement between the Employer and the Contractor for the Works to be completed by the Contractor in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act (Act No.85 of 1993) and the Construction Regulations promulgated thereunder (Refer to Clause 4.3).</p> <p>Proof of payment to the Employer, that the Contractor has paid all contributions required in terms of the Compensation for Occupational Injuries and Diseases Act, No 130 of 1993 (Refer to Clause 4.3).</p> <p>Initial programme (Refer to Clause 5.6).</p> <p>Security (Refer to Clause 6.2).</p> <p>Insurance (Refer to Clause 8.6).</p>
5.3.2	<p>The time to submit the documentation required before commencement with Works execution is <b>14 Days</b>.</p>
5.4.2	<p>The access and possession of Site shall not be exclusive to the Contractor but shall be as set out elsewhere in the Contract.</p>
5.8.1	<p>The non-working Days are Sundays.</p> <p>The special non-working Days are:</p> <p>Statutory public holidays; and</p> <p>All annual year-end shutdown periods as recommended by the South African Federation of Civil Engineering Contractors (SAFCEC), and which commence after the Commencement Date and which commence before the Due Completion Date.</p>
5.13.1	<p>The penalty for failing to complete the Works is 0,1 percent of contract price per calendar day.</p>
5.16.3	<p>The latent defect period is 10 years, commencing on the Day after the date of certification of Practical Completion.</p>
6.5.1.2.3	<p>The percentage allowance to cover overhead charges is:</p> <p>50 per cent for labour; and</p> <p>15 per cent for materials.</p>
6.10.1.5	<p>The percentage advance on materials not yet built into the Permanent Works is 80%. Proof of ownership is required.</p>
6.10.3	<p>The limit of <b>retention money is 10%</b> of the value of the Contract Price.</p> <p><b>A Retention Money Guarantee is compulsory.</b></p> <p>A penalty will be applied for non-delivery of the Retention Money Guarantee as required. The penalty will be 10% of the value of the completion Retention Money Amount per calendar month for late delivery of the said Retention Money Guarantee.</p>

Clause	Data
8.6.1.1.2	The value of Plant and materials supplied by the Employer to be included in the insurance sum is <b>nil</b> .
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is a maximum of <b>10% (ten percent)</b> of the Contract Sum.
8.6.1.3	The limit of indemnity for liability insurance is equal to the contract amount.
10.5.1	Dispute resolution shall be by standing adjudication, use GCC 2015, Appendix 5.
10.7.1	The determination of disputes shall be by arbitration.

#### **C.1.2.1.2.2 Variations to the General Conditions of Contract**

Clause	Data
2.5.1	<p><b>Cession</b></p> <p><i>Amend Clause 2.5.1 as follows:</i></p> <p><i>Delete the words “without the written consent of the other”</i></p>
5.14.5.1	<p><b>Consequences of Completion</b></p> <p><i>Amend Clause 5.14.5.1 as follows:</i></p> <p><i>In the second line, substitute the word ‘Guarantor’ with ‘Contractor’.</i></p>

Clause	Data
6.2	<p><b>Security</b></p> <p><i>Replace Sub-Clauses 6.2.1 and 6.2.2 with:</i></p> <p>“The Contractor shall deliver to the Employer within such time as may be stated in the Contract Data, a Demand Guarantee, of an Insurance Company registered in terms of the Short-term Insurance Act (Act 53 of 1998) or of a registered Commercial Bank, in a sum equal to the amount stated in the Contract Data. The Demand Guarantee shall be issued by an entity subject to the approved of the Employer, and shall conform in all respects to the format contained in the Contract Data.</p> <p>The security to be provided by the Contractor shall be a Demand Guarantee of 10% of the Contract Sum.</p> <p>Wherever a joint venture constitutes the contracting party, the Demand Guarantee shall be issued on behalf of the joint venture.</p> <p>Failure to produce an acceptable Demand Guarantee within the period stated in the Contract Data, is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 with specific reference to Sub-clause 9.2.2 as amended in the Contract Data.”</p>
6.3.1	<p><b>Variations</b></p> <p><i>Amend Clause 6.3.1, as follows:</i></p> <p><i>In the first paragraph, third line, after the words "or for any reason appropriate", add the phrase</i></p> <p>" , including the limiting of contract expenditure so as not to exceed the Employer's budgeted project funding, "</p> <p><i>Add the following phrase to the last paragraph of Clause 6.3.1.6, after the words "ascertaining the amount of the Contract Price":</i></p> <p>" , and no such variation shall give reason for consideration of any claim in terms of Clause 6.11.”</p>
6.3.2	<p><b>Orders for Variations to be in writing</b></p> <p>Omit the words “Provided that” under Clause 6.3.2 and omit Clause 6.3.2.1.</p>

Clause	Data
6.10.6	<p><b>Set-off and delayed payments</b></p> <p><i>Amend Clause 6.10.6.2 as follows:</i></p> <p><i>Delete the words ‘interest’ and substitute with the words ‘interest compounded monthly’.</i></p> <p><i>Delete the words ‘Contractor’s Bank’ and substitute with the words ‘Employer’s Bank’</i></p>
6.11	<p><b>Variations exceeding 15 per cent</b></p> <p><i>Replace the marginal heading with:</i></p> <p><b>“Variations exceeding 20 per cent”</b></p> <p><i>Replace “15 per cent” with “20 per cent” in the text of this Sub-Clause</i></p>
7.8.2	<p><b>Cost of making good of defects</b></p> <p><i>Amend Clause 7.8.2.1 as follows:</i></p> <p><i>In the first line, correct the spelling of ‘therefore’.</i></p>
8.3.1	<p><b>Excepted risks</b></p> <p><i>Amend Clause 8.3.1.10 as follows:</i></p> <p><i>In the second line, delete the words ‘Employer or any of their’ and substitute with ‘or any of its’.</i></p>
8.6.6	<p><b>Contractor to produce proof of payment</b></p> <p>“The Contractor shall before commencement of the Works produce to the Engineer:</p> <p>8.6.6.1 The policies by which the insurances are affected,</p> <p>8.6.6.2 Proof that due payment of all premiums there under, covering the full required period has been made, and</p> <p>8.6.6.3 Proof of continuity of the policies for the required period.</p>
	<p>Should, during the currency of the Contract, the required period of insurance be extended for any reason, the Contractor shall timeously extend (so as to maintain) the said insurances for the full extended duration.</p> <p>The Engineer shall be empowered to withhold all payment certificates until the Contractor has complied with his obligations in terms of this Clause 8.6.6.”</p>

Clause	Data
8.6.7	<p><b>Remedy on Contractor's failure to insure</b></p> <p><i>Delete sub-clause 8.6.7 and substitute with:</i></p> <p>"Failure on the part of the Contractor to effect and keep in force any of the insurances referred to in Clause 8.6.1 and its sub-clauses, is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 and with specific reference to sub-clause 9.2.2, as amended in the Contract Data."</p>
9.1.2	<p><b>State of emergency</b></p> <p><i>In the <u>fourth</u> line, delete the words 'supply of' and substitute with 'availability of'.</i></p>
9.2	<p><b>Termination by Employer</b></p> <p><i>Delete the contents of Clause 9.2 and substitute with:</i></p> <p>"9.2.1 The Employer may terminate the Contract by written notice to the Contractor if:</p> <p>9.2.1.1 Sequestration of the Contractor's estate is ordered by a Court with due jurisdiction, or</p>
	<p>9.2.1.2 The Contractor publishes a notice of surrender or presents a petition for the surrender of his estate as insolvent, or makes a compromise with his creditors, or assigns in favour of his creditors, or agrees to carry out the Contract under the supervision of a committee representing his creditors, or (being a company) goes into liquidation, whether provisionally or finally (other than a voluntary liquidation for the purpose of amalgamation or reconstruction), or if the Contractor assigns the Contract without having first obtained the Employer's consent in writing, or if execution is levied on his goods, or</p>
	<p>9.2.1.3 The Contractor, or anyone on his behalf, or in his employ, offers to any person in the employ of the Employer or the Engineer, a gratuity or reward or commission, or</p>
	<p>9.2.1.4 The Contractor furnished materially inaccurate information in his Tender, which had a bearing on the award of the Contract, or</p>
	<p>9.2.1.5 The Contractor has abandoned the Contract.</p> <p>9.2.2 If the Contractor:</p> <p>9.2.2.1 Has failed to commence the Works in terms of Clause 10 hereof, or has suspended the progress of the Works for fourteen (14) days after receiving from the Engineer written notice to proceed, or</p> <p>9.2.2.2 Has failed to provide the Guarantee in terms of Clause 7 within the time stipulated in the Contract Data, or</p>



Clause	Data
	<p>9.2.2.3 Has failed to proceed with the Works with due diligence, or</p> <p>9.2.2.4 Has failed to remove materials from the Site or to pull down and replace work within fourteen (14) days after receiving from the Engineer written notice that the said materials or work have been condemned and rejected by the Engineer in terms of these conditions, or</p> <p>9.2.2.5 Is not executing the Works in accordance with the Contract, or is neglecting to carry out his obligations under the Contract, or</p> <p>9.2.2.6 Has, to the detriment of good workmanship or in defiance of the Engineer's instructions to the contrary, sublet any part of the Contract, or</p> <p>9.2.2.7 Has assigned the Contract or any part thereof without the Employer's consent in writing,</p>
	<p>then the Employer may give the Contractor 14 days notice to rectify the default, and if the Contractor fails to rectify the default in said 14 days, then, without further notice, notify the Contractor in writing of the termination of the Contract and expel the Contractor and order the Contractor to vacate the site within 24 hours of issue of the Notice of Termination and to hand the Site over to the Employer, and the Employer may then enter upon the Site and the Works without affecting the rights and powers conferred on the Employer or the Engineer by the Contract and the Employer may himself complete the Works or may employ another contractor to complete the Works, and the Employer or such other contractor may use for such completion so much of the Construction Equipment, Temporary Works and materials brought onto the Site by the Contractor as the Employer may think proper, and the Employer may at any time sell any of the said Construction Equipment, Temporary Works and unused materials and apply the proceeds of sale towards payment of any sums that may be due or become due to the Employer by the Contractor under the Contract. In such circumstances the Contractor shall forthwith vacate the Site and shall not be entitled to remain on the Site on the grounds that he is entitled to do so on a right of retention until amounts due to him have been paid, neither will the Contractor be entitled to any further payments in terms of this Contract.</p>
9.2.3	<p>If the Contractor, having been given notice to rectify a default in terms of 9.2.2 above, rectifies said default, but later repeats the same or substantially the same default, then the Employer may notify the Contractor of the immediate termination of the Contract, and proceed as stated in the paragraph following the word 'writing' in Clause 9.2.2.7 above.</p>

Clause	Data
	<p>9.2.4 Should the amounts that the Employer must pay to complete the Works, exceed the sum that would have been payable to the Contractor on due completion by him, then the Contractor shall upon demand pay to the Employer the difference, and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly. Provided that should the Contractor on demand not pay the amount of such excess to the Employer, such sum may be determined and deducted by the Employer from any sum due to or that may become due to the Contractor under this or any previous or subsequent contract between the Contractor and the Employer.”</p>

**C.1.2.1.2.3 Additional clauses to the General Conditions of Contract:**

Clause	Data
1.1	<p><b>Definitions</b></p> <p><i>Add the following at the end of Sub-Clause 1.1.1:</i></p>
1.1.1.35	<p>“Client”, as used in the Occupational Health and Safety Act - Construction Regulations, means Employer.</p>
1.1.1.36	<p>“Principal Contractor”, as used in the Occupational Health and Safety Act - Construction Regulations, means Contractor.</p>
4.12	<p><b>Contractor’s superintendence</b></p> <p><i>Add the following sub-clause 4.12.4 to Clause 4.12:</i></p> <p>“Where a form is included in the Contract Data for this purpose, the Tenderer shall fill in the name of the person he proposes to entrust with the post of Contractor’s Site Agent on this Contract in the space provided therefore. Previous experience of this person on work of a similar nature during the past five (5) years is to be entered on the form.</p> <p>The Contractor’s Site Agent shall be on Site at all times when work is being performed.</p> <p>The person shall be subject to approval of the Engineer in writing and shall not be replaced or removed from Site without the written approval of the Engineer.”</p>

Clause	Data
5.6	<p><b>Programme</b></p> <p><i>Add the following sub-clause 5.6.6 to Clause 5.6:</i></p> <p>“Failure on the part of the Contractor to deliver to the Engineer, the</p> <ul style="list-style-type: none"> <li>• programme of the Works in terms of Clause 5.6.1 and</li> <li>• supporting documents in terms of Clause 5.6.2</li> </ul> <p>Within the period stated in the Contract Data, shall be sufficient cause for the Engineer to retain 25 per centum of the value of the Fixed Charge and Value-related items in assessment of amounts due to the Contractor, until the Contractor has submitted aforementioned first Programme of the Works and Supporting Documents”.</p>
5.9.7	<p><b>Engineer to approve Contractor’s Designs and Drawings</b></p> <p><i>Add the following sub-clause 5.6.6 to Clause 5.6:</i></p> <p>“All designs, calculations, drawings and operation and maintenance manuals shall be fully endorsed by a third party registered engineer, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor.</p> <p>Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Engineer, the Employer, their agents and assigns, against all claims howsoever arising out of the said design, whether in contract or delict”.</p>
5.11	<p><b>Suspension of the Works</b></p> <p><i>Add the following sub-clause 5.11.4 to Clause 5.11:</i></p> <p>“If the Contractor does not receive from the Employer the amount due under an Interim Payment Certificate within 28 days after expiry of the time stated in sub-clause 6.10.4 within which payment is to be made (except for deductions in accordance with sub-clauses 6.10.1.6 and 6.10.1.7), the Contractor may, after giving 14 days’ notice to the Employer, suspend the progress of the Works.</p> <p>The Contractor’s action shall not prejudice his entitlements to a claim in terms of Clause 10.1 and to cancellation of the Contract in terms of Clause 9.3.</p> <p>If the Contractor subsequently receives full payment of the amount due under such Interim Payment Certificate before giving a notice of cancellation of the Contract, the Contractor shall resume normal working as soon as is reasonably practicable.”</p>

Clause	Data
5.12	<p><b>Extension of Time for Practical Completion</b></p> <p><i>Add the following at the end of Sub-Clause 5.12.2.2:</i></p> <p>“The extension of time to be allowed due to abnormal rainfall shall be calculated separately for each calendar month or part thereof in accordance with the following formula:</p> $V = (Nw - Nn) + \frac{Rw - Rn}{x}$ <p>where</p>
	<p>V = Extension of time in calendar days for the calendar month under consideration</p> <p>Nw = Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded</p> <p>Nn = Average number of days for the calendar month on which a rainfall of 10 mm or more has been recorded, as derived from existing rainfall records</p> <p>Rw = Actual recorded rainfall for the calendar month</p> <p>Rn = Average rainfall for the calendar month, as derived from existing rainfall records</p> <p>x = 20</p>
	<p>The rainfall records which shall provisionally be accepted for calculation purposes are:</p> <p>Based on records taken at: <b>Rainfall Station : POLOKWANE LOCAL</b>  <b>Years of record: 2006 - 2016</b></p>

Clause	Data												
	Table 1 – RAINFALL RECORDS FOR PERIOD: 2006 – 2016												
	RAINFALL STATION: Polokwane Lat: 23.8570 Lon: 29.451 Height 1226m Average No of Days with Rainfall exceeding 10mm:9.8 days/year Average Rainfall: 488.6mm/year      station no: 0677802BX												
	MON	AVE	ST	N DAY	NUM	1	5.1	10.1	20.1	50.1	100.1	MAX R	MAX RAIN
	MON		DEV	RAIN	MON	5	10	20	50	100	900	DAY	DATE
	MON	AVE	ST	N DAY	NUM	1	5.1	10.1	20.1	50.1	100.1	MAX R	MAX RAIN
	MON		DEV	RAIN	MON	5	10	20	50	100	900	DAY	DATE
	JAN	65.9	39.3	65.9	11	3.4	2.1	1.3	0.7	0	0	38	1/18/2013
	FEB	47.3	49.7	47.3	11	1.6	0.9	1.1	0.6	0	0	49	2/26/2006
	MAR	58.4	33.2	58.4	11	3	1.3	1.1	0.7	0.1	0	51.5	3/27/2006
	APR	43.3	46.6	43.3	11	1.5	1	0.7	0.5	0.1	0	68	4/4/2011
	MAY	10.4	14	10.4	11	0.5	0.4	0.3	0.1	0	0	29.2	5/8/2009
	JUN	1.7	3.6	1.7	11	0.3	0	0.1	0	0	0	12	6/10/2009
	JUL	2.4	4.3	2.4	11	0.3	0.1	0.1	0	0	0	12.1	7/4/2007
	AUG	2.3	5.6	2.3	11	0.2	0	0.1	0	0	00	19.2	8/15/2011
	SEP	6.6	8.2	6.6	11	0.4	0.4	0.1	0.1	0	0	22.5	9/4/2015
	OCT	48.1	29.5	48.1	11	1.5	0.7	1.4	0.6	0	0	38.2	10/29/2009
	NOV	97.7	40.5	97.7	11	3.1	2	1.3	1.5	0.2	0	65.5	11/12/2008
	DEC	104.6	56.3	104.6	11	3.8	1	1.7	1.9	0.1	0	55	12/16/2014
	YR	488.6		67.9		19.5	9.8	9.2	6.8	0.5	0	488.6	
		The factor (Nw - Nn) shall be considered to represent a fair allowance for days during which rainfall exceeds 10 mm and the factor (Rw - Rn)/x shall be considered to represent a fair allowance for those days when rainfall does not exceed 10 mm but wet conditions prevent or disrupt work.											
		The total extension of time shall be the algebraic sum of all monthly totals for the contract period, but if the algebraic sum is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for a part of a month shall be calculated using pro rata values of Nn and Rn.”											
		For this project the rainfall formula will only apply as background information, or dispute resolution. Extension of time for rainfall will only be granted on Actual Delays experienced; noted and agreed upon by the engineer.											

Clause	Data
6.10	<p><b>Payments</b></p> <p><i>Add the following at the end of Sub-Clause 6.10.1:</i></p> <p>“The Contractor shall complete the ‘Contractor’s Monthly Report Schedule’, which pro forma documentation is obtainable from the Engineer. Pursuant to Sub-Clause (1), these, duly signed by all concerned, together with the Contractor’s statement and a VAT invoice in original format are to be submitted to the Engineer. Issue by the Engineer to the Employer and Contractor of any signed payment certificate is conditional to this information being fully endorsed, accurately and timeously submitted to the Engineer”.</p>
	<p><i>Add the following at the end of Sub-Clause 6.10.1.5:</i></p> <p>“All documentary evidence of such materials shall be unambiguous with respect to ownership having fully passed to the Contractor on or before the date of submittal of the Contractor’s monthly statement.</p> <p>Should the Contractor fail to supply unambiguous documentary evidence, he shall, prior to submittal of his monthly statement, deliver to the Employer a Guarantor Guarantee in the form contained in the Appendices to the Contract Data.”</p>
9.3	<p><b>Termination by the Contractor</b></p> <p><i>Add the following at the end of Sub-Clause 9.3:</i></p> <p>9.3.5 “In addition to, or as an alternative to the rights to termination contained in this Clause 9.3, the Contractor may notify the default to the Employer, with a copy to the Engineer, and if the default is not rectified within 10 days the Contractor may suspend progress of the works until a date 7 day after the default is rectified. The Contractor shall be entitled to extension of time to the extent of delay caused by or resulting from such suspension, and to payment of additional costs caused by or resulting from the suspension. Such extension of time and additional costs shall be promptly ascertained by the Engineer, who shall then grant the extension of time and include the additional costs in all future payment certificates. Such suspension, extension of time and/or payment of additional costs, shall not prejudice the Contractor’s rights to cancel the contract.”</p>

### C.1.2.2 Part 2: Data provided by the Contractor

The General Conditions of Contract, as specified in Part 1, shall be used as a basis for this Data which is required to be completed.

Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.

Clause	Data
1.1.1.9	<p>The Name of the Contractor is:</p> <p>.....</p> <p>.....</p>
1.2.1.2	<p>The address of the Contractor is:</p> <p>Physical address:</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>

Clause	Data
1.2.1.2	<p>Postal address:</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>e-mail address:</p> <p>.....</p> <p>Contact numbers:</p> <p>Corporate: .....</p> <p>Direct: .....</p> <p>Mobile: .....</p> <p>Fax: .....</p>



#### **C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT**

This agreement is mandatory for all contractors appointed by the Polokwane Municipality or any other institution that do work for or on behalf of Municipality.

**This agreement is between:**

#### **THE CONTRACTOR:**

Herein represented by

.....

In his capacity as .....Being duly authorized hereto hereinafter referred to

as "contractor".

Compensation Commissioner Number:

(Attach a copy of the Registration Certificate to this agreement)

Company : Name:

.....

Registration Number: .....

CEO : Name:

.....

ID Number: .....

Physical Address: .....

.....

**And the POLOKWANE MUNICIPALITY  
(Hereinafter referred to as "the Council")**

## **1. DEFINITIONS**

- 1.1 **CONTRACTOR** Means the “Contractor” as defined in the “Principal Contract”.  
Annexed hereto in his capacity as mandatory.
- 1.2 **MANDATORY** Includes an agent, contractor or subcontractor for work to be done or service rendered, but without derogating from his status in his own right as an employer of people or user of equipment, machinery, tools or materials.
- 1.3 **THE PRINCIPAL CONTRACT** Means the contract annexed hereto as annexure “A”.
- 1.4 **COUNCIL** Means the Polokwane Municipality
- 1.5 **RISK CONTROL OFFICER** A person appointed in writing by Council.
- 1.6 Any definitions contained in any Statute hereinafter mentioned shall have the meaning allocated to it by the specific statute.

## **2. OBJECTIVE**

- 2.1 Whereas Council and the Contractor have entered into a contract for service (work) as fully indicated in the “Principle Contract” and whereas the “Contractor” agreed to indemnify Council against the risks stated hereunder whether foreseeable or not, and, whereas it is agreed between the parties that it is of cardinal importance to safeguard both Council and the Contractor’s obligation in terms of relevant legislation as well as to extend the obligation as a company and/or legal person and/or person as an entity concerned with health, safety and the environment.
- 2.2 These rules are applicable to all contractors performing work for Council within the jurisdictional area of the Council and on any premises, which are owned, rented or developed by the Council.
- 2.3 The Council acts through those officials or persons who are generally or specifically charged with the responsibility, in terms of legislation, as well as any other official or person who is generally or specifically charged with the control and supervision of the project.

### **IT IS HEREBY AGREED AS FOLLOWS:**

## **3. INDEMNITIES**

- 3.1 The “Contractor” hereby indemnifies the “Council” against any loss in respect of all claims, proceeding, damages, costs and expenses arising out of any claim or proceeding pertaining to the non-compliance by the “Contractor” of any statutory requirements and/or requirements regarding the following Acts in particular pertaining to the provisions of:

- 3.1.1 The Occupational Health and Safety Act 85 of 1993 (as amended), including the Construction Regulations, 2003 as promulgated on 18 July 2003, in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), in Government Gazette No. 25207 and Regulation Gazette No. 7721. See Annexure B.
- 3.1.2 The Health Act 63 of 1977.
- 3.1.3 Road Traffic Act 29 of 1989 (as amended).
- 3.1.4 Environment Conservation Act 73 of 1989.
- 3.1.5 The National Water Act 36 of 1998.
- 3.1.6 The Criminal Procedure Act 51 of 1977.
- 3.1.7 The Explosives Act 26 of 1956.
- 3.1.8 The Arms and Ammunition Act 75 of 1969.
- 3.1.9 Compensation for Occupational Injuries and Diseases Act 130 of 1993.
- 3.1.10 The Labour Relations Act 66 of 1995.
- 3.1.11 The Unemployment Insurance Act 30 of 1966 (as amended).
- 3.1.12 The Basic Conditions of Employment Act 75 of 1997 (as amended).
- 3.1.13 Standards Act 29 of 1993.
- 3.1.14 any statutory provisions in any act and/or any law or bylaw of any local government and/or any published official standard incorporated into any statute or bylaw relating to the completion of the work set out in the "Principal Contract".
- 3.1.15 Any other health and safety standard prescribed by the "Council".
- 3.2 The "Contractor" shall ensure that he familiarizes himself with the requirements of the above legislation and that he, his employees and any subcontractor will comply with all the statutory provisions contained in them.
- 3.3 The "Contractor" shall indemnify the "Council" in respect of any physical loss or damage to any plant, equipment or other property belonging to the "Contractor" or for which he is responsible and he hereby indemnifies the "Council" against any loss in respect of all claims, proceedings, damages, costs and expenses consequent upon the loss of or damage to any plant, equipment or other property belonging to, or which is the responsibility of, any subcontractor, agent or employee of the subcontractor.
- 3.4 The "Contractor" shall and hereby indemnifies the "Council" against any liability, loss, claim or proceedings whatsoever, whether arising in common law or by statute, consequent on personal injuries to or the loss of health or death of any person whatsoever arising out of or in the course of or caused by the execution of the "Principal Contract".
- 3.5 The "Contractor" shall and hereby indemnifies the "Council" against any liability, loss, claim or proceedings consequent on loss of or damage to any movable or immovable property arising out of or in the course of or caused by the execution of the "Principal Contract" and due to any act or omission of the "Contractor", his agents, servants or subcontractors.

#### **4. PERFORMANCE SAFE WORKING PRACTICE**

- 4.1 The “Council” requires a high standard of safe work performance from all employees and expects that the standard be maintained by the “Contractor” within the “Council’s” jurisdictional area or on its premises.
- 4.2 Irrespective of human considerations, the maintaining of these health and safety rules shall be the execution of the prescribed legal requirements. These rules are not to hinder the “Contractor” in rendering services or indemnify the “Contractor” from any legal responsibility to ensure healthy and safe work circumstances.
- 4.3 The “Council” shall assist the “Contractor” in any practical considerations to accommodate the healthy and safe execution of work and therefore require co-operation in the execution of these safety rules.

#### **5. LOCK OUT PROCEDURE**

- 5.1 When power or air driven machines or equipment, electrical apparatus or pipe lines are examined, repaired, adjusted, cleaned, lubricated or serviced in any other way than normal servicing, then all isolating switches, -levers, valves or appliances must be put in the “off” or “closed” position and locked.
- 5.2 Should more than one team work on a machine, then each person in control of a team, must put a separate lock on the switch, lever, valve or appliance.

#### **6. CRANES, VEHICLES AND HOISTING**

- 6.1 For each crane or hoisting equipment used, the “Contractor” must submit a valid and recent test certificate or other form of the last examination of the machine or equipment, to the “Council”.
  - 6.2.1 Only trained personnel with written permission and where determined by Law, with a valid driver’s license, may be allowed to operate any electrical diesel or petrol driver overhead crane, hydraulic or electrical hoisting equipment, self driven forklift, tractor or any other crane or vehicle. No employee of the “Contractor” may perform any overhead work or work on an overhead crane or hoisting equipment or work near cranes or crane rail, before:
    - i) An agreement was concluded with the “Council”.
    - ii) Approval has been obtained from the “Council” to perform the work.
    - iii) All applicable danger – and warning symbolic signs are put into position, or exemption, if applied for, is in operation.
- 6.3 The “Contractor” shall be wholly responsible for any loss or damage to cranes, hoisting equipment, plant, machines or equipment brought onto the work site by the “Contractor”

## **7. MACHINE VALANCES, PROTECTION AND FENDING**

- 7.1 No machine valances, protection or fending may be removed from machines, manholes, etc without the written permission of "Council" if applicable exemption procedures were not appropriated.

## **8. SCAFFOLD, LADDERS, TOOLS AND EQUIPMENT**

- 8.1 No equipment or appliance belonging to "Council" may be used without written permission from "Council".
- 8.2 Unless prior arranged, "Contractors" must bring sufficient tools and equipment to the site to finish the contract, including offices and storerooms. The mentioned equipment remains the responsibility of the "Contractor" with respect to loss, damage and theft.
- 8.3 In exceptional cases, where tools and equipment belonging to "Council" are used to finish the contract, the said equipment and tools are used on own risk and the "Contractor" indemnifies "Council" from any claims that may arise. The said indemnity must be in writing, as well as information regarding the loan period, identification and condition of tools and equipment. The "Contractor" is responsible for the returning of said tools and equipment in the same condition or better. The "Contractor" is responsible to "Council" for any damage or excessive wear of such tools or equipment and material.

## **9. EXCAVATIONS**

- 9.1 Before any excavations commence, written permission must be obtained from "Council" to confirm the location of existing electrical cables, water pipes, etc.
- 9.2 All excavations and obstructions in floor, tar and dirt surfaces must be fenced effectively and safeguarded between sundown and sunup with a sufficient amount of red/yellow warning lights and symbolic signs.
- 9.3 The surrounding area must be kept clean, safe and tidy during excavation. Excess material may not obstruct unnecessarily.
- 9.4 If any property is in danger during excavation, it must be supported and the proposed support work must be submitted to the Department of Labour (OHS) and "Council" for approval.
- 9.5 Written permission must be obtained from "Council" to grant admittance to restricted areas as well as areas where dangerous or poisonous gases are present.

## **10. FIRST AID**

- 10.1 The "Contractor" must provide and maintain a first aid box equipped according to legal requirement where more than (5) five persons are employed. The first aid box must be in the care of a person with a competency certificate from one of the following organizations:
- (i) SA Red Cross Association;
  - (ii) St Johns Ambulance;

- (iii) SA First Aid League; or
- (iv) A person or organization approved by the Chief inspector for this purpose.

10.2 A visible notice must be put up on any work premises with the name of the person responsible for first aid. In an emergency "Council's" Ambulance / Fire Department or emergency services may be contacted at (015) 290 2000.

## **11. FLAMMABLE LIQUIDS**

11.1 The "Contractor" shall be held responsible for the necessary precautionary fire prevention measures. No smoking signs must be put up where applicable. The "Contractor's" employees must be informed of "Council's" fire prevention measures and evacuation procedures.

## **12. COMPENSATION BY CONTRACTOR**

12.1 The "Contractor" shall be held responsible for all loss of and damage to property, the death or injury of persons, the resultant loss or damage suffered as well as all law suits, claims, costs, charges, fines and expenses due to negligence, violation of statutory liability or neglect of the "Contractor" or the "Contractor's" employees.

## **13. TRANSGRESSION OF RULES AND MISBEHAVIOUR**

13.1 The "Contractor" is warned that any act(s) leading to damage or loss of employees of the "Contractor" or the "Council" shall not be tolerated. The "Council" may (without any reason) demand that any employee of the "Contractor" be withdrawn from the principal "Contract" or site.

## **14. INCIDENT REPORTING**

14.1 All incidents referred to in Section 24 of the Occupational Health and Safety Act and or other incidents shall be reported, by the "Contractor", to the Department of Labour, as well as to the "Council" and should such an incident take place outside normal working hours, on a Saturday, Sunday or Public holiday provided with a written report relating to any incident.

14.2 The "Council" will obtain an interest in the issue of any formal inquiry conducted in terms of the Occupational Health and Safety Act in any incident involving the "Contractor" and/or his employees and/or his subcontractors.

14.3 The "Contractor" undertakes to report to "Council" anything deemed to be unhealthy and/or unsafe and that he undertakes to verse his employees and/or subcontractors in this regard.

## **15. LIAISON AND SUPERVISION**

15.1 The "Contractor" hereby undertakes to liaise on a regular basis with the designated Risk Control Officer and "Council" representative regarding any hazards or incidents that may be identified or encountered during the performance of the "Principal Contract".

## **16. SERVICE INTERRUPTION**

- 16.1 Should any work done by the "Contractor" cause a possible interruption, written permission must be obtained from "Council", before such work commences. The "Contractor" may not switch on or off any compressed air, steam, oxygen, vacuum supply or electrical supply without written permission from the "Council".

## **17. CONFIDENTIALITY**

- 17.1 The "Contractor" and his employees shall regard all data, documentation and information of the contract and related documentation as confidential.
- 17.2 Lost documentation/plans or related documentation shall immediately be reported in writing to the "Council".
- 17.3 The "Contractor" shall not put up any advertisements or billboard at the site without permission.
- 17.4 The "Contractor" shall not take photographs of the contract site or part thereof or any work process or part thereof, without written permission from the "Council", or have photographs taken, published or let it be published.

## **18. CONTRACT SITE AND PRESERVATION**

- 18.1 Employees of the "Contractor" shall not be allowed entrance to the site unless a valid identity document, issued by "Council", is displayed. The mentioned documents shall only be valid for a limited period, where after it must be renewed.

## **19. COMPLETION OF WORK**

- 19.1 The "Contractor" or his employees shall not leave the contract site before the "Council" is satisfied that the contract is completed according to the requirements and standards set out in the contract and that the working site is left in a satisfactory and safe condition.

## **20. LIQUOR, DRUGS, DANGEROUS WEAPONS AND FIREARMS**

- 20.1 The "Contractor" shall ensure that no liquor, drugs, dangerous weapons or firearms be brought onto the premises.

## **21. SEARCHES**

- 21.1 The "Contractor" and any person engaged in the contract work may at any time be searched by "Council" appointed security personnel and all packages, suitcases, etc. must be presented to the access control point for examination prior to them being brought onto the property or leaving the property.

## **22. GENERAL CONDITIONS**

22.1 Notwithstanding anything to the contrary in this agreement, it is hereby specifically determined that the “Contractor-“

22.1.1 shall have acquainted himself and be conversant with the contents of all statutory provisions applicable to the health and safety of workers and other persons on the site including the execution of the work, and in particular the conditions contained in the Occupational Health and Safety Act, 1993 (Act 85/1993), and the regulations promulgated in terms thereof, and shall comply therewith meticulously and in all aspects and/or take care that it is complied with;

22.1.2 shall be obliged to immediately execute all instructions given to him by an authorized representative of “Council” in order to ensure and uphold the implementation and enforcement of the provisions referred to in sub-paragraph 1, to the satisfaction of the said representative;

22.1.3 shall indemnify the “Council” against any or all liability which may be incurred by the “Council” as a result of the omission of the “Contractor”, his employees, sub-contractors and/or representatives to comply with the provisions referred to in sub-paragraph 1, or to ensure that it shall be complied with;

22.1.4 shall undertake to pay upon demand any and/or all legal costs and other expenses which “Council” may have incurred as a consequence of any criminal charges or other proceedings pending against, or involving the “Council” as a result of the contravention or non-compliance by the “Contractor”, his employees, sub-contractors and/or representative of any of the statutory provisions referred to in sub-paragraph 1.

22.1.5 Should the “Contractor” neglect to immediately execute any health and safety written orders issued to him, or to his employee in charge of the works, in terms of the stipulations of sub-paragraph 2, the “Council” shall be entitled to suspend the execution of the works and take the necessary steps to execute or have such order executed. Under these circumstances the contractor shall be obliged to pay “Council”, upon demand, all costs and expenses incurred by “Council”, in order to execute or have the said orders executed.

22.1.6 Should the abovementioned steps not establish a healthy and safe work environment the “Council” will be entitled to terminate the contract without incurring any further costs or claims from the contractor?

## **23. “CONTRACTOR” IDENTIFICATION BOARD**

23.1 The “Contractor” shall provide on any work premises a temporary identification board containing at all worksites the following information:

- Company name on behalf of which division/department the work is being done.
- The contact number and name of the person representing the “Contractor”.
- The contact number and name of the person representing “Council”



**24. ACKNOWLEDGEMENT**

- 24.1 The “Contractor” hereby acknowledges that he has read and received a copy of the “Principal Contract” and agrees to be bound by and undertakes to observe all the terms and conditions of the “Principal Contract”. This appointment is made in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993.

**25. EXCEPTIONS AND OMISSIONS**

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**26. REMARKS**

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**THE CONTRACTOR**

SIGNED AT ..... ON THIS ..... DAY OF.....

WITNESSES:

..... 1. ....  
THE CONTRACTOR

2. ....

**THE COUNCIL**

SIGNED AT ..... ON THIS ..... DAY OF.....

WITNESSES:

..... 1. ....  
THE COUNCIL

2. ....

## b) INDEMNITY CERTIFICATE

Contractor:

.....

Employer: Polokwane Municipality

Contract:

.....

I/we

.....

Hereafter the "Contractor"

"Contractor" hereby indemnifies the Polokwane Municipality (Council) against any claim of whatever sort which may arise directly or indirectly from the execution by me/us of the above-mentioned contract and which may be instituted against "Council", as well as of any loss or damage which the "Council" suffers or expenditure the "Council" incurs to prevent responsibility for such claim, loss or damage, whatever the cause of such claim may be or whatever loss or damage the "Council" suffers.

THUS done and signed at ..... on this .....  
day of

..... 20.....

WITNESSES:

1. ....

**CONTRACTOR**

2. ....

**COUNCIL**

**c) ACKNOWLEDGEMENT CERTIFICATE**

I, in my capacity

as.....

Duly authorized hereto .....  
representing

.....

Contractors, acknowledge receipt

of a copy of the Polokwane Municipality's safety manual for contractors and the under mentioned person as my supervisor regarding all works and services which must be executed by the Contractor. The appointment is done in terms of the Occupational Health and Safety Act, 1993 (Act 85/1993).

SIGNED AT ..... ON ..... 20....

I, ..... accept the  
abovementioned appointment, and declare that I am familiar with the contents of the  
Polokwane Municipality's Safety Manual for contractors

CASUALTIES REGISTRATION NUMBER

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNED AT ..... ON ..... 20....

SIGNATURE:

WITNESSES: 1. ....

2. ....

A copy of this certificate shall be submitted to the "Council" before any work commences.

### C1.5: Agreement with Adjudicator

This agreement is made on the.....day of ..... 20.....between: the Employer

(name of company / organisation).....

of

(address).....

.....and the Contractor

(name of company / organisation) .....

of

(address).....

.....  
(hereinafter called **the Parties**)

**and**

(name).....

of (address)

.....  
(hereinafter called **the Adjudicator**)

Disputes or differences may arise/have arisen\* between the Parties under a Contract dated.....

and known as Contract No.....

(Contract title).....

and these disputes or differences shall be/have been\* referred to adjudication in accordance with the CIDB Adjudication Procedure, (hereinafter called "**the Procedure**") and the Adjudicator may be or has been requested to act.

(\* Delete as necessary)

**IT IS NOW AGREED** as follows:

1. The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.
2. The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.
3. The Parties bind themselves jointly and severally to pay the Adjudicator's fees and expenses in accordance with the Procedure as set out in the Contract Data.
4. The Parties and the Adjudicator shall at all times maintain the confidentiality of the adjudication and shall endeavour to ensure that anyone acting on their behalf or

through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.

5. The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

**SIGNED by:**

(Signature): ..... (Signature): .....  
(Signature): .....

**Name:** ..... **Name:** ..... **Name:** .....

who warrants that he/ she is ..... who warrants that he/ she is ..... the **Adjudicator** in the  
duly authorised to sign for and duly authorised to sign for ..... presence of  
on behalf of the **First Party** in and on behalf of the **Second**  
the presence of ..... **Party** in the presence of .....

**Witness:** ..... **Witness:** ..... **Witness:** .....

(Signature)..... (Signature).....(Signature).....

**Name:** ..... **Name:** ..... **Name:** .....

**Address:** ..... **Address:** ..... **Address:** .....

.....

**Date:** ..... **Date:** ..... **Date:** .....

## POLOKWANE MUNICIPALITY

### PROJECT DESCRIPTION: GA-MAJA SPORTS COMPLEX

#### C2.1 Pricing Instructions

##### 1. GENERAL

The pricing instructions describe the criteria and assumptions which will be assumed in the Contract that the Bidder has taken into account when developing his prices. The Bills of Quantities record the Contractor's rates for providing supplies, services, engineering and construction works in accordance with the Scope of Work.

The terms of payment and the provisions for price adjustment, if applicable, are established in the Contract Data. These items are not described in the Pricing Data.

The Bidder's obligations in pricing the Bidder offer and the Employer's undertakings in the checking and correction of arithmetical errors are dealt with in the Standard Conditions of Bidder contained in Annexure F of SANS 294, as amended in and read in conjunction with the Bidder Data.

##### 2. DOCUMENTS MUTUALLY EXPLANATORY

The documents forming the Contract are to be taken as mutually explanatory of one another. The Bill of Quantities forms an integral part of the Contract Documents and shall be read in conjunction with the Bidder Data, Contract Data, Scope of Work, Site Information General and Special Conditions of Contract, the Specifications and the Drawings.

##### 3. DEFINITIONS

For the purpose of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Scope of Work and Site Information.
Quantity	:	The number of units of work for each item.
Rate	:	The payment per unit of measurement at which the Contractor Contracts to do the work.
Amount	:	The product of the quantity and the rate Bidded for an item.
Sum	:	An amount contracted for an item, the extent of which is described in the Bill of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

#### **4. DESCRIPTIONS**

Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Bill, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.

#### **5. REFERENCES**

The clauses in a specification in which further information regarding the schedule item can be obtained appear under "Reference clause" in the Bill. The reference clauses indicated are not necessarily the only sources of information in respect of scheduled items. Further information and specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the letter or letters which follow SABS in the SABS 1200 series of specifications, eg. G for SABS 1200 G.

#### **6. UNITS OF MEASUREMENT**

The units of measurement indicated in the Bill of Quantities are metric units.

The following abbreviations are used in the Bill of Quantities:

%	=	per cent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
MN	=	meganewton
MN-m	=	meganewton-metre
MPa	=	megapascal
m <sup>2</sup>	=	square metre
m <sup>3</sup>	=	cubic metre
m <sup>3</sup> -km	=	cubic metre-kilometre
m <sup>2</sup> -pass	=	square metre-pass
no	=	number
PC sum	=	Prime Cost sum
Prov Sum	=	Provisional Sum
sum	=	lump sum
t	=	ton (1 000 kg)

#### **7. NET MEASUREMENTS**

Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for off-cuts and waste.



## **8. QUANTITIES**

The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.

The Contract Amount to be determined in accordance with the conditions of contract identified in the Contract Data shall be computed from the actual quantities of authorized work done, value at rates determined in terms of the Contract Data, against the respective items in the Bill of Quantities.

## **9. CURRENCY**

All rates and sums of money quoted in the Bill of Quantities shall be in Rand and whole cents. Fractions of a cent shall be discounted.

## **10. VALUE ADDED TAX**

Value Added Tax shall be excluded from the rates and sums contracted for the various items of work included in the Bill of Quantities. VAT will be added as a single entry to the summary.

## **11. RATES AND PRICES**

### **11.1 General**

- a) The Contractor must price each item in the Bill of Quantities in BLACK INK. Reproduced computer printouts of the Bills of Quantities will not be acceptable.
- b) The rates and prices to be inserted in the Bill of Quantities shall cover all the services and incidentals for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Bidder is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
- c) Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Data, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts contracted for the items scheduled in the Bill of Quantities. Separate additional payments will not be made.
- d) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price

is entered will be considered to be covered by the other prices or rates in the Bill. The Contractor will not be paid for items against which no rate or lump sum has been entered in the Bill of Quantities.

- e) Should the Contractor group a number of items and contract one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.
- f) Should the Contractor indicate against any item that compensation for such item is included in another item, the rate for the item included in another item shall be deemed nil.
- g) A submission may be regarded as non-responsive if any rates or lump sums in the Bill of Quantities are, in the opinion of the Employer, unreasonable or out of proportion.

#### 11.2 "Rate only" items

The Contractor shall fill in a rate (in the rate column) against all items where the words "rate only" appear in the Amount column, which rate will constitute payment for work which may be done in terms of this item. Such "rate-only" items are used where it is estimated that little or no work will be required under the item or where the item is to be considered as an alternative to another item for which a quantity is given.

#### 11.3 Arithmetic

Excepting where Sum Amounts are required or where Provisional Sums have been indicated, the Contractor shall enter an applicable rate in the Rate Column of the Bill of Quantities for each scheduled item. He shall also enter an appropriate sum in the Amount column for each scheduled item, by determining in the applicable line item the product of the Quantity and the Unit Rate.

If there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding and the error of extension as entered in the Bidder offer will be corrected by the Employer in determining the Contract Price.

Where there is an error in addition, either as a result of other corrections required by this checking process or in the Bidder's addition of prices, such error will be corrected by the Employer in determining the Contract Price.

#### 11.4 Labour Intensive work

Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letters LI in a separate column or as a prefix or suffix against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant

to provide such works, other than plant specifically provided for in the scope of works, is a deviation from the contract. The items marked with the letters 'LI' are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

Where minimum labour intensity is specified by the design the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity target.

Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

## **12. VARIATION IN TEXT**

No alteration, erasure or addition is to be made in the text of the Bill of Quantities. Should any alteration, erasure or addition be made, it will not be recognized; the original wording of the Bill of Quantities will be adhered to.

## POLOKWANE MUNICIPALITY

### PROJECT DESCRIPTION: GA-MAJA SPORTS COMPLEX

#### C2.2 BILL OF QUANTITIES

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 1 : PRELIMINARY & GENERAL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
1	SABS1200 A		SECTION 1 : PRELIMINARY & GENERAL				
1.1	8.3		FIXED-CHARGES AND VALUE RELATED ITEMS				
1.1.1	8.3.1		Contractual Requirements	Sum	1		
	8.3.2		Establishment of Facilities on Site				
	8.3.2.1		Facilities for the Engineer				
1.1.2	PSAB-4.2		Survey Equipment	Sum	1		
1.1.3	1200AB -3.1		Name Boards (2No.)	Sum	1		
1.1.4	PSAB-3.2		Offices (Type 1)	Sum	1		
1.1.5	PSAB-3.2.2		Carports	Sum	1		
	8.3.2.2		Facilities for the Contractor				
1.1.6			Offices, storage sheds and fencing (PSA-4.2)	Sum	1		
1.1.7			Portable Latrines (PSA-8.3)	No.	2		
1.1.8			Tools and Equipment	Sum	1		
1.1.9			Water Supply, Electric Power and Communications	Sum	1		
1.1.10			Access	Sum	1		
1.1.11	8.3.3		Other Fixed-charge Obligations	Sum	1		
1.1.12	8.3.4		Removal of Site Establishment	Sum	1		
1.2	8.4		TIME-RELATED ITEMS				
1.2.1	8.4.1		Contractual Requirements	Sum	1		
	8.4.2		Operation and Maintain of Facilities on site for the Duration of the Construction				
	8.4.2.1		Facilities for the Engineer				
1.2.2	PSAB-4.2		Survey Equipment	Sum	1		
1.2.3	1200AB -3.1		Name Boards	Sum	1		
1.2.4	PSAB-3.2		Offices (Type 1)	Sum	1		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 1 : PRELIMINARY & GENERAL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
1.2.5	PSAB-3.3		Carpports	Sum	1		
1.2.6	PSAB-4.2		Survey Assistant (Approx. 4 hours/week)	hours	50		
	SABS 1200A 8.4.2.2		Facilities for Contractor				
1.2.7			Offices and storage sheds (PSA-4.2)	Sum	1		
1.2.8			Portable latrines (PSA 8.3)	No.	2		
1.2.9			Tools and equipment	Sum	1		
1.2.10			Water supplies, electric power and communications	Sum	1		
1.2.11			Access	Sum	1		
1.2.12	8.4.3		Supervision for Duration of Construction	Sum	1		
1.2.13	8.4.4		Company and Head Office Overhead Costs for the Duration of the Construction	Sum	1		
1.2.14			Survey "as-built" position and levels of all new and existing infrastructure	Sum	1		
1.2.15	8.4.5		Other Time-related Obligations	Sum	1		
1.3	PSA-6		PROVISIONAL AMOUNTS BY ENGINEER				
1.3.1	PSA-6.1		Independent testing specified by the Engineer	P. Sum	1	50,000.00	50,000.00
1.3.2			Overheads, Charges and Profit on Item 1.3.1 above	%	50,000		
1.3.3	PSA-6.2		Provision for training	P. Sum	1	75,000.00	75,000.00
1.3.4			Overheads, Charges and Profit on Item 1.3.3 above	%	75,000		
1.3.5	PSA-6.6		Provision for combi-courts final surfacing.	P. Sum	1	1,200,000.00	1,200,000.00
1.3.6			Overheads, Charges and Profit on Item 1.3.5 above	%	1,200,000		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 1 : PRELIMINARY & GENERAL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
1.3.7	PSA-6.7		Provision for signage.	P. Sum	1	125,000.00	125,000.00
1.3.8			Overheads, Charges and Profit on Item 1.3.7 above	%	125,000		
1.3.9	PSA-6.8		Provision for student @ R4,500/month	P. Sum	1	36,000.00	36,000.00
1.3.10			Overheads, Charges and Profit on Item 1.3.9 above	%	36,000		
1.3.11	PSA-6.9		Provision for PSC meetings (maximum 10 persons – R140 per person/meeting.	P. Sum	1	14,000.00	14,000.00
1.3.12			Overheads, Charges and Profit on Item 1.3.11 above	%	14,000		
1.3.13	PSA-6.10		Provision for community liaison officer @ R4,500./month	P. Sum	1	36,000.00	36,000.00
1.3.14			Overheads, Charges and Profit on Item 1.3.13 above	%	3,600		
1.3.15	PSA-6.12		Provision for PPE	P. Sum	1	50,000.00	50,000.00
1.3.16			Overheads, Charges and Profit on Item 1.3.15 above	%	50,000		
1.3.17			Provision for fire consultant appointment	P. Sum	1	25,000.00	25,000.00
1.3.18			Overheads, Charges and Profit on Item 1.3.17 above	%	25,000		
1.4	8.7		DAYWORKS				
1.4.1			Materials	P. Sum	1	100,000.00	100,000.00
1.4.2			Overheads, Charges and Profit on Item 1.4.1	%	100,000		
1.4.3			Labour	h	8		
1.4.4			Skilled	h	8		
1.4.5			Semi-skilled	h	8		
1.4.6			General Labour	h	8		
1.4.7			Plant and Equipment	h	8		
1.4.8			Crawler excavator (70 - 80 kW)	h	8		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 1 : PRELIMINARY & GENERAL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
1.4.9			Backhoe loader (50 - 60 kW)	h	8		
1.4.10			Walk-behind vibrating roller	h	8		
1.4.11			Compressor (175 cfm), including hoses and breakers	h	8		
1.4.12			Concrete Mixer (150 - 250 litre)	h	8		
1.4.13			Water Pump (75 mm), including suction and delivery hoses	h	8		
1.4.14			Tipper trucks (6 m3)	h	8		
1.4.15			1 ton bakkie	h	8		
1.4.16			Plate compactor	h	8		
1.4.17			220 Volt generator	h	8		
1.5	8.8		TEMPORARY WORKS				
1.5.1	8.8.2		Deal with traffic	Sum	1		
1.6			HEALTH & SAFETY				
			Compliance with the Occupational Health and Safety Act (Act 85 of 1993) and applicable regulations (Construction Regulations, 2003), and the Employers Health & Safety Specification bound into this document:				
1.6.1			Preparation of a Health and Safety Plan	Sum	1		
1.6.2			Provision of a Health and Safety file	Sum	1		
1.6.3			Provision of construction supervisors	Sum	1		
1.6.4			Provision of a safety officer (full-time and registered with the SACPCMP as a Construction Health & Safety Practitioner)	Sum	1		
1.6.5			Health and Safety training	Sum	1		
1.6.6			Provision of personal protective clothing and equipment (Contractors staff)	Sum	1		
Total Carried Forward							



### Ga-Maja Sports Complex Schedule of Quantities

## SECTION 1 : PRELIMINARY & GENERAL

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 2 : BULK EARTHWORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
2			SECTION 2 : BULK EARTHWORKS				
2.1	SABS 1200C		SITE CLEARANCE				
2.1.1	8.2.1	LI	Clear and grub and dispose material	ha	3		
2.1.2	8.2.3		Remove and grub all trees and tree stumps regardless of girth	ha			Rate Only
2.1.3	8.2.6		Clear hedges	m			Rate Only
2.1.4	8.2.9		Transport materials and debris to unspecified sites and dump (Provisional)	m³.km			Rate Only
2.2	SABS 1200D		EARTHWORKS				
2.2.1	8.3.1.2		Remove topsoil to nominal depth of 150mm, stockpile and maintain	m²	300		
2.3	8.3.2		BULK EXCAVATION				
2.3.1			Cut to fill for forming terraces	m³	2,500		
2.3.2			Cut to stockpile for forming terraces	m³	200		
2.3.3			Stockpile to fill for forming terraces	m³	200		
2.3.4			Cut to spoil	m³	200		
	8.3.4		Importation of G6 material from:				Rate Only
2.3.5			a) Commercial sources	m³	2,500		
2.3.6			b) From borrow pits within 5km	m³	120		
2.4	8.3.3 (b)		EXTRA OVER ITEMS 2.3.1 TO 2.3.4 FOR EXCAVATIONS IN				
2.4.1	(i)		Intermediate material	m³	200		
2.4.2	(ii)		Hard rock material	m³	100		
2.5	SABS 1200DM		LAYERWORKS				
2.5.1	8.3.3(a)		Rip and re-compact 1200mm in-situ material in 150mm layers to 93% mod. AASHTO	m²	2,500		
2.5.2	8.3.5		150mm G5 layer (from commercial sources) as per Table 13 of TRH4 compacted to 95% mod AASHTO	m²	1,250		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 2 : BULK EARTHWORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
2.5.3	8.3.5		150mm G6 layer (from commercial sources) as per Table 13 of TRH4 compacted to 95% mod AASHTO between dump rock layer and G6 layer	m <sup>2</sup>	1,250		
2.5.4	8.3.5		500mm dump rock (from commercial sources) pioneer layer compacted by 11 passes of a heavy vibratory roller	m <sup>2</sup>			Rate Only
2.5.5		LI	Supply and lay Grade A4 Bidim between rock layer and G6 layer	m <sup>2</sup>			Rate Only
2.6	PSVA		LANDSCAPING AND GRASSING				
2.7			TRIMMING				
2.7.1	8.1(a)		Machine trimming	m <sup>2</sup>	1,250		
2.7.2	8.1(b)	LI	Hand trimming	m <sup>2</sup>	1,250		
2.8	8.3		PREPARING AREAS FOR GRASSING AND GROUND COVERS				
2.8.1	8.3(a)		Scarifying	m <sup>2</sup>			Rate Only
2.9	8.3(b)		TOPSOILING ON THE SITE WITH				
2.9.1	8.3(b)(i)		Topsoil obtained from the stockpile or from borrow areas on the site	m <sup>3</sup>			Rate Only
2.9.2	8.3(b)(ii)		Topsoil obtained by the Contractor from other sources	m <sup>3</sup>			Rate Only
2.10	8.3(d)	LI	SUPPLYING AND APPYING CHEMICAL FERTILIZER				
2.10.1	8.3(d)(iv)		2 : 3 : 2 fertilizer	t			Rate Only
2.11	8.4(a)	LI	GRASSING				
2.11.1			Eragrostis curvula (seed)	m <sup>2</sup>			Rate Only
2.11.2			Kikuyu (cuttings)	m <sup>2</sup>			Rate Only
2.12	SABS 1200MK	LI	KERBING AND CHANNELLING				
	8.2.2		Concrete Kerbing and Channelling				
2.12.1			(a) Type half battered on curves, Figure 8c	m	450		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 2 : BULK EARTHWORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
2.12.2			(b) Type half battered on straight sections, Figure 3	m	450		
2.13	SABS 1200MJ	LI	SEGMENTED PAVING AROUND STRUCTURES (PROVISIONAL ITEM)				
	8.2.2		CONSTRUCTION OF PAVING WITH 80mm THK CONCRETE BLOCKS INCLUDING 25mm SANDBED COMPLETE				
2.13.1			Horizontal (including trimming/excavations)	m <sup>2</sup>	300		
2.13.2	8.2.1		Extra over Item 2.13.1 for provision and installation of edge restraints consisting of kerbing as per SABS 927 Fig.12	m	500		
2.14	8.2.3	LI	CUTTING UNITS TO FIT EDGE RESTRAINTS				
2.14.1			Straight	m	400		
2.14.2			Raking	m	200		
2.15		LI	RETAINING WALL (TYPE 1)				
2.15.1			Supply & install Interlocking retaining blocks, 1.5m high (Terraforce L11 with 4x4 Multi-step block or similar), including foundations, gravel in-fill, and subsurface drainage, as per Dwg No. P14296-064	m <sup>2</sup>	250		
		LI	RETAINING WALL (TYPE 2) (PROVISIONAL) (See Dwg. No. P14296-064)				
	8.3.3(a)1(i)		EXCAVATE FOR FOUNDATIONS AND STRUCTURES IN ALL MATERIALS AND BACKFILL BEHIND STRUCTURES TO 93% MOD. AASHTO OR DISPOSE OF SURPLUS MATERIAL WITHIN 1,5km				
2.15.2	(a)		0m up to 2m	m <sup>3</sup>	125		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 2 : BULK EARTHWORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
2.15.3	8.3.3(a)1(i)		Extra over Item 2.15.2 for additional excavations required by the Engineer after the excavations has been completed	m <sup>3</sup>	125		
	1200MF		Soil Improvements				
2.15.4	8.3.8		Stabilising agent: Portland blast furnace cement (3%)	t	21		
2.15.5	8.3.2		Construct concrete footing and strip footing base with gravel (G6) material from stockpile compacted in 150mm layers	m <sup>3</sup>	250		
2.15.6	8.3.3		Construct concrete footing and strip footing base base with (G6) material from borrow pits within a radius of 5km compacted in 150mm layers	m <sup>3</sup>	250		
2.15.7			Supply and place 250 micron DPM with taped joints	m <sup>2</sup>	500		
			Formwork				
	8.2.1(b)		Normal formwork to				
2.15.8			a) Side of footings	m <sup>2</sup>	75		
			Reinforcement				
	8.2.4		Mild steel bars of nominal diameter				
2.15.9			8mm Links	t	1		
			High-tensile steel bars of nominal diameter				
2.15.10			12mm	t	1		
			High-tensile welded mesh of nominal mass				
2.15.11			a) 5.00 kg/m2	m <sup>2</sup>	64		
			Concrete				
2.15.12	8.2.5		Prescribed mix 25 concrete with 19 mm aggregate in footings	m <sup>3</sup>	100		
			Strength concrete, Grade 25/19,0 mm in:				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 2 : BULK EARTHWORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
2.15.13			a) Foundations	m <sup>3</sup>	10		
2.15.14			b) Slabs	m <sup>3</sup>	5		
			Masonry				
		LI	Brickwork in extra hard burnt clay bricks (15 MPa nominal compressive strength) in class I mortar in loadbearing walls, etc.:				
2.15.15			One brick wall	m <sup>2</sup>	500		
2.15.16			Brick reinforcement 150mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured nett).	m	500		
			Face brick/ Morroco Travertine FBA pointed with square recessed horizontal and vertical joints:				
2.15.17			Extra over brickwork for face brickwork	m <sup>2</sup>	500		
			Facebricks in class II mortar:				
2.15.18			Half brick wall.	m <sup>2</sup>	500		
			Movement Joints				
2.15.19			10mm 'Jointex' expansion joint built in vertically between brick walls	m <sup>2</sup>	5		
2.15.20			Movement joint formed of 20mm softboard built in vertically between brick wall and concrete	m	162		
			Brickwork Reinforcement				
2.15.21			Brick reinforcement 75mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured nett).	m	250		
Total Carried Forward To Summary							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 3 : FOUNDATIONS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
3			SECTION 3 : FOUNDATIONS				
3.1	SABS 1200D		EARTHWORKS				
3.2	PSD 8.3.3		RESTRICTED EXCAVATIONS				
	8.3.3(a)1(i)		EXCAVATE FOR FOUNDATIONS AND STRUCTURES IN ALL MATERIALS AND BACKFILL BEHIND STRUCTURES TO 93% MOD. AASHTO OR DISPOSE OF SURPLUS MATERIAL WITHIN 1,5km				
3.2.1	(a)		0m up to 2m	m <sup>3</sup>			Rate Only
3.2.2	8.3.3(a)1(i)		Extra over Item 3.2.1 for additional excavations required by the Engineer after the excavations has been completed	m <sup>3</sup>			Rate Only
3.3	1200MF		SOIL IMPROVEMENTS TO FOUNDATION EXCAVATIONS AND SLABS (98% MOD.AASHTO DENSITY)				
3.3.1	8.3.2		Construct concrete footing and strip footing base with gravel (G6) material from stockpile compacted in 150mm layers	m <sup>3</sup>			Rate Only
3.3.2	8.3.3		Construct concrete footing and strip footing base base with (G6) material from borrow pits within a radius of 5km compacted in 150mm layers	m <sup>3</sup>			Rate Only
3.3.3			Rip and recompact 150mm in-situ layer under-slab followed by 150mm imported layer of G5 material compacted to 95% MOD AASHTO	m <sup>3</sup>			Rate Only
3.3.4			Supply and place 250 micron DPM with taped joints	m <sup>2</sup>			Rate Only
3.3.5	8.3.5(d)	LI	Process by means of stabilisation	m <sup>3</sup>			Rate Only
3.3.6	8.3.8		Stabilising agent: Portland blast furnace cement (3%)	t			Rate Only
3.4			CONCRETE STRUCTURE				
3.5	SABS 1200 GB		SECTION : FOUNDATIONS				
3.6			FORMWORK				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 3 : FOUNDATIONS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
	8.2.1(b)		Normal formwork to				
3.6.1			a) Walls b) Beam sides c) Soffits of beams d) Suspended floors	m <sup>2</sup>			Rate Only
3.7			REINFORCEMENT				
	8.2.4		Mild steel bars of nominal diameter				
3.7.1			8mm Links	t			Rate Only
			High-tensile steel bars of nominal diameter				
3.7.2			12mm	t			Rate Only
3.7.3			16mm	t			Rate Only
3.7.4			20mm	t			Rate Only
			High-tensile welded mesh of nominal mass				
3.7.5			a) 5.00 kg/m <sup>2</sup>	m <sup>2</sup>			Rate Only
3.8			CONCRETE				
3.8.1	8.2.5		Prescribed mix 25 concrete with 19 mm aggregate in footings	m <sup>3</sup>			Rate Only
3.8.2			Blinding layer, Grade 20/19,0 mm concrete under basement floor	m <sup>2</sup>			Rate Only
			Strength concrete, Grade 25/19,0 mm in:				
3.8.3			a) Stub columns	m <sup>3</sup>			Rate Only
3.8.4			b) Apron slabs, with joints as specified on drawings	m <sup>3</sup>			Rate Only
3.8.5			c) Surface bed, with joints as specified on drawings	m <sup>3</sup>			Rate Only
3.8.6			d) Roof slabs	m <sup>3</sup>			Rate Only
3.8.7			e) Beams	m <sup>3</sup>			Rate Only
3.8.8	8.2.6		Unformed surface finishes	m <sup>3</sup>			Rate Only
3.8.9	8.2.6		Wood float to all floors	m <sup>2</sup>			Rate Only
Total Carried Forward To Summary							



**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 4: STRUCTURAL STEELWORK

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
4			SECTION 4: STRUCTURAL STEELWORK				
4.1	SABS 1200 H 8.3.1		SUPPLY AND FABRICATION				
4.1.1	8.3.1.1		Preparation of shop detail drawings (By Fabricator for Engineers approval)	t			Rate Only
	8.3.1.2		Supply and fabrication of steelwork (see Drawing P14296-037 & P14296-038) complete with all the necessary cleats, brackets, gussets, packs, etc., with paint/coating specification as shown on drawings, as follows:				
			b) Using steel to SABS 1431				
4.1.2			Angle and channel vertical bracing	t			Rate Only
4.1.3			Portal frames made up from columns and roof rafters with welded haunches as per drawings.	t			Rate Only
4.1.4			Cold rolled purlins	t			Rate Only
4.1.5			Angle rafter bracing	t			Rate Only
4.1.6			Angle sag-ties	t			Rate Only
4.1.7			C.H.S eaves ties	t			Rate Only
4.1.8			Angle knee bracing	t			Rate Only
4.2	8.3.2		DELIVERY				
			Delivery of steelwork included under items 4.1.2 to 4.1.8 inclusive				
4.2.1			a) Normal loads	t			Rate Only
4.3	8.3.3		ERECTION				
4.3.1			Offloading, stacking on Site, and erection of steelwork included under items 4.1.2 to 4.1.8	t			Rate Only
4.4	8.3.4		ERECTION BOLTS AND NUTS				
			Supply, deliver to Site and store as follows:				
Total Carried Forward							

## Ga-Maja Sports Complex Schedule of Quantities

## SECTION 4: STRUCTURAL STEELWORK

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
5			SECTION 5: BUILDING WORKS:				Rate Only
5.1			CLUB HOUSE				
			The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2008 Edition) and the Supplementary Preambles hereunder.				
5.2			EARTHWORKS (PROVISIONAL):				
5.3			EXCAVATIONS:				
			Excavation in earth not exceeding 2m deep				
5.3.1			Trenches, holes etc	m <sup>3</sup>			Rate Only
			Extra over excavation in earth for excavation in				
5.3.2			Soft rock	m <sup>3</sup>			Rate Only
5.3.3			Hard rock	m <sup>3</sup>			Rate Only
			Extra over all excavations for carting away				
5.3.4			Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m <sup>3</sup>			Rate Only
			Risk of collapse of excavations				
5.3.5			Sides of trench and hole excavations not exceeding 1,5m deep	m <sup>2</sup>			Rate Only
			Keeping excavations free of water				
5.3.6			Keeping excavations free of all water other than subterranean water	Sum			Rate Only
			Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 90% Mod AASHTO density				
5.3.7			Backfilling to trenches, holes, etc	m <sup>3</sup>			Rate Only
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			G5 earth filling material supplied by the contractor compacted to 98% Mod AASHTO density in layers not exceeding 150mm thick				
5.3.8			Under floors, steps, pavings, etc	m <sup>3</sup>			Rate Only
			Coarse river sand filling supplied by the contractor				
5.3.9			50mm thick river sand Under floors etc	m <sup>2</sup>			Rate Only
			Compaction of surfaces				
5.3.10			Compaction of ground surface under floors, trenches, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m <sup>2</sup>			Rate Only
			Soil insecticide				
5.3.11			Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m <sup>2</sup>			Rate Only
5.3.12			To bottoms and sides of trenches etc	m <sup>2</sup>			Rate Only
5.4			CONCRETE, FORMWORK AND REINFORCEMENT:				
5.5			UNREINFORCED CONCRETE				
			25MPa/19mm concrete				
5.5.1			Ramps	m <sup>3</sup>			Rate Only
5.5.2			Steps, etc.	m <sup>3</sup>			Rate Only
5.6			REINFORCED CONCRETE				
			25MPa/19mm concrete				
5.6.1			Strip footings	m <sup>3</sup>			Rate Only
5.6.2			In surface beds cast over waterproofing membrane (elsewhere).	m <sup>3</sup>			Rate Only
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.6.3			Column bases	m <sup>3</sup>			Rate Only
5.6.4			Columns	m <sup>3</sup>			Rate Only
5.6.5			Concrete slab	m <sup>3</sup>			Rate Only
5.7			TEST BLOCKS				
5.7.1			Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No.			Rate Only
5.8			CONCRETE SUNDRIES				
			Finishing top surfaces of concrete smooth with a wood float				
5.8.1			Surface beds, slabs, etc	m <sup>2</sup>			Rate Only
5.9			ROUGH FORMWORK:				
5.9.1			Edges, risers, ends and reveals not exceeding 300mm high or wide.	m			Rate Only
5.10			SMOOTH FORMWORK (DEGREE OF ACCURACY II)				
			Smooth formwork to sides				
5.10.1			Columns	m <sup>2</sup>			Rate Only
			Smooth formwork to soffits				
5.10.2			Slabs propped up exceeding 1.50m and not exceeding 3.50m high	m <sup>2</sup>			Rate Only
5.11			MOVEMENT JOINTS ETC (PROVISIONAL)				
			Expansion joints with softboard between vertical concrete and brick surfaces				
5.11.1			Joints not exceeding 300mm high	m <sup>2</sup>			Rate Only
5.12			REINFORCEMENT (PROVISIONAL)				
			Mild yield deformed type II steel reinforcement to concrete as described including all bending, hooked ends, binding wire and temporary supports				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.12.1			Steel bar reinforcement in various sizes	t			Rate Only
			High yield deformed type II steel reinforcement to concrete as described including all bending, hooked ends, binding wire and temporary supports				
5.12.2			Steel bar reinforcement in various sizes	t			Rate Only
			Fabric reinforcement				
5.12.3			Type Ref 193 fabric reinforcement in concrete surface beds, slabs, etc	m <sup>2</sup>			Rate Only
5.13			MASONRY:				
5.14			FOUNDATIONS (PROVISIONAL)				
			Brickwork of NFP bricks in class II mortar				
5.14.1			One brick walls	m <sup>2</sup>			Rate Only
5.15			FACE BRICKWORK				
5.15.1			Extra over brickwork for face brickwork in foundations	m <sup>2</sup>			Rate Only
5.16			SUPERSTRUCTURE				
			Brickwork of NFX bricks (14 Mpa nominal compressive strength) in class I mortar				
5.16.1			Half brick walls	m <sup>2</sup>			Rate Only
5.16.2			Half brick walls in beamfilling	m <sup>2</sup>			Rate Only
5.16.3			One brick walls	m <sup>2</sup>			Rate Only
5.17			BRICKWORK SUNDRIES				
			Movement Joints				
5.17.1			10mm 'Jointex' expansion joint built in vertically between brick walls	m <sup>2</sup>			Rate Only
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.17.2			Movement joint formed of 20mm softboard built in vertically between brick wall and concrete	m			Rate Only
			Steel reinforcing bars				
5.17.3			6mm Diameter mild steel bars (In Foundations)	t			Rate Only
5.17.4			8mm Diameter mild steel bars	t			Rate Only
			Brickwork reinforcement				
5.17.5			75mm Wide reinforcement built in horizontally	m			Rate Only
5.17.6			150mm Wide reinforcement built in horizontally in foundations	m			Rate Only
5.17.7			150mm Wide reinforcement built in horizontally	m			Rate Only
			Prestressed fabricated lintels				
5.17.8			220 x 75mm Lintels in lengths not exceeding 3m	m			Rate Only
5.17.9			110 x 75mm Lintels in lengths not exceeding 3m	m			Rate Only
			Turning pieces				
5.17.10			220mm Wide turning piece to lintels etc	m			Rate Only
			Galvanised wire ties, etc				
5.17.11			2,5mm plain galvanised wire bent twisted and tied through every third brick on edge lintels	No.			Rate Only
			Galvanised hoop iron cramps, ties, etc				
5.17.12			30 x 1,6mm Wall tie 500mm girth with V- drip in centre built into brickwork across expansion joint	No.			Rate Only
5.18			FACE BRICKWORK				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.18.1			Face brick/ Morocco Travertine FBA pointed with square recessed horizontal and vertical joints:  Extra over ordinary brickwork for facing and pointing in stretcher bond	m <sup>2</sup>			Rate Only
5.18.2			Brick-on-edge header course copings, sills, etc. of Face brick pointed with recessed joints on all exposed faces:  Extra over brickwork for brick-on-edge header course lintel pointed on face and 110mm soffit	m			Rate Only
5.18.3			Extra over ordinary brickwork for brick-on-edge header course lintel pointed on 220mm wide soffit and both ends.	m			Rate Only
5.18.4			Brick-on-edge header course sill set sloping and slightly projecting pointed on all exposed faces	m			Rate Only
5.18.5			Fair raking cutting.	m			Rate Only
5.19			WATERPROOFING:				
5.20			WATERPROOFING TO WALLS:				
5.20.1			375 Micron embossed black polyethylene damp-proof course to walls, cills, etc. (measured nett).	m <sup>2</sup>			Rate Only
5.21			WATERPROOFING UNDER FLOORS, ETC.:				
5.21.1			Colour coded polyethylene sheeting complying with SABS 952, Type C, in widest practicable widths with all joints lapped and sealed in accordance with the manufacturer's instructions:  250 Micron green medium density sheeting laid loose on top of sand bed (elsewhere) under solid floors with pressure sensitive tape jointing.	m <sup>2</sup>			Rate Only
5.22			JOINT SEALANTS ETC				
Total Carried Forward							



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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.22.1			10 x 10mm Polysulphide sealing compound including backing cord, bond breaker, primer, etc.	m			Rate Only
			Clear silicone sealer				
5.22.2			In joints between worktops and sanitary fittings, etc	m			Rate Only
5.23			ROOF COVERINGS, ETC.:				
			Chromadeck roofing sheets				
5.23.1			Roof covering with pitch not exceeding 25 degrees, in transportable lengths not exceeding 20m fixed to timber purlins.	m <sup>2</sup>			Rate Only
5.23.2			Side cladding	m <sup>2</sup>			Rate Only
5.23.3			Standard sheet iron ridge covering fixed to steel purlins (elsewhere).	m			Rate Only
5.23.4			Sheet iron gable trim 370mm girth three times bent to detail and fixed to roof sheeting (elsewhere)	m			Rate Only
5.23.5			Rolled edge at verge.	m			Rate Only
5.24			ROOF AND WALL INSULATION				Rate Only
			Fibreglass reinforced aluminium foil faced resin bonded glass fibre flexible building insulation				
5.24.1			50mm Insulation laid taut over purlins and fixed concurrent with roof covering including galvanised steel straining wires	m <sup>2</sup>			Rate Only
5.25			NAILED UP CEILINGS				
5.25.1			6.4mm "Rhino" gypsum plasterboard with 4mm x 45mm gypsum ceiling jointing strips				
5.25.2			Ceilings including 38 x 38mm sawn softwood branderling at 600mm centres	m2	278		
Total Carried Forward							

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**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.25.3			Extra over ceiling for hinged pressed metal trap door size 600 x 600mm including all necessary ironmongery.	No.	2		
5.26			CORNICES				
5.26.1			Rhino gypsum plasterboard cornices	m	249		
5.26.2			75mm Coved cornices				
5.26.3			Timber SAP 38x228	m	246		
5.26.4			Hanger L 38x1,0mm	No.	84		
5.27			PAINTWORK				
5.28			ON PLASTER BOARD				
5.28.1			One coat "Plascon UC.56 Merit" primer and two coats "EPL Polvyn Super Acrylic" on:				
5.28.2			On ceilings and cornices	m2	278		
5.29			CARPENTRY AND JOINERY:				
5.30			SKIRTINGS				
			Wrought meranti				
5.30.1			19 x 76mm Skirting nailed to walls with heads of nails punched and filled including 19mm quadrant planted on at junction with floor	m			Rate Only
5.31			DOORS ETC				
			40mm solid core flush panel door: hardboard faced 10mm hardwood strips on vertical sides to conceal edge to full length 10mm horizontal hardwood strip to conceal bottom edge for 230mm wall				
5.31.1			40mm Door, size 813 x 2094 mm high (LI/SC)	No.			Rate Only
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			40mm semi-solid core flush panel door: hardboard faced 10mm hardwood strips on vertical sides to conceal edge to full length 10mm horizontal hardwood strip to conceal bottom edge for 115mm wall				
5.31.2			40mm Door, size 813 x 2094 mm high (LI/SC)	No.			Rate Only
			Standard solid timber external double doors, suitable for painting, hung to steel frames				
5.31.3			40mm x 1,600 x 2,032mm high double door	No.			Rate Only
5.32			JOINERY SUNDRIES				
5.33			FITTINGS				
			Melamine				
5.33.1			Kitchen cupboards 600mm wide x 870mm high including 30mm formica tops, opening for sink, shelving, doors, handles, drawers,etc complete with fabrication and fixing.	m			Rate Only
5.33.2			Kiosk cupboards 600mm wide x 870mm high including 30mm formica tops, opening for sink, shelving, doors, handles, drawers,etc complete with fabrication and fixing.	m			Rate Only
5.34			IRONMONGERY:				
5.35			HINGES, BOLTS, ETC				
			Solid or similar approved product				
5.35.1			100mm Chromium plated brass barrel bolt	No.			Rate Only
5.35.2			Art 208/C91/225 bolt	No.			Rate Only
5.36			LOCKS				
			Solid or similar approved product				
5.36.1			Three lever cylinder lockset	No.			Rate Only
Total Carried Forward							

**Ga-Maja Sports Complex**  
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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.36.2			Design hardware (B3635) stainless steel indicator bolt	No.			Rate Only
5.37			HANDLES				
			Solid or similar approved product				
5.37.1			Design hardware (B3084) anodised aluminium lever handle.	No.			Rate Only
5.37.2			Pull handle for paraplegic door	No.			Rate Only
5.38			DOOR CLOSERS				
5.38.1			Door to receive DORMA-PHB3000 High Spec pushbar fittings for emergency exits adjustable to any door height or width installed according to SANS 10400 T and NBR.	No.			Rate Only
5.38.2			Door closer in Design Hardware Status 983 with delay for paraplegics	No.			Rate Only
5.39			LETTERS, NAMEPLATES, ETC. (PROVISIONAL):				
5.39.1			Standard anodised aluminium plate with male or female symbol	No.			Rate Only
5.39.2			Standard anodised aluminium plate with no smoking symbol	No.			Rate Only
5.39.3			Standard anodised aluminium plate with paraplegic symbol	No.			Rate Only
5.39.4			Standard anodised aluminium plate with fire exit, fire extinguisher, fire hose reel or fire hydrant symbol	No.			Rate Only
5.40			BATHROOM FITTINGS				
			Sanitech				
5.40.1			Sanicare Toilet Roll Holder- holds 2 rolls ( stainless steel)	No.			Rate Only
5.40.2			Sanicare 1 Litre Top Up Liquid Soap Dispencer (Stainless Steel)	No.			Rate Only
5.40.3			Sanitech Roll Control paper towel dispencer (Stainless Steel).	No.			Rate Only
Total Carried Forward							

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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.40.4			Sanicare Manual fem Bins.	No.			Rate Only
5.41			SUNDRIES:				
5.41.1			24mm design hardware black rubber door stop (B3345) plugged to wall or floor.	No.			Rate Only
5.41.2			B1695 480 x 3 500 x 60 mm Key cabinet	No.			Rate Only
5.42			PUSH PLATES AND KICKING PLATES				
			Union or similar and approved				
5.42.1			Union AL 5022 - 06 150 x 150mm plate (no piercing) with clearly visible engraving 'PUSH' (2 off)	No.			Rate Only
5.42.2			Union AL 5021 - 06push plate (no piercing) with clearly visible engraving 'PULL'	No.			Rate Only
			Stainless steel:				
5.42.3			Angle Side Grab Rail Design Hardware B3775	No.			Rate Only
5.42.4			Flushvalve Grab Rail Design Hardware B3774	No.			Rate Only
5.43			METALWORK:				
5.44			SECURITY GATES:				
			Steel security grille gates formed of 30 x 50mm rectangular tubing for outer frame including two center rails with an "Ultra" lock and filled in with 16mm x 16mm solid square bar at 100mm centres, screens, etc. installed complete including all subframes, bolts, expansion bolts, etc.:				
5.44.1			Double steel security grille gate size 2,134 x 2,100mm.	No.			Rate Only
5.45			PRESSED STEEL DOOR FRAMES:				
Total Carried Forward							

**Ga-Maja Sports Complex**  
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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.45.1			1,6mm Double rebated pressed steel door frames suitable for half brick walls:  Frame for door size 813 x 2 032mm with two 100mm steel butts - hinge pins to be welded	No.			Rate Only
5.45.2			1,6mm Double rebated pressed steel door frames suitable for one brick walls:  Frame for double door 813 x 2 032mm high	No.			Rate Only
5.45.3			Frame for double door 1,600 x 2,100mm high	No.			Rate Only
5.46			STEEL WINDOWS:  Standard residential windows with burglar proofing and 3 x 30mm mild steel flat section welded to inside sash at the top of the window frame:				
5.46.1			Window type W1, 673 x 987mm high.	No.			Rate Only
5.46.2			Window type W2, 1303 x 987mm high.	No.			Rate Only
5.47			ROLLER SHUTTERS				
5.47.1			Roll-Up Serranda Series 500 galvanised mild steel electrically operated 75 x 0,6mm thick slatted curtain roller shutter with lockable push button control for opening 900 x1075mm high with overhead box 335mm high, standard bottom rail, 75mm wide guides, extruded aluminium T-bar with rubber seal, hot dip galvanised ancillary components including 4,5mm thick end plates, guide rails, centre lock, fixed to structural steel jambs and structural steel beam, the shutter controlled by security mounted key switch, to be operated with a JP 35 motor connected to 3-phase power supply.	No.			Rate Only
			SERVICE HATCH (kiosk and kitchenette)				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.47.2			Aluglass Bautech Varifold Elegance natural cherry wood veneered folding single door size 1200 x 1034mm high comprising stabilised chip core segments faced with veneer and hinged together with full height anodised aluminium extrusion with matching veneered wooden inserts including anodised lockset, hung from natural anodised aluminium track plugged and screwed to brickwork with ball bearing rollers, track cover, ironmongery. etc	No.			Rate Only
5.48			PLASTERING:				
5.49			SCREEDS				
			Screeds on concrete:				
5.49.1			25mm Thick on floors and landings.	m <sup>2</sup>			Rate Only
5.50			INTERNAL PLASTER:				
5.51			ONE COAT (4:1) CEMENT PLASTER FINISHED TO A SMOOTH AND EVEN STEEL TROWELLED SURFACE:				
			On brickwork:				
5.51.1			On walls.	m <sup>2</sup>			Rate Only
5.51.2			On narrow widths.	m <sup>2</sup>			Rate Only
5.52			EXTERNAL PLASTER:				
5.53			ONE COAT (3:1) CEMENT PLASTER FINISHED TO A SMOOTH AND EVEN STEEL TROWELLED SURFACE:				
			On concrete:				
5.53.1			On narrow widths.	m <sup>2</sup>			Rate Only
5.54			TILING:				
5.55			WALL TILING:				
Total Carried Forward							

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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.55.1			150 x150mm White glazed ceramic tiles fixed with adhesive to plaster (plaster elsewhere):  On walls in isolated panels, splashbacks, etc	m <sup>2</sup>			Rate Only
5.56			FLOOR TILING:  Ceramic floor tiles fixed with 'Tylon' Code:CN 12 adhesive to screed (screed elsewhere) and flush pointed with 'Tylon" Code CE 235 Acid Resistant tiling grout				
5.56.1			On floors	m <sup>2</sup>			Rate Only
5.56.2			Cut tile skirting 100mm high	m			Rate Only
5.57			PLUMBING AND DRAINAGE (PROVISIONAL):				
5.58			SOIL DRAINAGE:  uPVC pipes:				
5.58.1			110mm Pipes laid in and including trenches not exceeding 1 000mm deep.	m			Rate Only
			Extra over uPVC pipes for fittings:				
5.58.2			110mm Bend.	No.			Rate Only
5.58.3			110mm Access junction.	No.			Rate Only
			Sundries:				
5.58.4			Unreinforced concrete encasing to 50mm horizontal pipe.	m			Rate Only
5.58.5			Unreinforced concrete encasing to 110mm horizontal pipe.	m			Rate Only
5.59			RAINWATER DISPOSAL:  0,6mm Galvanized sheet iron Class Z 275:				
Total Carried Forward							



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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.59.1			100 x 125mm Rectangular section eaves gutter with 20mm wide overlapping joints sealed with and including "Compriband" or other approved bitumen sealer and rivetted at 20mm centres.	m			Rate Only
5.59.2			Extra over 100 x 125mm eaves gutter for stopped end.	No.			Rate Only
5.59.3			Extra over 100 x 125mm eaves gutter for outlet for 100 x 76mm downpipe including galvanized wire balloon grating.	No.			Rate Only
5.59.4			100mm x 76mm Rainwater pipe with brackets fixed to brick wall or concrete.	m			Rate Only
5.59.5			Extra over 100 x 76mm rainwater pipe for shoe.	No.			Rate Only
5.59.6			Extra over 100 x 76mm rainwater pipe for eaves or plinth offset 500mm projection.	No.			Rate Only
5.60			SANITARY FITTINGS:				
			Stainless steel drop-in sink (code: SDI-120-CS), size 1200 x 435mm wide with 395 x 330 x 170mm deep bowl, 38mm waste outlet and folded edges, fitted into worktop of cupboard (elsewhere specified) with fixing clips				
			Vaal:				
5.60.1			Vaal Sanitaryware vitreous china 510 x 405mm rounded "Hibiscus" code 7023 basin with one taphole	No.			Rate Only
5.60.2			Vaal Sanitaryware vitreous china "Daisy" semi-close coupled 90 degrees outlet open rim washdown pan (code 751400) and matching 9 litre cistern (code 710532) complete with lid, fitments and flush pipe elbow.	No.			Rate Only
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.60.3			Vaal - Protea Paraplegic Din 90 degrees white vitreous china outlet pan code 750200 with matching 9 litre cistern code 710631, complete with lid, fitments, purpose made CP side flush lever mounted on wall adjacent to cistern and with white timber double flap toilet seat	No.			Rate Only
5.60.4			385 x 610mm White Vaal "Lavatera" wall mounted urinal with top inlet and CP spreader on and including necessary wall bracket (flushmaster elsewhere).	No.			Rate Only
5.61			WASTE UNIONS, ETC.:				
			Cobra Watertech:				
5.61.1			32mm "301" Basin waste union.	No.			Rate Only
5.62			TRAPS, ETC.:				
			Cobra Watertech:				
5.62.1			VA 2.360 sink "P" trap.	No.			Rate Only
5.62.2			80mm Cast iron glass enamelled internally urinal trap cast into concrete including caulked lead joint to cast iron pipe and CP outlet grille.	No.			Rate Only
5.62.3			Short length of 80mm cast iron pipe, glass enamelled internally, with enlarged socket for urinal outlet, cast into concrete, including caulked lead joint to urinal trap.	No.			Rate Only
5.63			TAPS, VALVES, ETC.:				
5.63.1			Cobra carina 296 CA sink mixer	No.			Rate Only
5.63.2			15mm CP "Carina" single tap hole basin mixer with red and blue inserts	No.			Rate Only
5.63.3			FJ 6000 CP Flushmaster urinal flushing valve.	No.			Rate Only
5.63.4			15mm "FJT 5.5" CP urinal tail pipe.	No.			Rate Only
			Cobra Watertech:				
Total Carried Forward							

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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.63.5			15mm CP stop tap	No.			Rate Only
5.63.6			22mm "131" Brass stopcock.	No.			Rate Only
5.63.7			15mm "111" CP heavy pattern pillartap.	No.			Rate Only
5.64			SANITARY PLUMBING:				
			uPVC pipes:				
5.64.1			50mm Pipes.	m			Rate Only
5.64.2			110mm Pipes.	m			Rate Only
			Extra over uPVC pipes for fittings:				
5.64.3			50mm Access bend.	No.			Rate Only
5.64.4			110mm Access heel bend.	No.			Rate Only
5.64.5			110mm Straight pan connector	No.			Rate Only
5.64.6			110mm Bent pan connector	No.			Rate Only
5.64.7			110mm Access heel bend.	No.			Rate Only
5.64.8			110mm Access reducing junction.	No.			Rate Only
5.64.9			110mm Vent valve.	No.			Rate Only
			Sundries:				
5.64.10			Test waste pipe system.	Sum			Rate Only
5.65			WATER SUPPLIES:				
			Galvanised steel pipes				
5.65.1			15mm Pipes	m			Rate Only
5.65.2			20mm Pipes	m			Rate Only
			Extra over galvanised steel pipes for steel fittings				
5.65.3			15mm fittings	No.			Rate Only
5.65.4			20mm fittings	No.			Rate Only
			Class O copper pipes:				
Total Carried Forward							

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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.65.5			15mm Pipes.	m			Rate Only
5.65.6			22mm Pipes.	m			Rate Only
			Extra over class O copper pipes for capillary fittings:				
5.65.7			15mm Fittings.	No.			Rate Only
5.65.8			22mm Fittings.	No.			Rate Only
			Copper overflow and service pipes:				
5.65.9			15mm Service pipe 300mm girth.	No.			Rate Only
5.65.10			22mm Service pipe 300mm girth.	No.			Rate Only
			Sundries:				
5.65.11			Testing water pipe system.	Item			Rate Only
5.66			FIRE APPLIANCES ETC				
5.66.1			9kg DCP dry powder portable fire extinguisher on and including wrought meranti backboard size 1000 x 255 x 25mm thick plugged and screwed to wall and finished with two coats of polyurethane varnish, including 120 x 20 x 2mm mild steel strip bent to form hook	No.			Rate Only
5.66.2			'Everyway' or similar approved product hose reel complete with 30m plastic hose, chromium plated stopcock, shut-off nozzle and wall bracket	No.			Rate Only
5.67			ELECTRIC WATER HEATERS:				
			Kwikot:				
5.67.1			100 Litre horizontal type electric water heater including drip tray.	No.			Rate Only
5.68			BUILDER'S WORK, INCLUDING ALL MAKING GOOD:				
5.68.1			Fair cutting and fittings face bricks around pipe not exceeding 100mm diameter.	No.			Rate Only
Total Carried Forward							

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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.69			GLAZING:				
5.70			GLAZING TO STEEL WITH PUTTY:				
			3mm Clear float glass:				
5.70.1			Panes exceeding 0,1 m2 and not exceeding 0,5 m2.	m <sup>2</sup>			Rate Only
			4mm Obscure glass:				
5.70.2			Panes exceeding 0,1 m2 and not exceeding 0,5 m2.	m <sup>2</sup>			Rate Only
5.71			TOPS, SHELVES, DOORS, MIRRORS, ETC.:				
			6mm Silvered float glass copper backed mirrors with polished edges holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete:				
5.71.1			Mirror 600 x 450mm high with six screws.	No.			Rate Only
5.72			PAINTWORK:				
5.73			PAINTWORK, ETC. TO NEW WORK:				
			Two coats brick dressing on:				
5.73.1			Recessed pointed faced external walls.	m <sup>2</sup>			Rate Only
5.74			ON PLASTER, ETC.				
			One coat approved quality plaster primer and two coats "Double Velvet Wall Coating" on:				
5.74.1			On internal plastered walls	m <sup>2</sup>			Rate Only
			One coat "Plascon UC.56 Merit" plaster primer and two coats "textured paint" on:				
5.74.2			On external plastered beam	m <sup>2</sup>			Rate Only
Total Carried Forward							

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SECTION 5: BUILDING WORKS: COMMUNITY HALL

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
5.75			ON FIBRE-CEMENT:				
			One coat approved quality primer, one coat universal undercoat and two coats high gloss enamel on:				
5.75.1			Fascias and barge boards.	m <sup>2</sup>			Rate Only
5.75.2			On round columns	m <sup>2</sup>			Rate Only
5.76			ON METAL:				
			Spot priming defects in pre-primed surfaces with "Plascon UC.53 Namelcote" zink chromate primer, one coat "UC-1 Merit" universal undercoat and two coats universal enamel gloss paint on:				
5.76.1			Door frames.	m <sup>2</sup>			Rate Only
5.76.2			Windows with burglar bars.	m <sup>2</sup>			Rate Only
			One coat approved steel primer, one coat universal undercoat and two coats high gloss enamel on:				
5.76.3			Gates, grilles, burglar screens, balustrades, etc. (both sides measured over the full flat area).	m2			Rate Only
5.77			ON WOOD:				
			Three coats quality clear varnish:				
5.77.1			Doors.	m <sup>2</sup>			Rate Only
5.77.2			Skirtings, rails, etc. not exceeding 300mm girth.	m			Rate Only
			One coat "Plascon UC.2" pink oil based wood primer, one coat "UC.1 Merit" universal undercoat and two coats universal enamel gloss paint on:				
5.77.3			Roof timbers at eaves and verges.	m2			Rate Only
Total Carried Forward To Summary							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
6			SECTION 6: BUILDING WORKS:				
6.1			ABLUTIONS & CARETAKER UNIT				
			The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2008 Edition) and the Supplementary Preambles hereunder.				
6.2			EARTHWORKS (PROVISIONAL):				
6.3			EXCAVATIONS:				
			Excavation in compacted earth filling material not exceeding 2m deep				
6.3.1		LI	Trenches, holes and thickening under surface beds etc.	m <sup>3</sup>			Rate Only
			Extra over excavation in earth for excavation in				
6.3.2			Soft rock	m <sup>3</sup>			Rate Only
6.3.3			Hard rock	m <sup>3</sup>			Rate Only
			Extra over all excavations for carting away				
6.3.4			Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m <sup>3</sup>			Rate Only
			Risk of collapse of excavations				
6.3.5			Sides of trench and hole excavations not exceeding 1,5m deep	m <sup>2</sup>			Rate Only
6.3.6			Keeping excavations free of water	Sum			Rate Only
6.4			FILLING ETC				
			Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 97% Mod AASHTO density				
6.4.1			Backfilling to trenches, holes, etc	m <sup>3</sup>			Rate Only
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Approved G5 filling material supplied by the contractor compacted to 93% Mod AASHTO density in layers not exceeding 150mm thick				
6.4.2			Under floors	m <sup>3</sup>			Rate Only
			River sand filling supplied by the contractor:				
6.4.3			25mm Thick dry, clean, washed riversand layer evenly spread over filling (elsewhere), levelled, watered and rammed to receive waterproof membrane (elsewhere) under solid floors.	m <sup>2</sup>			Rate Only
			Compaction of surfaces				
6.4.4			Compaction of ground surfaces under floors, trenches, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod.AASHTO density	m <sup>2</sup>			Rate Only
			Soil insecticide				
6.4.5			Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m <sup>2</sup>			Rate Only
6.4.6			To bottoms and sides of trenches etc	m <sup>2</sup>			Rate Only
6.5			CONCRETE, FORMWORK AND REINFORCEMENT:				
6.6			UNREINFORCED CONCRETE				
			25MPa/19mm concrete				
6.6.1			Ramps	m <sup>2</sup>	2		
6.6.2			Steps, urinal steps, etc.	m <sup>2</sup>	1		
6.7			REINFORCED CONCRETE				
			25MPa/19mm concrete				
6.7.1			Strip footings	m <sup>3</sup>			Rate Only
Total Carried Forward							



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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.7.2			In surface beds cast over waterproofing membrane (elsewhere).	m <sup>3</sup>			Rate Only
6.8			TEST BLOCKS				
6.8.1			Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No.			Rate Only
6.9			CONCRETE SUNDRIES				
			Finishing top surfaces of concrete smooth with a wood float				
6.9.1			Surface beds, slabs, etc	m <sup>2</sup>			Rate Only
6.10			ROUGH FORMWORK:				
			Formwork to sides of:				
6.10.1			Edges, risers, ends and reveals not exceeding 300mm high or wide.	m			Rate Only
6.11			MOVEMENT JOINTS:				
6.11.1			10mm Isolation Joints not exceeding 300mm high	m	162		
6.11.2			10 x 12mm polysulphide sealant	m	162		
6.12			REINFORCEMENT (PROVISIONAL)				
			Mild yield deformed type II steel reinforcement to concrete as described including all bending, hooked ends, binding wire and temporary supports				
6.12.1			Steel bar reinforcement in various sizes	t			Rate Only
			High yield deformed type II steel reinforcement to concrete as described including all bending, hooked ends, binding wire and temporary supports				
6.12.2			Steel bar reinforcement in various sizes	t			Rate Only
			Fabric reinforcement				
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.12.3			Type Ref 193 fabric reinforcement in concrete surface beds, slabs, etc	m <sup>2</sup>			Rate Only
6.13			MASONRY:				
6.14			FOUNDATIONS (PROVISIONAL):				
		LI	Brickwork in extra hard burnt clay bricks (15 MPa nominal compressive strength) in class I mortar in loadbearing walls, etc.:				
6.14.1			One brick wall	m <sup>2</sup>			Rate Only
6.15			BRICK REINFORCEMENT:				
6.15.1			Brick reinforcement 150mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured nett).	m			Rate Only
6.16		LI	FACE BRICKWORK				
			Face brick pointed with square recessed horizontal and vertical joints:				
6.16.1			Extra over brickwork for face brickwork in foundations	m <sup>2</sup>			Rate Only
6.17		LI	SUPERSTRUCTURE:				
			Brickwork of NFP bricks in class II mortar:				
6.17.1			Half brick wall.	m <sup>2</sup>	40		
6.17.2			Half brick wall in beamfilling.	m <sup>2</sup>			Rate Only
6.17.3			One brick wall.	m <sup>2</sup>			Rate Only
6.18			BRICKWORK SUNDRIES				
			Movement Joints				
6.18.1			10mm 'Jointex' expansion joint built in vertically between brick walls	m <sup>2</sup>			Rate Only
6.18.2			Movement joint formed of 20mm softboard built in vertically between brick wall and concrete	m			Rate Only
			Brickwork Reinforcement				
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.18.3			Brick reinforcement 75mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured nett).	m	60		
6.18.4			Brick reinforcement 150mm wide built into brick walls with sufficient laps at end joints, angles and intersections (measured nett).	m			Rate Only
			Pre-stressed fabricated lintels				
6.18.5			220 x 75mm Lintels in lengths not exceeding 3m	m			Rate Only
			Turning pieces				
6.18.6			220mm Wide turning piece to lintels etc	m			Rate Only
			Galvanised wire ties, etc				
6.18.7			2,5mm plain galvanised wire bent twisted and tied through every third brick on edge lintels	No.			Rate Only
			Total Carried Forward				
			Galvanised hoop iron cramps, ties, etc				
6.18.8			30 x 1,6mm Wall tie 500mm girth with V- drip in centre built into brickwork across expansion joint	No.			Rate Only
6.19			AIR BRICKS:				
6.19.1			222 x 155mm Terra-cotta vermin proof air bricks with gauze backing and building into opening in brickwork in cement mortar.	No.	10		
6.20			FACED BRICKWORK:				
			Face brick/ Morroco Travertine FBA pointed with square recessed horizontal and vertical joints:				
6.20.1			Extra over ordinary brickwork for facing and pointing in stretcher bond to piers.	No.			Rate Only
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.20.2			Extra over brickwork in beamfilling for face brickwork.	m <sup>2</sup>			Rate Only
6.20.3			Extra over brickwork for brick-on-flat header course lintel.	m			Rate Only
6.20.4			Cut face brick soldier course external window cill in cement mortar, 190mm high set flat and pointing on top and front edge including fair and fitted ends.	m			Rate Only
			Brick-on-edge header course copings, sills, etc. of face bricks(PC R5,000/1 000) pointed with recessed joints on all exposed faces:				
6.20.5			Cut face brick-on-edge external window cill, 110mm wide set sloping in cement mortar and pointing on top and front edge including all necessary fair raking cutting to facings under and fair and fitted ends.	m			Rate Only
6.21			WATERPROOFING:				
6.22			DAMP-PROOFING OF WALLS AND FLOORS				
			One layer of 375 micron embossed damp proof course				
6.22.1			On foundation walls	m <sup>2</sup>			Rate Only
6.22.2			On walls, stepped up in cavities, under cills, around door frames etc.	m <sup>2</sup>			Rate Only
6.23			WATERPROOFING UNDER FLOORS, ETC.:				
			One layer of 250 micron waterproof sheeting sealed at laps with approved tape				
6.23.1			Under surface beds	m <sup>2</sup>			Rate Only
6.24			JOINT SEALANTS ETC				
6.24.1			In joints between worktops and sanitary fittings, etc	m	13		
			Total Carried Forward				
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.25			ROOF COVERINGS, ETC.:				
			Chromadeck roofing sheets				
6.25.1			Roof covering with pitch not exceeding 25 degrees, in transportable lengths not exceeding 20m fixed to timber purlins.	m <sup>2</sup>			Rate Only
6.25.2			0,60mm Standard sheet iron ridge covering fixed to timber purlins (elsewhere).	m			Rate Only
6.25.3			0,60mm sheet iron gable trim 370mm girth three times bent to detail and fixed to roof sheeting (elsewhere)	m			Rate Only
6.25.4			Rolled edge at verge.	m			Rate Only
6.26			ROOF AND WALL INSULATION				
6.26.1			Fibreglass reinforced aluminium foil faced resin bonded glass fibre flexible building insulation 50mm Insulation laid taut over purlins and fixed concurrent with roof covering including galvanised steel straining wires	m <sup>2</sup>	187		
6.27			CARPENTRY AND JOINERY:				
6.28			ROOF CONSTRUCTION:				
6.28.1			Roof construction to double pitched roof with two gable ends measuring 18,410 x 9.680mm including trusses, permanent bracing, wall plates, purlins, etc.as per Architect drawings	No.			Rate Only
6.29			WOOD PRESERVATIVE:				
6.29.1			Two coats creosote on sawn and wrought timbers.	No.			Rate Only
6.30			FASCIAS AND BARGE BOARDS:				
			Tempered fibre cement:				
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.30.1			15 x 225mm Fascia or barge board countersunk screwed to support and roof timbers (elsewhere) with one brass screw at maximum 750mm centres and jointed with and including standard aluminium half round cover strips at all joints.	m	56		
6.31			DOORS:				
			Wrought Meranti:				
6.31.1			40 x 813 x 2 032mm Framed, ledged and braced batten door formed of 40 x 110mm styles and top rail, 20 x 225mm bottom ledge, 20 x 115mm middle ledge and 20 x 110mm diagonal braces, filled in flush one side with 20 x 75mm tongued, grooved and V-jointed both sides vertical boarding fixed in and including grooves in styles and top rail. (D1)	No.	5		
6.31.2			40 x 900 x 2 032mm Framed, ledged and braced batten door formed of 40 x 110mm styles and top rail, 20 x 225mm bottom ledge, 20 x 115mm middle ledge and 20 x 110mm diagonal braces, filled in flush one side with 20 x 75mm tongued, grooved and V-jointed both sides vertical boarding fixed in and including grooves in styles and top rail. (D2)	No.	2		
			( self closing mechanism for disabled persons )				
			Total Carried Forward				
6.31.3			Break in, Supply and Industrial roller shutter door 2200 X 2000mm with	No.	1		
6.31.4			Break in, Supply and Industrial roller shutter door 1200 X 1200mm with	No.	1		
			Semi-solid flush panel masonite doors:				
6.31.5			40 x 813 x 1 960mm Door.	No.	5		
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.31.6			Caretakers room				
			Built in cabinets measuring with sides, bottom, divisions, shelf, back and 2 single hinged doors as per Architects drawings	No.	2		
6.32			CEILINGS, PARTITIONS AND ACCESS FLOORING:				
6.33			NAILED UP CEILINGS				
			6.4mm "Rhino" gypsum plasterboard with 4mm x 45mm gypsum ceiling jointing strips				
6.33.1			Ceilings including 38 x 38mm sawn softwood bandering at 600mm centres	m <sup>2</sup>	163		
6.33.2			Extra over ceiling for hinged pressed metal trap door size 600 x 600mm including all necessary ironmongery.	No.	2		
6.34			CORNICES				
			Rhino gypsum plasterboard cornices				
6.34.1			75mm Coved cornices	m	190		
6.35			IRONMONGERY:				
6.36			LOCKS:				
6.36.1			63mm Brass five pin tumbler padlock with two keys.	No.	7		
6.36.2			SC "Union CZ 682/2277-103" three lever lockset with striking plate fixed to metal.	No.	7		
6.36.3			SC "Union Code 37615" facility indicator bolt.	No.	5		
6.36.4			Door closer in Design Hardware Status 983 with delay for paraplegics	No.	2		
6.37			LETTERS, NAMEPLATES, ETC. (PROVISIONAL):				
6.37.1			Union AL 8021 plate with male or female symbol.	No.	2		
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.37.2			Union AL 8021 plate with paraplegic symbol.	No.	2		
6.38			SUNDRIES:				
6.38.1			38mm Diameter red rubber door stop plugged to wall or floor.	No.	14		
6.39			BATHROOM FITTINGS:				
			Conways:				
6.39.1			CH "B 1682" thiefproof toilet roll holder.	No.	8		
			Sanitech				
6.39.2			Sanicare 1 Litre Top Up Liquid Soap Dispenser (Stainless Steel)	No.	4		
6.39.3			Sanitech Roll Control paper towel dispenser (Stainless Steel).	No.	4		
6.39.4			Sanicare Manual fem Bins.	No.	2		
			Total Carried Forward				
			Stainless steel:				
6.39.5			Stainless steel wall-mounted rear grab rail around the cistern as Chairman industries (code SR 2)	No.	2		
6.39.6			Stainless steel wall-mounted side grab rail as Chairman industries (code DL 12)	No.	2		
6.40			PUSH PLATES AND KICKING PLATES				
			Union or similar and approved				
6.40.1			Union kick plate.	No.	2		
6.40.2			Pull handle for paraplegic doors.	No.	2		
6.41			METALWORK:				
6.42			SECURITY GATES:				
Total Carried Forward							



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**Schedule of Quantities**

SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Steel security grille gates formed of 30 x 50mm rectangular tubing for outer frame including two centre rails with an "Ultra" lock and filled in with 16mm x 16mm solid square bar at 100mm centres, screens, etc. installed complete including all subframes, bolts, expansion bolts, etc.:				
6.42.1			Steel fixed security grille gate size 900 x 2 100mm	No.	7		
6.43			PRESSED STEEL DOOR FRAMES:				
			1,2mm Double rebated pressed steel door frames suitable for half brick walls:				
6.43.1			Frame for door size 813 x 1,960mm with two 100mm steel butts - hinge pins to be welded - both legs of frame shortened.	No.			Rate Only
			1,2mm Double rebated pressed steel door frames suitable for one brick walls:				
6.43.2			Frame for door size 813 x 2 032mm with two 100mm steel butts - hinge pins to be welded	No.			Rate Only
6.43.3			Frame for door size 900 x 2 032mm with two 100mm steel butts - hinge pins to be welded	No.			Rate Only
6.44			STEEL WINDOWS:				
			Standard residential windows with burglar proofing and 3 x 30mm mild steel flat section welded to inside sash at the top of the window frame:				
6.44.1			Window type W1, 533 x 654mm high.	No.			Rate Only
6.44.2			Window type W2, 1022 x 654mm high.	No.			Rate Only
6.44.3			Window type W3, 1022 x 1245mm high.	No.			Rate Only
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.44.4			Window type W4, 1511 x 654mm high.	No.			Rate Only
6.45			PLASTERING:				
6.46			SCREEDS				
			Screeds on concrete:				
6.46.1			25mm Thick on floors and landings.	m <sup>2</sup>	163		
			Total Carried Forward				
6.47			TILING:				
6.48			WALL TILING:				
			150 x150mm White glazed ceramic tiles fixed with adhesive to plaster (plaster elsewhere):				
6.48.1			On walls in isolated panels, splashbacks, etc	m <sup>2</sup>	167		
6.49			FLOOR TILING:				
			Ceramic floor tiles fixed with 'Tylon' Code:CN 12 adhesive to screed (screed elsewhere) and flush pointed with 'Tylon" Code CE 235 Acid Resistant tiling grout				
6.49.1			On floors	m <sup>2</sup>	158		
6.49.2			Cut tile skirting 100mm high	m	192		
6.50			PLUMBING AND DRAINAGE (PROVISIONAL):				
6.51			RAINWATER DISPOSAL:				
			White PVC pipes				
6.51.1			100 x 125mm Rectangular section eaves gutter with 20mm wide overlapping joints sealed with and including "Compriband" or other approved bitumen sealing strip and rivetted at 20mm centres.	m	40		
6.51.2			Extra over 100 x 125mm eaves gutter for stopped end.	No.	4		
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.51.3			Extra over 100 x 125mm eaves gutter for outlet for 100 x 76mm downpipe including galvanized wire balloon grating.	No.	4		
6.51.4			100mm x 76mm Rainwater pipe with brackets fixed to brick wall or concrete.	m	10		
6.51.5			Extra over 100 x 76mm rainwater pipe for shoe.	No.	4		
6.51.6			Extra over 100 x 76mm rainwater pipe for eaves or plinth offset 500mm projection.	No.	4		
			Vaal:				
6.51.7			Vaal Sanitaryware vitreous china 510 x 405mm rounded"Hibiscus" code 7023 basin with one taphole	No.	9		
6.51.8			Vaal Sanitaryware vitreous china 455 x 290mm "Bantam" basin (product code: 7030) with two semi-punched tapholes, integrated overflow and chainstay hole including concealed brackets.	No.	2		
6.51.9			White "Protea" wc pan with heavy duty double flap plastic seat, complete with "Shires Lynx" heavy duty cistern complete	No.	6		
6.51.10			Vaal - Protea Paraplegic Din 90 degrees white vitreous china outlet pan with matching 9 litre cistern, complete with lid, fitments, purpose made CP side flush lever mounted on wall adjacent to cistern and with white timber double flap toilet seat	No.	2		
6.51.11			385 x 610mm White "Lavatera" wall mounted urinal with top inlet and CP spreader on and including necessary wall brackets (flushmaster elsewhere).	No.	4		
			Cobra Watertech:				
6.51.12			32mm "301" Basin waste union.	No.	11		
6.52			TRAPS, ETC.:				
Total Carried Forward							

**Ga-Maja Sports Complex**  
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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Cobra Watertech:				
6.52.1			VA 2.360 sink "S or P" trap.	No.	1		
6.52.2			32mm "345/50" CP bottle trap.	No.	11		
6.52.3			32mm shower trap including chrome plated grating	No.	9		
			Cobra Watertech:				
6.52.4			15mm CP stop taps	No.	22		
6.52.5			15mm "139 Star" CP underwall pattern stopcock.	No.	9		
6.52.6			15mm chrome plated showerhead with self-cleaning spray nozzle, including flanged shower arm and two stop taps all complete as per Engineers spec	No.	9		
6.52.7			15mm CP star pattern pillartap.	No.	9		
6.52.8			15mm CP elbow "medical" action pillar taps code 505-21	No.	2		
6.52.9			15mm "FJT 5.5" CP urinal tail pipe.	No.	4		
6.52.10			FJ 6000 CP Flushmaster Junior urinal flushing valve.	No.	4		
6.52.11			Masterbox valve set.	No.	1		
6.53			SANITARY PLUMBING:				
			uPVC pipes:				
6.53.1			50mm Pipes.	m	60		
6.53.2			110mm Pipes.	m	24		
			Extra over uPVC pipes for fittings:				
6.53.3			50mm Access bend.	No.	15		
6.53.4			50mm Junctions.	No.	15		
6.53.5			110mm Bend	No.	6		
6.53.6			110mm Straight pan connector	No.	10		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.53.7			110mm Bent pan connector	No.	3		
6.53.8			110mm Access heel bend.	No.	5		
6.53.9			110mm Access reducing junction.	No.	5		
6.53.10			110mm Vent valve.	No.	2		
			Sundries:				
6.53.11			Test waste pipe system.	Sum	1		
6.54			WATER SUPPLIES:				
			Galvanised steel pipes				
6.54.1			20mm Pipes	m	25		
			Extra over galvanised steel pipes for steel fittings				
6.54.2			20mm fittings	No.	10		
			Class O copper pipes:				
6.54.3			15mm Pipes.	m	70		
6.54.4			22mm Pipes.	m	30		
			Extra over class O copper pipes for capillary fittings:				
6.54.5			15mm Fittings.	No.	70		
6.54.6			22mm Fittings.	No.	30		
			Copper overflow and service pipes:				
6.54.7			15mm Service pipe 300mm girth.	No.	3		
6.54.8			22mm Service pipe 300mm girth.	No.	1		
6.55			ELECTRIC WATER HEATERS:				
			Kwikot:				
6.55.1			150 Litre horizontal type electric water heater including drip tray.	No.	1		
6.56			BUILDER'S WORK, INCLUDING ALL MAKING GOOD:				
Total Carried Forward							

**Ga-Maja Sports Complex**  
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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
6.56.1			Fair cutting and fittings face bricks around pipe not exceeding 100mm diameter.	No.	11		
			Sundries:				
6.56.2			Testing water pipe system.	Sum	1		
6.57			GLAZING:				
6.58			GLAZING TO STEEL WITH PUTTY:				
			4mm clear glass:				
6.58.1			Panes exceeding 0,1 m2 and not exceeding 0,5 m2.	m²	11		
6.59			TOPS, SHELVES, DOORS, MIRRORS, ETC.:				
6.59.1			Mirror 600 x 750mm high with six screws.	No.	3		
6.60			PAINTWORK:				
6.61			PAINTWORK, ETC. TO NEW WORK:				
			Two coats brick dressing on:				
6.61.1			Recessed pointed faced external walls.	m²	210		
6.62			ON PLASTER, ETC.				
			One coat approved quality plaster primer and two coats "Double Velvet Wall Coating" on:				
6.62.1			On internal plastered walls	m²	203		
6.63			ON PLASTER BOARD				
			One coat "Plascon UC.56 Merit" primer and two coats "EPL Polvyn Super Acrylic" on:				
6.63.1			On ceilings and cornices	m²	163		
6.64			ON FIBRE-CEMENT:				
Total Carried Forward							

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SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			One coat approved quality primer, one coat universal undercoat and two coats high gloss enamel on:				
6.64.1			Fascias and barge boards.	m <sup>2</sup>	13		
6.65			ON METAL:				
			Spot priming defects in pre-primed surfaces with "Plascon UC.53 Namelcote" zink chromate primer, one coat "UC-1 Merit" universal undercoat and two coats universal enamel gloss paint on:				
6.65.1			Door frames.	m <sup>2</sup>	14		
6.65.2			Windows with burglar bars.	m <sup>2</sup>	11		
6.65.3			Gates, grilles, burglar screens, balustrades, etc. (both sides measured over the full flat area).	m <sup>2</sup>	15		
6.66			ON WOOD:				
			One coat "Plason PNW.22 Sunproof" wood coating thinned by 10% "AZH" mineral turpentine and two coats unthinned "Plascon PNW.22 Sunproof" wood coating, lightly sanded down between coats on:				
6.66.1			Doors.	m <sup>2</sup>	53		
			One coat "Plascon UC.2" pink oil based wood primer, one coat "UC.1 Merit" universal undercoat and two coats universal enamel gloss paint on:				
6.66.2			Roof timbers at eaves and verges.	m <sup>2</sup>	12		
			Furniture				
6.66.3			Galvenised steel free standing open shelves 2200X900X300	No.	4		
6.66.4			Free standing Maranthi Wooden bench 830X500X3800IX450h mm	No.	2		
Total Carried Forward To Summary							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
7			SECTION 7: BUILDING WORKS:				
7.1			GUARD HOUSE				
			The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2008 Edition) and the Supplementary Preambles hereunder.				
7.2			EARTHWORKS (PROVISIONAL):				
7.3			EXCAVATIONS:				
		LI	Excavation in earth not exceeding 2m deep				
7.3.1			Trenches, holes etc	m <sup>3</sup>	13		
			Extra over excavation in earth for excavation in				
7.3.2			Soft rock	m <sup>3</sup>	1		
7.3.3			Hard rock	m <sup>3</sup>	1		
			Extra over all excavations for carting away				
7.3.4			Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m <sup>3</sup>	7		
			Risk of collapse of excavations				
7.3.5			Sides of trench and hole excavations not exceeding 1,5m deep	m <sup>2</sup>	38		
			Keeping excavations free of water				
7.3.6			Keeping excavations free of all water other than subterranean water	Sum	1		
			Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 90% Mod AASHTO density				
7.3.7			Backfilling to trenches, holes, etc	m <sup>3</sup>	6		
Total Carried Forward							



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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			G5 earth filling material supplied by the contractor compacted to 98% Mod AASHTO density in layers not exceeding 150mm thick				
7.3.8			Under floors, steps, pavings, etc	m <sup>3</sup>	5		
			Coarse river sand filling supplied by the contractor				
7.3.9			25mm thick river sand Under floors etc	m <sup>2</sup>	15		
			Compaction of surfaces				
7.3.10			Compaction of ground surface under floors, trenches, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m <sup>2</sup>	33		
			Soil insecticide				
7.3.11			Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m <sup>2</sup>	15		
7.3.12			To bottoms and sides of trenches etc	m <sup>2</sup>	56		
7.4			CONCRETE, FORMWORK AND REINFORCEMENT:				
7.5			UNREINFORCED CONCRETE				
			25MPa/19mm concrete				
7.5.1			Ramps	m <sup>3</sup>	1		
7.5.2			Steps, etc.	m <sup>3</sup>	1		
7.6			REINFORCED CONCRETE				
			25MPa/19mm concrete				
7.6.1			Strip footings	m <sup>3</sup>	4		
7.6.2			In surface beds cast over waterproofing membrane (elsewhere).	m <sup>3</sup>	2		
Total Carried Forward							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.7			TEST BLOCKS				
7.7.1			Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No.	6		
7.8			CONCRETE SUNDRIES				
			Finishing top surfaces of concrete smooth with a wood float				
7.8.1			Surface beds, slabs, etc	m <sup>2</sup>	15		
7.9			ROUGH FORMWORK:				
7.9.1			Edges, risers, ends and reveals not exceeding 300mm high or wide.	m	5		
7.10			MOVEMENT JOINTS ETC (PROVISIONAL)				
			Expansion joints with softboard between vertical concrete and brick surfaces				
7.10.1			Joints not exceeding 300mm high	m	25		
7.11			REINFORCEMENT (PROVISIONAL)				
			Mild yield deformed type II steel reinforcement to concrete as described including all bending, hooked ends, binding wire and temporary supports				
7.11.1			Steel bar reinforcement in various sizes	t	0		
			High yield deformed type II steel reinforcement to concrete as described including all bending, hooked ends, binding wire and temporary supports				
7.11.2			Steel bar reinforcement in various sizes	t	0		
			Fabric reinforcement				
7.11.3			Type Ref 193 fabric reinforcement in concrete surface beds, slabs, etc	m <sup>2</sup>	15		
Total Carried Forward							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.12			MASONRY:				
7.13			FOUNDATIONS (PROVISIONAL)				
			Brickwork of NFP bricks in class II mortar				
7.13.1			One brick walls	m <sup>2</sup>	13		
7.14			FACE BRICKWORK				
			Face brick (PC R5,000/1000) pointed with square recessed horizontal and vertical joints:				
7.14.1			Extra over brickwork for face brickwork in foundations	m <sup>2</sup>	4		
7.15			SUPERSTRUCTURE				
			Brickwork of NFX bricks (14 Mpa nominal compressive strength) in class I mortar				
7.15.1			Half brick walls in beamfilling	m <sup>2</sup>	4		
7.15.2			One brick walls	m <sup>2</sup>	72		
7.16			BRICKWORK SUNDRIES				
			Movement Joints				
7.16.1			10mm 'Jointex' expansion joint built in vertically between brick walls	m <sup>2</sup>	3		
7.16.2			Movement joint formed of 20mm softboard built in vertically between brick wall and concrete	m	25		
			Brickwork reinforcement				
7.16.3			150mm Wide reinforcement built in horizontally	m	288		
			Prestressed fabricated lintels				
7.16.4			220 x 75mm Lintels in lengths not exceeding 3m	m	11		
			Turning pieces				
Total Carried Forward							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.16.5			220mm Wide turning piece to lintels etc	m	10		
			Galvanised wire ties, etc				
7.16.6			2,5mm plain galvanised wire bent twisted and tied through every third brick on edge lintels	No.	12		
7.17			FACE BRICKWORK				
			Face brick/ Morroco Travertine FBA pointed with square recessed horizontal and vertical joints:				
7.17.1			Extra over ordinary brickwork for facing and pointing in stretcher bond	m <sup>2</sup>	56		
			Brick-on-edge header course copings, sills, etc. of Face brick pointed with recessed joints on all exposed faces:				
7.17.2			Extra over brickwork for brick-on-edge header course lintel pointed on face and 110mm soffit	m	11		
7.17.3			Extra over ordinary brickwork for brick-on-edge header course lintel pointed on 220mm wide soffit and both ends.	m	11		
7.17.4			Brick-on-edge header course sill set sloping and slightly projecting pointed on all exposed faces	m	11		
7.18			WATERPROOFING:				
7.19			WATERPROOFING TO WALLS:				
7.19.1			375 Micron embossed black polyethylene damp-proof course to walls, cills, etc. (measured nett).	m <sup>2</sup>	6		
7.20			WATERPROOFING UNDER FLOORS, ETC.:				
Total Carried Forward							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Colour coded polyethylene sheeting complying with SABS 952, Type C, in widest practicable widths with all joints lapped and sealed in accordance with the manufacturer's instructions:				
7.20.1			250 Micron green medium density sheeting laid loose on top of sand bed (elsewhere) under solid floors with pressure sensitive tape jointing.	m <sup>2</sup>	15		
7.21			JOINT SEALANTS ETC				
7.21.1			10 x 10mm Polysulphide sealing compound including backing cord, bond breaker, primer, etc.	m	22		
			Clear silicone sealer				
7.21.2			In joints between worktops and sanitary fittings, etc	m	5		
7.22			ROOF COVERINGS, ETC.:				
			Chromadeck roofing sheets				
7.22.1			Roof covering with pitch not exceeding 25 degrees, in transportable lengths not exceeding 20m fixed to timber purlins.	m <sup>2</sup>	22		
7.22.2			Standard sheet iron ridge covering fixed to steel purlins (elsewhere).	m	4		
7.22.3			Hip capping	m	8		
7.23			ROOF AND WALL INSULATION				
			Fibreglass reinforced aluminium foil faced resin bonded glass fibre flexible building insulation				
7.23.1			50mm Insulation laid taut over purlins and fixed concurrent with roof covering including galvanised steel straining wires	m <sup>2</sup>	20		
7.24			CARPENTRY AND JOINERY:				
7.25			ROOF CONSTRUCTION:				
Total Carried Forward							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.25.1			Roof construction to hipped roof measuring 5,850 x 3,060mm including trusses, permanent bracing ,wall plates, purlins, etc.as per Engineers drawings	No.	1		
7.26			WOOD PRESERVATIVE:				
7.26.1			Two coats creosote on sawn and wrought timbers.	m <sup>2</sup>	8		
7.27			FASCIAS AND BARGE BOARDS:				
			Tempered fibre cement:				
7.27.1			15 x 225mm Fascia or barge board countersunk screwed to support and roof timbers (elsewhere) with one brass screw at maximum 750mm centres and jointed with and including standard aluminium halfround cover strips at all joints.	m	18		
7.28			DOORS ETC				
			40mm solid core flush panel door: hardboard faced 10mm hardwood strips on vertical sides to conceal edge to full length 10mm horizontal hardwood strip to conceal bottom edge for 230mm wall				
7.28.1			40mm Door, size 813 x 2094 mm high	No.	3		
			Standard solid timber external doors, suitable for painting, hung to steel frames				
7.28.2			40mm Door, size 813 x 2094 mm high	No.	1		
7.29			JOINERY SUNDRIES				
7.30			FITTINGS				
			Melamine				
7.30.1			L shaped 30mm formica tops, shelving, doors, handles, drawers,etc complete with fabrication and fixing as per Engineers drawings.	m	6		
Total Carried Forward							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.31			CEILINGS, PARTITIONS AND ACCESS FLOORING:				
7.32			CEILINGS, ETC.:				
7.33			NAILED UP CEILINGS				
			6.4mm "Rhino" gypsum plasterboard with 4mm x 45mm gypsum ceiling jointing strips				
7.33.1			Ceilings including 38 x 38mm sawn softwood banding at 600mm centres	m <sup>2</sup>	18		
7.33.2			Extra over ceiling for hinged pressed metal trap door size 600 x 600mm including all necessary ironmongery	No.	1		
7.34			CORNICES				
			Rhino gypsum plasterboard cornices				
7.34.1			75mm Coved cornices	m	28		
7.35			FLOOR COVERINGS, WALL LININGS, ETC.:				
7.36			FLOOR COVERINGS:				
7.36.1			2mm Semi-flexible vinyl floor tiles size 300 x 300mm laid on cement screed (elsewhere) on floors and in door openings.	m <sup>2</sup>	18		
7.37			SKIRTINGS, NOSINGS, ETC				
7.37.1			75mm PVC skirtings	m	28		
7.38			POLISH, SEALERS, ETC				
			Three coats water based floor dressing on:				
7.38.1			Floors	m <sup>2</sup>	18		
7.39			IRONMONGERY:				
7.40			LOCKS				
			Solid or similar approved product				
Total Carried Forward							

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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.40.1			Three lever cylinder lockset	No.	3		
7.41			BATHROOM FITTINGS				
			Sanitech				
7.41.1			Sanicare Toilet Roll Holder- holds 2 rolls ( stainless steel)	No.	1		
7.41.2			Sanicare 1 Litre Top Up Liquid Soap Dispenser (Stainless Steel)	No.	1		
7.41.3			Sanitech Roll Control paper towel dispenser (Stainless Steel).	No.	1		
7.41.4			Sanicare Manual fem Bins.	No.	1		
7.42			SUNDRIES:				
7.42.1			24mm design hardware black rubber door stop (B3345) plugged to wall or floor.	No.	3		
7.42.2			B1695 480 x 3 500 x 60 mm Key cabinet	No.	1		
7.43			METALWORK:				
			1,6mm Double rebated pressed steel door frames suitable for one brick walls:				
7.43.1			Frame for double door 813 x 2 032mm high	No.	3		
7.44			STEEL WINDOWS:				
			Standard residential windows with burglar proofing and 3 x 30mm mild steel flat section welded to inside sash at the top of the window frame:				
7.44.1			Window type W1, 673 x 987mm high.	No.	1		
7.44.2			Window type W2, 1303 x 987mm high.	No.	4		
7.44.3			Window type W3, 2760 x 1200mm high.	No.	1		
7.45			PLASTERING:				
Total Carried Forward							



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SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.46			SCREEDS				
			Screeds on concrete:				
7.46.1			25mm Thick on floors and landings.	m <sup>2</sup>	15		
7.47			INTERNAL PLASTER:				
7.48			ONE COAT (4:1) CEMENT PLASTER FINISHED TO A SMOOTH AND EVEN STEEL TROWELLED SURFACE:				
			On brickwork:				
7.48.1			On walls.	m <sup>2</sup>	63		
7.48.2			On narrow widths.	m <sup>2</sup>	6		
7.49			TILING:				
7.50			WALL TILING:				
			150 x150mm White glazed ceramic tiles fixed with adhesive to plaster (plaster elsewhere):				
7.50.1			On walls in isolated panels, splashbacks, etc	m <sup>2</sup>	12		
7.51			FLOOR TILING:				
			Ceramic floor tiles fixed with 'Tylon' Code:CN 12 adhesive to screed (screed elsewhere) and flush pointed with 'Tylon' Code CE 235 Acid Resistant tiling grout				
7.51.1			On floors	m <sup>2</sup>	4		
7.52			PLUMBING AND DRAINAGE (PROVISIONAL):				
7.53			SOIL DRAINAGE:				
7.54			(HAYLETT FORMULA WORK GROUP NO. 146):				
			uPVC pipes:				
7.54.1			110mm Pipes laid in and including trenches not exceeding	m	20		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			1 000mm deep.				
			Extra over uPVC pipes for fittings:				
7.54.2			110mm Bend.	No.	4		
7.54.3			110mm Access junction.	No.	1		
7.55			RAINWATER DISPOSAL:				
			0,6mm Galvanized sheet iron Class Z 275:				
7.55.1			100 x 125mm Rectangular section eaves gutter with 20mm wide overlapping joints sealed with and including "Compriband" or other approved bitumen sealer and rivetted at 20mm centres.	m	18		
7.55.2			Extra over 100 x 125mm eaves gutter for outlet for 100 x 76mm downpipe including galvanized wire balloon grating.	No.	4		
7.55.3			100mm x 76mm Rainwater pipe with brackets fixed to brick wall or concrete.	m	12		
7.55.4			Extra over 100 x 76mm rainwater pipe for shoe.	No.	4		
7.55.5			Extra over 100 x 76mm rainwater pipe for eaves or plinth offset 500mm projection.	No.	4		
7.56			SANITARY FITTINGS:				
			Vaal:				
7.56.1			Vaal Sanitaryware vitreous china 510 x 405mm rounded "Hibiscus" code 7023 basin with one taphole	No.	1		
7.56.2			Vaal Sanitaryware vitreous china "Daisy" semi-close coupled 90 degrees outlet open rim washdown pan (code 751400) and matching 9 litre cistern (code 710532) complete with lid, fitments and flush pipe elbow.	No.	1		
7.57			WASTE UNIONS, ETC.:				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Cobra Watertech:				
7.57.1			32mm "301" Basin waste union.	No.	1		
7.58			TRAPS, ETC.:				
			Cobra Watertech:				
7.58.1			VA 2.360 sink "P" trap.	No.	1		
7.59			TAPS, VALVES, ETC.:				
7.59.1			15mm CP "Carina" single tap hole basin mixer with red and blue inserts	No.	1		
			Cobra Watertech:				
7.59.2			15mm CP stop tap	No.	1		
7.59.3			22mm "131" Brass stopcock.	No.	1		
7.60			SANITARY PLUMBING:				
			uPVC pipes:				
7.60.1			50mm Pipes.	m	10		
7.60.2			110mm Pipes.	m	5		
			Extra over uPVC pipes for fittings:				
7.60.3			50mm Access bend.	No.	1		
7.60.4			110mm Access heel bend.	No.	1		
7.60.5			110mm Straight pan connector	No.	1		
7.60.6			110mm Access heel bend.	No.	1		
7.60.7			110mm Access reducing junction.	No.	1		
7.60.8			110mm Vent valve.	No.	1		
			Sundries:				
7.60.9			Test waste pipe system.	Sum	1		
7.61			WATER SUPPLIES:				
			Galvanised steel pipes				
7.61.1			20mm Pipes	m	3		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
7.61.2			Extra over galvanised steel pipes for steel fittings				
			20mm fittings	No.	3		
			Class O copper pipes:				
7.61.3			22mm Pipes.	m	10		
			Extra over class O copper pipes for capillary fittings:				
7.61.4			22mm Fittings.	No.	15		
			Sundries:				
7.61.5			Testing water pipe system.	Sum	1		
7.62			FIRE APPLIANCES ETC				
7.62.1			9kg DCP dry powder portable fire extinguisher on and including wrought meranti backboard size 1000 x 255 x 25mm thick plugged and screwed to wall and finished with two coats of polyurethane varnish, including 120 x 20 x 2mm mild steel strip bent to form hook	No.	1		
7.62.2			'Everyway' or similar approved product hose reel complete with 30m plastic hose, chromium plated stopcock, shut-off nozzle and wall bracket	No.	1		
7.63			GLAZING:				
7.64			GLAZING TO STEEL WITH PUTTY:				
			3mm Clear float glass:				
7.64.1			Panes exceeding 0,1 m2 and not exceeding 0,5 m2.	m²	11		
			4mm Obscure glass:				
7.64.2			Panes exceeding 0,1 m2 and not exceeding 0,5 m2.	m²	1		
7.65			TOPS, SHELVES, DOORS, MIRRORS, ETC.:				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 7: BUILDING WORKS: GUARD HOUSE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			6mm Silvered float glass copper backed mirrors with polished edges holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete:				
7.65.1			Mirror 600 x 450mm high with six screws.	No.	1		
7.66			PAINTWORK:				
7.67			PAINTWORK, ETC. TO NEW WORK:				
			Two coats brick dressing on:				
7.67.1			Recessed pointed faced external walls.	m <sup>2</sup>	56		
7.68			ON PLASTER, ETC.				
			One coat approved quality plaster primer and two coats "Double Velvet Wall Coating" on:				
7.68.1			On internal plastered walls	m <sup>2</sup>	63		
7.69			ON PLASTER BOARD				
			One coat "Plascon UC.56 Merit" primer and two coats "EPL Polvyn Super Acrylic" on:				
7.69.1			On ceilings and cornices	m <sup>2</sup>	15		
7.70			ON FIBRE-CEMENT:				
			One coat approved quality primer, one coat universal undercoat and two coats high gloss enamel on:				
7.70.1			Fascias and barge boards.	m <sup>2</sup>	5		
7.71			ON METAL:				
			Spot priming defects in pre-primed surfaces with "Plascon UC.53 Namelcote" zink chromate primer, one coat "UC-1 Merit" universal undercoat and two coats universal enamel gloss paint on:				
Total Carried Forward							

## Ga-Maja Sports Complex Schedule of Quantities

## SECTION 7: BUILDING WORKS: GUARD HOUSE

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 8: SOCCER FIELD

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
8			SECTION 8: SOCCER FIELD				
8.1			SANS 1200D: EARTHWORKS				
8.1.1			Removal of topsoil to 200 mm depth, stockpiling and maintaining for re use	m <sup>3</sup>			Rate Only
8.2			SANS 1200 ME SUB-BASE				
8.2.1			Sub-base preparation, rip and re-compaction of material, compact to 93% modified AASHTO density	m <sup>3</sup>			Rate Only
8.3			SANS 1200 MF BASE				
8.3.1			Import and spread Selected G1 layer, compacted to 95% modified AASHTO density, 150mm	m <sup>3</sup>			Rate Only
			From stock pile				
8.3.2			Import and spread Crusher dust layer, compacted to 98% modified AASHTO density; 75mm thick	m <sup>3</sup>			Rate Only
8.3.3			Laser grade to final levels	m <sup>2</sup>			Rate Only
8.4			DRAINAGE				
8.4.1			Excavate for 300mm deep drainage trenches for 160 mm perimeter drainage collection pipe and spoil on site	m			Rate Only
8.4.2			Supply and install 160 mm perimeter drainage collection pipe	m			Rate Only
8.4.3			Supply and install catchpits; 300 X 300mm	No.			Rate Only
8.4.4			Supply and install drainage board	m <sup>2</sup>			Rate Only
8.5			ARTIFICIAL TURF - FULL SIZE SOCCER PITCH				
8.5.1			Supply and install artificial sports turf (iDNA X 50/12) including all lines and markings or any approved equivalent	m <sup>2</sup>			Rate Only
8.5.2			Import and spread USGA silica sand (18kg/m2) or any equivalent approved	t			Rate Only
Total Carried Forward							

## Ga-Maja Sports Complex

### Schedule of Quantities

## SECTION 8: SOCCER FIELD

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 9: COMBI-COURTS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
9			SECTION 9: COMBI-COURTS				
9.1			SANS 1200D: EARTHWORKS				
9.1.1			Removal of topsoil to 200 mm depth, stockpiling and maintaining for re use	m <sup>3</sup>			Rate Only
9.2			SANS 1200 ME SUB-BASE				
9.2.1			Sub-base preparation, rip and re-compaction of material to min of 90% modified AASHTO 150mm	m <sup>3</sup>			Rate Only
9.3			SANS 1200 MF BASE				
			Construct 150mm thick wearing/base layer with material				
			From stockpile				
9.3.1			a) Supply G5 material, spread and compact to 97% Mod AASHTO	m <sup>3</sup>			Rate Only
			Process sub-base material by:				
			a) Stabilisation				
9.3.2			b)Portland cement	t			Rate Only
9.4			ASPHALT SURFACING				
			Prime Coat using:				
9.4.1			a) Cut back bitumen type MC-30/ RTH 1/4	m <sup>2</sup>			Rate Only
			Asphalt Surfacing				
			Continuously graded medium grade using 60/70 penetration bitumen 5% bitumen				
9.4.2			a) 25mm thickness	m <sup>2</sup>			Rate Only
			Variations in quantities of bituminous binder:				
9.4.3			a) Prime :cutback bitumen grade MC30	ℓ			Rate Only
9.4.4			b) Bitumen binder	ℓ			Rate Only
			Specialist				
Total Carried Forward							

## Ga-Maja Sports Complex

### Schedule of Quantities

## SECTION 9: COMBI-COURTS

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 10 : WATER/SEWER/STORMWATER

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
10			SECTION 10 : WATER/SEWER/STORMWATER				
10.1	SABS 1200DB		PIPE TRENCHES				
10.2			EXCAVATION				
10.3	8.3.2(a)		EXCAVATE IN ALL MATERIALS FOR TRENCHES, BACKFILL AND COMPACT, INCLUDING DISPOSAL OF SURPLUS UNSUITABLE MATERIAL WITHIN 1,5KM FOR PIPES, CABLE DUCTS AND PIPE SLEEVES				
			OVER 90mm UP TO 300mm DIAMETER FOR DEPTHS				
10.3.1			0,0 – 1,0m	m			Rate Only
10.3.2			1,0 – 2,0m	m	1,500		
10.3.3			2,0 – 3,0m	m	500		
10.4			EXTRA OVER ITEMS 10.3.1 TO 10.3.3 FOR EXCAVATION IN:				
10.4.1			Hard rock material	m <sup>3</sup>	300		
10.5			EXCAVATION ANCILLARIES				
10.6			IMPORTED BACKFILL MATERIAL FROM				
10.6.1	8.3.3.1(c)		Commercial or off-site sources	m <sup>3</sup>	150		
10.6.2	8.3.5		Excavate by hand to expose existing services	m <sup>3</sup>	5		
10.7	SABS 1200LB		BEDDING (PIPES)				
10.8			PROVISION OF BEDDING MATERIAL				
10.9			FROM TRENCH EXCAVATIONS				
10.9.1	8.2.1		Selected granular material	m <sup>3</sup>	300		
10.9.2	8.2.2.3		Selected fill material	m <sup>3</sup>	300		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 10 : WATER/SEWER/STORMWATER

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
10.10	8.2.2.3		SUPPLY OF BEDDING MATERIAL BY IMPORTING FROM COMMERCIAL SOURCES (PROVISIONAL)				
10.10.1			Selected granular material	m³	300		
10.10.2			Selected fill material	m³	300		
10.10.3	8.2.3		Concrete bedding cradle (provisional)	m³			Rate Only
10.10.4	8.2.4		Encasing of pipes in strength concrete 20/20	m³			Rate Only
10.11	SABS 1200L		MEDIUM PRESSURE PIPELINES				
			Supplying, laying and jointing (butt-welding) of water pipes on bedding as shown (including testing and sterilizing /disinfecting) irrespective of depth:				
	PSL 3.7.2		(Type IV) SABS 533, CLASS 12.5 PE63 HDPE Pipes				
10.11.1			160mm	m	1,000		
10.12	8.2.2		SPECIALS AND FITTINGS				
10.13			SUPPLY, LAY, BED, AND JOINT ALL THE PIPE SPECIALS				
10.14			EXTRA OVER ITEM 10.11.1 FOR THE SUPPLY, INSTALLATION, TESTING OF THE FOLLOWING FITTINGS				
10.14.1			160mm dia., 22.5 deg. Bend	No.	2		
10.14.2			160mm dia., 45 deg. Bend	No.	2		
10.14.3			160mm dia., 90 deg. Bend	No.	6		
			Tees				
10.14.4			160mm dia. equal tee	No.	3		
10.14.5			160mm dia. x 80mm tee, flanged on branch	No.	5		
10.15			HYDRANT				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 10 : WATER/SEWER/STORMWATER

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
10.15.1			80mm dia. double lug hydrant head	No.	5		
			Galvanised mild steel, medium class pipes, including all fittings and couplings:				
10.15.2			a) 80mm dia	m	30		
10.15.3			b) 100 mm dia	m	40		
			GMS pipes - 90° Bends:				
10.15.4			a) 80 mm dia.	No.	5		
10.15.5			b) 100 mm dia	No.	2		
			GMS screwed flanges (including bolts nuts and gasket):				
10.15.6			a) 80 mm dia.	No.	5		
10.15.7			b) 100 mm dia	No.	4		
			GMS Sockets				
10.15.8			a) 80 mm dia.	No.	10		
10.15.9			b) 100 mm dia	No.	4		
			Cast iron reducers for HDPE pipes:				
			Supply and install Saddles:				
10.15.10			a) 160mm X 20mm dia	No.	6		
			Supply and install HDPE Type IV Class 12 Erf Connections and standtaps, complete with bends, fittings and valves, as shown in Drawing No. P14296-061				
10.15.11			a) 20 mm dia. Single long erf connection (15m max.)	No.	4		
10.15.12			b) Stand tap, complete (with HDPE piping from meter to stand tap) as shown Drawing No. P14296-061	No.	4		
10.16			ISOLATING VALVES (GATE VALVE)				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 10 : WATER/SEWER/STORMWATER

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Flanged, anti-clockwise closing "RSV" valves to fit HDPE pipes:				
10.16.1			a) 110 mm	No.	1		
10.16.2			b) 160 mm	No.	3		
10.17			VALVE CHAMBERS				
10.17.1			Precast concrete valve box according to Drawing No. P14296-061 for: Gate valves	No.	1		
10.17.2			Flow meter/control valve chamber complete as detailed in Drawing P14296-065	No.	2		
10.18			ANCHOR/THRUST BLOCKS AND PEDESTAL (SBS 1200L)				
10.18.1			a) Providing thrust blocks using class 15/19 concrete	m³	5		
10.19			METERS				
10.19.1			Supply and install Water Meters (Sensus multi-jet water meter in econo-box) or similar approved	No.			Rate Only
10.20	SABS		SEWERS				
10.21	1200 LD & PSLD		PIPEWORK				
	8.2.1		Supply, lay, bed, & test Type 4 HDPE Class sewer pipes with butt weld joints				
10.21.1			200 mm diameter	m	660		
10.22			MANHOLES				
			1200 dia. HDPE Manholes to Dwg No. P14296-061 complete with Type 4A CI cover and frame, for depths over and up to				
10.22.1			2.0 m - 3,0 m	No.	7		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 10 : WATER/SEWER/STORMWATER

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
10.22.2			Construct 6x3,5m septic tank complete as per Dwg No.P14296-062, including 6x30mx1.5m 'Kaytech Infiltrator Chamber Systems' or similar approved french drain soakaway systems	No.	1		
10.23			STORMWATER				
10.24			DUCTS AND CHANNELS				
10.24.1			Excavate, compact and construct duct complete using 30/19 concrete, inclusive of rectangular grating, angle irons and anchors	m	250		
10.24.2			Excavate, compact and construct channel (1.2m, 150mm deep) complete using 25/19 concrete, inclusive of mesh Ref. 395	m	300		
10.24.3			Excavate, compact and place concrete precast 370mm wide x 405mm deep x 1200mm U drain with Median Grid	m	300		
10.25			ELEVATED TANK (STEEL)				
	SABS 1200C		Site Clearance				
10.25.1	8.2.1		Clear and grub	m <sup>2</sup>	100		
	SABS 1200DA		Earthworks (Small Works)				
	8.3.1		Excavation;				
10.25.2			a) Remove topsoil to a nominal depth of 150mm, stockpile and maintain	m <sup>2</sup>	100		
10.25.3			b) Excavate in all material to 45 degree slopes, temporarily stockpiling and final disposal to approved spoil site	m <sup>3</sup>	20		
			c) Extra over for				
10.25.4			1) Intermediate Excavation	m <sup>3</sup>	5		
10.25.5			2) Hard rock Excavation	m <sup>3</sup>	2		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 10 : WATER/SEWER/STORMWATER

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
10.25.6			3) Boulder Excavation Class A	m <sup>3</sup>	3		
10.25.7			4) Boulder Excavation Class B	m <sup>3</sup>	3		
10.25.8			Rip, Scarify, wet and compact the exposed ground surface to a depth of 150mm	m <sup>3</sup>	3		
	8.32		Restricted Excavation				
10.25.9			a) Excavate for restricted foundations, footings and trenches in all materials and dispose	m <sup>3</sup>	3		
10.25.10	8.3.6		Topsoil	m <sup>3</sup>	12		
	SABS 1200DB		Earthworks( PIPE TRENCHING)				
10.25.11	PSDB 8.3.9		Import from borrow pits sourced by the contractor, approved by the engineer, place and compact in 200mm layers to 95 % mod ASSHTO (material to be G5 quality or better)	m <sup>2</sup>	10		
	SABS 1200DM		Earthworks (ROADS, SUBGRADE)				
10.25.12			Import from borrow pits sourced by the contractor and approved by the engineer, place and compact in 200mm layers to 95 % mod ASSHTO ( material to be G5 quality or better)	m <sup>2</sup>	10		
10.26	8.2		SCHEDULED FORMWORK ITEMS				
	8.2.1		Rough				
10.26.1			a) Rough vertical plane to footing in reservoir foundation below ground	m <sup>2</sup>	8		
10.26.2			b) horizontal plane to roof slab soffit of chamber	m <sup>2</sup>	4		
	8.2.2		Smooth				
10.26.3			a) Vertical plane to footings above ground level	m <sup>2</sup>	4		
	8.2.5		Narrow Widths ( up to 20mm wide)				
Total Carried Forward							



**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 10 : WATER/SEWER/STORMWATER

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
10.26.4			c) Form 100 mm x 50 mm fillets on DWARF walls as detailed	m	14		
10.27	8.3		SCHEDULED REINFORCEMENT ITEMS				
			Supply and install:				
10.27.1	8.3.1		a) High tensile steel bars	t	2		
10.27.2	8.3.1		b) Mild steel bars	t	0		
10.27.3	PSG 8.3.2		High-tensile welded mesh	t	0		
10.28	SABS 1200G		CONCRETE (STRUCTURAL)				
10.29	8.4		SCHEDULED CONCRETE ITEMS				
			Supply and install:				
10.29.1	PSG 8.4.2 (a)		Blinding layer in class 15/19 concrete (75 mm thick)	m <sup>3</sup>	1		
	8.4.3		Strength Concrete				
			Supply and install Grade 25/19 in tank:				
10.29.2			i) Footings	m <sup>3</sup>	6		
	8.4.4		Unformed surface finishes				
10.29.3			b) Steel-floated finish top of footings	m <sup>2</sup>	3		
10.29.4	PSG 8.4.8		Grouting of gap between concrete foundation and tanks stand with non-shrink grout approved by the engineer.	No.	6		
10.29.5	PSG 8.14		Waterproof membrane under floor - 1 mm LLD Polyethylene sheeting	m <sup>2</sup>	10		
10.30			TANK (STEEL)				
Total Carried Forward							

## Ga-Maja Sports Complex Schedule of Quantities

## SECTION 10 : WATER/SEWER/STORMWATER

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 11: ROADS & PARKING

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
11			SECTION 11: ROADS & PARKING				
11.1	SABS 1200C		SITE CLEARANCE				
11.1.1	8.2.1	LI	Clear and grub areas for road construction	m <sup>2</sup>	500		
11.2	SABS 1200DM		EARTHWORKS				
11.2.1	8.3.2(a)		Remove topsoil 150mm deep to stockpile and maintain	m <sup>2</sup>	500		
11.2.2	8.3.7		Excavate in all materials, select and stockpile or place on road for gravel wearing course or sub-grade formation	m <sup>3</sup>	250		
11.2.3			Excavate in all materials and spoil	m <sup>3</sup>	250		
11.2.4			Extra over items for Item 11.2.1 to 11.2.3 for excavations in hard rock material	m <sup>3</sup>	100		
11.3			FILL OF SUBGRADE				
11.3.1	8.3.4		Compact to 90% Mod. AASHTO max. density	m <sup>3</sup>	500		
11.4			TREATMENT OF ROAD-BED				
11.4.1	8.3.3(a)		Subgrade: rip in-situ material to 150mm depth, moisten and compact to 93% Mod. AASHTO density	m <sup>3</sup>	500		
11.5	1200ME		SUB-BASE (95% MOD.AASHTO DENSITY)				
11.6			CONSTRUCT GRAVEL (G5) SUBBASE WITH MATERIAL FROM DESIGNATED EXCAVATIONS				
11.6.1	8.3.2(b)		Construct sub-base with material from stockpile	m <sup>3</sup>	50		
11.6.2	8.3.2(c)		Construct sub-base with material placed on road	m <sup>3</sup>	50		
11.6.3	8.3		Construct sub-base with material from borrow pits within a radius of 1,5km	m <sup>3</sup>	250		
11.7	1200MF		BASE (98% MOD.AASHTO DENSITY)				
Total Carried Forward							

## Ga-Maja Sports Complex Schedule of Quantities

## SECTION 11: ROADS & PARKING

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## Ga-Maja Sports Complex Schedule of Quantities

## SECTION 12: FENCING

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**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 13: ELECTRICAL WORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
13			SECTION 13: ELECTRICAL				
13.1	PE1		GENERAL REQUIREMENTS				
13.1.1			Contract administration and general requirements	Sum	1		
13.1.2			Setting out of works	Sum	1		
13.1.3			Test and commission the entire electrical installation	Sum	1		
13.1.4			"As-built" drawings	Sum	1		
13.1.5			Certificate of Compliance	Sum	1		
13.2			STAGE 1: EXTERNAL RETICULATION				
			Low voltage cable installation				
			650 deep x 450 wide cable trench including backfilling and compaction				
13.2.1			(a) Pickable soil	m <sup>3</sup>	75		
13.2.2			(b) Soft rock	m <sup>3</sup>	13		
13.2.3			(c) Hard rock	m <sup>3</sup>	1		
			Supply and deliver PVC/SWA/PVC LV Cu cable				
13.2.4			(a) 70mm <sup>2</sup> 4-core	m	110		
13.2.5			(b) 16mm <sup>2</sup> 4-core	m	30		
13.2.6			(c) 6mm <sup>2</sup> , 4-core	m	350		
13.2.7			(d) 6mm <sup>2</sup> , 3-core	m	140		
			Install PVC/SWA/PVC LV Cu cable				
13.2.8			(a) 70mm <sup>2</sup> 4-core	m	110		
13.2.9			(b) 16mm <sup>2</sup> 4-core	m	30		
13.2.10			(c) 6mm <sup>2</sup> , 4-core	m	350		
13.2.11			(d) 6mm <sup>2</sup> , 3-core	m	140		
			Terminate PVC/SWA/PVC LV Cu cable				
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
13.2.12			(a) 70mm <sup>2</sup> 4-core	No.	2		
13.2.13			(b) 16mm <sup>2</sup> 4-core	No.	2		
13.2.14			(c) 6mm <sup>2</sup> , 4-core	No.	40		
13.2.15			(d) 6mm <sup>2</sup> , 3-core	No.	2		
			Supply and deliver copper earth conductor				
13.2.16			(a) 50mm <sup>2</sup> BCEW	m	110		
13.2.17			(b) 10mm <sup>2</sup> BCEW	m	30		
13.2.18			(c) 4mm <sup>2</sup> BCEW	m	350		
			Install stranded bare copper earth conductor				
13.2.19			(a) 50mm <sup>2</sup> BCEW	m	110		
13.2.20			(b) 10mm <sup>2</sup> BCEW	m	30		
13.2.21			(c) 4mm <sup>2</sup> BCEW	m	350		
			Terminate stranded bare copper earth conductor				
13.2.22			(a) 50mm <sup>2</sup> BCEW	No.	2		
13.2.23			(b) 10mm <sup>2</sup> BCEW	No.	2		
13.2.24			(c) 4mm <sup>2</sup> BCEW	No.	40		
			Cable Accessories				
			Supply and deliver sleeves complete with bends and couplings as specified				
13.2.25			(a) 110mm Ø uPVC	m	60		
13.2.26			(b) 76mm Ø uPVC	m	1		
13.2.27			(c) 50mm Ø uPVC	m	4		
			Install uPVC sleeves complete with bends and couplings as specified				
13.2.28			(a) 110mm Ø uPVC	m	60		
13.2.29			(b) 76mm Ø uPVC	m	1		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
13.2.30			(c) 50mm Ø uPVC	m	4		
			Concrete cable route markers				
13.2.31			(a) Supply and deliver	No.	4		
13.2.32			(b) Install	No.	4		
			Cable warning tape				
13.2.33			(a) Supply and deliver	No.	485		
13.2.34			(b) Install in ground	No.	485		
			4mm Ø galvanized draw wire				
13.2.35			(a) Supply and deliver	No.	60		
13.2.36			(b) Install	No.	60		
			83mm Ø back entry Pratley foundation box				
13.2.37			(a) Supply and deliver	No.	1		
13.2.38			(b) Install	No.	1		
			600 x 600 masonry manholes complete with galvanized steel cover				
13.2.39			(a) Supply and deliver	No.	1		
13.2.40			(b) Install	No.	1		
			Distribution Kiosks				
			Design and manufacture new factory-wired free standing distribution kiosk complete with concrete plinth and as per schematic diagram and specification				
13.2.41			(a) Kiosk K1	No.	1		
13.2.42			(b) Kiosk K2	No.	1		
			Delivery, offloading, installation and commissioning of new factory wired distribution kiosk				
13.2.43			(a) Kiosk K1	No.	1		
Total Carried Forward							



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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
13.2.44			(b) Kiosk K2	No.	1		
			Area lighting				
			Type H: 55W post top luminaire: ZILA 55W LED or similar approved				
13.2.45			(a) Supply and deliver	No.	20		
13.2.46			(b) Install	No.	20		
			Galvanised steel pole (Base - 135mmØ; Top - 76mmØ) (3.5-metre mounting height) including concrete mixture				
13.2.47			(a) Supply and deliver	No.	20		
13.2.48			(b) Plant in ground	No.	20		
			4 mm² PVC insulated stranded copper conductors inside light pole for luminaire wiring				
13.2.49			(a) Supply and deliver	m	520		
13.2.50			(b) Install in light pole	m	520		
			2.5 mm² bare earth copper conductors				
13.2.51			(a) Supply and deliver	m	220		
13.2.52			(b) Install in light pole	m	220		
13.3	PE9		STAGE 1: LIGHTING INSTALLATION				
			Light fittings complete with lamps and fixing accessories				
			Type A luminaire - 2x28W open channel fluorescent luminaire: Lighting Innovations: SCH-228-002/840				
13.3.1			(a) Supply and deliver	No.	2		
13.3.2			(b) Install	No.	2		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Type A1 luminaire - 2x28W open channel emergency fluorescent luminaire: Lighting Innovations: SCH-228-002/840/EMG 20% 1Hr or similar approved				
13.3.3			(a) Supply and deliver	No.	2		
13.3.4			(b) Install	No.	2		
			Type B luminaire - 2x54W open channel fluorescent luminaire: Lighting InnovationS: SCH-254-002/840 or similar approved				
13.3.5			(a) Supply and deliver	No.	7		
13.3.6			(b) Install	No.	7		
			Type B1 luminaire - 2x54W open channel emergency fluorescent luminaire: Lighting InnovationS: SCH-254-002/840/EMG 20% 1Hr or similar approved				
13.3.7			(a) Supply and deliver	No.	2		
13.3.8			(b) Install	No.	2		
			Type C luminaire - 2x54W dimmable open channel fluorescent luminaire: Lighting InnovationS: SCH-254-003/840/DIM or similar approved				
13.3.9			(a) Supply and deliver	No.	2		
13.3.10			(b) Install	No.	2		
			Type D luminaire - 2x18W downlight fluorescent luminaire: BEKA: BEKARONDO 218W or similar approved				
13.3.11			(a) Supply and deliver	No.	2		
13.3.12			(b) Install	No.	2		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Type D1 luminaire - 2x18W emergency downlight fluorescent luminaire complete with 1hr battery unit: BEKA: BEKARONDO 218W/EMG or similar approved				
13.3.13			(a) Supply and deliver	No.	1		
13.3.14			(b) Install	No.	1		
			Type E luminaire - 8W surface mounted emergency escape signage luminaire with 1-hr battery back-up unit: Type: Beka LISU-AD or similar approved				
13.3.15			(a) Supply and deliver	No.	2		
13.3.16			(b) Install	No.	2		
			Type F luminaire - 2x18W IP 65 die cast aluminium fluorescent bulkhead luminaire with high impact opal diffuser: Lighting Innovations: SAT 218-001/840 or similar approved				
13.3.17			(a) Supply and deliver	No.	7		
13.3.18			(b) Install	No.	7		
			Type F1 luminaire - 2x18W IP 65 die cast aluminium fluorescent bulkhead luminaire with high impact opal diffuser complete with 1hr battery unit: Lighting Innovations: SAT 218-001/840/EMG or similar approved				
13.3.19			(a) Supply and deliver	No.	2		
13.3.20			(b) Install	No.	2		
			Type E luminaire - 8W surface mounted emergency escape signage luminaire with 1-hr battery back-up unit: Type: Beka LISU-AD or similar approved				
13.3.21			(a) Supply and deliver	No.	2		
13.3.22			(b) Install	No.	2		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Type G luminaire - 2x54W moisture proof, fluorescent luminaire with UV stabilised polycarbonate body and diffuser: Lighting Innovations: IPA-254-002/840 or similar approved				
13.3.23			(a) Supply and deliver	No.	1		
13.3.24			(b) Install	No.	1		
			Type G1 luminaire - 2x54W moisture proof, emergency fluorescent luminaire with UV stabilised polycarbonate body and diffuser complete with 1-hr battery back-up unit : Lighting Innovations: IPA-254-002/840/EMG or similar approved				
13.3.25			(a) Supply and deliver	No.	1		
13.3.26			(b) Install	No.	1		
			Type J luminaire: 4 x 54W Megabay fluorescent luminaire: Lighting Innovation: IMH-454-002/840 or similar approved				
13.3.27			(a) Supply and deliver	No.	4		
13.3.28			(b) Install	No.	4		
			Type J1 luminaire: 4 x 54W Megabay emergency fluorescent luminaire: Lighting Innovation: IMH-454-002/840/EMG 20% 1Hr or similar apP. Sumed equal apP. Sumed equal				
13.3.29			(a) Supply and deliver	No.	3		
13.3.30			(b) Install	No.	3		
			Light switches complete with outlet boxes				
			16A 1-lever, 1-way light switch				
13.3.31			(a) Supply and deliver	No.	2		
13.3.32			(b) Install	No.	2		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			16A 1-lever, 2-way light switch				
13.3.33			(a) Supply and deliver	No.	2		
13.3.34			(b) Install	No.	2		
			16A 1-lever, intermediate light switch				
13.3.35			(a) Supply and deliver	No.	1		
13.3.36			(b) Install	No.	1		
			16A 1-lever, 1-way light switch with dimmer control unit for fluorescent luminaires				
13.3.37			(a) Supply and deliver	No.	2		
13.3.38			(b) Install	No.	2		
			16A 1-lever, 1-way weatherproof light switch				
13.3.39			(a) Supply and deliver	No.	1		
13.3.40			(b) Install	No.	1		
			Photocell in IP65 enclosure				
13.3.41			(a) Supply and deliver	No.	2		
13.3.42			(b) Install	No.	2		
			360° PIR ceiling mount occupancy sensor				
13.3.43			(a) Supply	No.	2		
13.3.44			(b) Install	No.	2		
			360° ultrasonic ceiling mount occupancy sensor				
13.3.45			(a) Supply	No.	2		
13.3.46			(b) Install	No.	2		
13.4	PE10		STAGE 1: SMALL POWER INSTALLATION				
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			2-lid, 3 compartment 165mm high powdercoated steel powerskirting complete with covers and mounting accessories				
13.4.1			(a) Supply	m	6		
13.4.2			(b) Install	m	6		
			Supply and install accessories for 165mm high powdercoated steel powerskirting				
13.4.3			(a) 90° internal / external bend	m	1		
13.4.4			(b) End cap	m	2		
			Powerskirting mounted 16A dedicated single switched socket outlet complete with cover plate				
13.4.5			(a) Supply	No.	5		
13.4.6			(b) Install	No.	5		
			Powerskirting mounted 16A normal single switched socket outlet complete with cover plate				
13.4.7			(a) Supply	No.	1		
13.4.8			(b) Install	No.	1		
			Powerskirting mounted 16A normal single switched socket outlet complete with cover plate				
13.4.9			(a) Supply	No.	1		
13.4.10			(b) Install	No.	1		
			Powerskirting mounted RJ45 outlet complete with cover plate				
13.4.11			(a) Supply	No.	3		
13.4.12			(b) Install	No.	3		
			Powerskirting mounted RJ11 telephone outlet complete with cover plate				
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
13.4.13			(a) Supply	No.	1		
13.4.14			(b) Install	No.	1		
			Flush-mounted RJ45 outlet complete with 100 x 100 outlet box complete with cover plate				
13.4.15			(a) Supply	No.	1		
13.4.16			(b) Install	No.	1		
			16A normal flush-mounted double switched socket outlet complete with 100 x 100 outlet box and cover plate				
13.4.17			(a) Supply	No.	6		
13.4.18			(b) Install in wall	No.	6		
			16A dedicated flush-mounted double switched socket outlet complete with 100 x 100 outlet box and cover plate				
13.4.19			(a) Supply	No.	1		
13.4.20			(b) Install in wall	No.	1		
			6A normal unswitched single switched socket outlet complete with outlet box and cover plate				
13.4.21			(a) Supply	No.	4		
13.4.22			(b) Install in ceiling void	No.	4		
			20A surface double pole isolator for geyser complete with outlet box and cover plate				
13.4.23			(a) Supply	No.	1		
13.4.24			(b) Install in wall	No.	1		
			20A recessed double pole isolator for extraction fan complete with outlet box and cover plate				
13.4.25			(a) Supply	No.	1		
13.4.26			(b) Install in wall	No.	1		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			45A recessed double pole isolator for stove				
13.4.27			(a) Supply	No.	1		
13.4.28			(b) Install in wall	No.	1		
13.5	PE11		STAGE 1: WIRING AND WIREWAYS				
			20mm Ø PVC conduit installed in ceiling void or built into new masonry complete with all fixing accessories, couplings, bushes, locknuts, end boxes (50 x 100mm or 100 x 100mm as the case may be), terminations and adapters				
13.5.1			(a) Supply and deliver	m	200		
13.5.2			(b) Chased into wall or surface mount in ceiling void	m	200		
			Supply and deliver PVC insulated stranded copper conductors				
13.5.3			(a) 2,5 mm <sup>2</sup>	m	120		
13.5.4			(b) 4,0 mm <sup>2</sup>	m	60		
13.5.5			(c) 6,0 mm <sup>2</sup>	m	20		
			Install PVC insulated stranded copper conductors				
13.5.6			(a) 2,5 mm <sup>2</sup>	m	120		
13.5.7			(b) 4,0 mm <sup>2</sup>	m	60		
13.5.8			(c) 6,0 mm <sup>2</sup>	m	20		
			Supply and deliver copper earth conductors				
13.5.9			(a) 4,0 mm <sup>2</sup> BCEW	m	12		
13.5.10			(b) 2,5 mm <sup>2</sup> BCEW	m	120		
13.5.11			(c) 2,5 mm <sup>2</sup> green insulated	m	120		
			Install copper earth conductors				
13.5.12			(a) 4,0 mm <sup>2</sup> BCEW	m	12		
Total Carried Forward							



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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
13.5.13			(b) 2,5 mm <sup>2</sup> BCEW	m	120		
13.5.14			(c) 4,0 mm <sup>2</sup> BCEW	m	120		
			127 x 76mm wiring duct suspended 200mm from roof slab or surface mount against wall, complete with cover and all fixing accessories for a complete installation				
13.5.15			(a) Supply and deliver	m	1		
13.5.16			(b) Install	m	1		
			100mm wide galvanised wire mesh complete with purpose made support and all fixing accessories required for a complete installation				
13.5.17			(a) Supply and deliver	m			Rate Only
13.5.18			(b) Install	m			Rate Only
13.6	PE7		STAGE 1: DISTRIBUTION BOARDS				
			Design and manufacture new factory-wired surface mounted distribution boards complete as per schematic diagram and specification				
13.6.1			(a) DB-A	No.	1		
13.6.2			(b) DB-B	No.	1		
13.6.3			(c) DB-D	No.	1		
			Delivery, offloading, installation and commissioning of new factory wired distribution boards				
13.6.4			(a) DB-A	No.	1		
13.6.5			(b) DB-B	No.	1		
13.6.6			(c) DB-D	No.	1		
13.7			STAGE 2: EXTERNAL RETICULATION				
			Low voltage cable installation				
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			650 deep x 450 wide cable trench including backfilling and compaction				
13.7.1			(a) Pickable soil	m <sup>3</sup>	55		
13.7.2			(b) Soft rock	m <sup>3</sup>	10		
13.7.3			(c) Hard rock	m <sup>3</sup>	1		
			Supply and deliver PVC/SWA/PVC cu cable				
13.7.4			(a) 16mm <sup>2</sup> , 4-core	m	105		
13.7.5			(b) 6mm <sup>2</sup> , 4-core	m	180		
13.7.6			(c) 6mm <sup>2</sup> , 3-core	m	65		
			Install PVC/SWA/PVC cu cable				
13.7.7			(a) 16mm <sup>2</sup> , 4-core	m	105		
13.7.8			(b) 6mm <sup>2</sup> , 4-core	m	180		
13.7.9			(c) 6mm <sup>2</sup> , 3-core	m	65		
			Terminate PVC/SWA/PVC cu cable				
13.7.10			(a) 16mm <sup>2</sup> , 4-core	No.	2		
13.7.11			(b) 6mm <sup>2</sup> , 4-core	No.	12		
13.7.12			(c) 6mm <sup>2</sup> , 3-core	No.	2		
			Supply and deliver stranded copper earth conductor				
13.7.13			(a) 10mm <sup>2</sup> BCEW	m	105		
13.7.14			(b) 4mm <sup>2</sup> BCEW	m	180		
			Install stranded copper earth conductor				
13.7.15			(a) 10mm <sup>2</sup> BCEW	m	105		
13.7.16			(b) 4mm <sup>2</sup> BCEW	m	180		
			Terminate stranded copper earth conductor				
13.7.17			(a) 10mm <sup>2</sup> BCEW	m	2		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
13.7.18			(b) 4mm <sup>2</sup> BCEW	m	12		
			Cable Accessories				
			Supply and deliver sleeves complete with bends and couplings as specified				
13.7.19			(a) 110mm Ø Upvc	m	12		
13.7.20			(b) 76mm Ø uPVC	m	4		
13.7.21			(c) 50mm Ø uPVC	m	1		
			Install uPVC sleeves complete with bends and couplings as specified				
13.7.22			(a) 110mm Ø flexible PVC	m	12		
13.7.23			(b) 76mm Ø uPVC	m	4		
13.7.24			(c) 50mm Ø uPVC	m	1		
			Concrete cable route markers				
13.7.25			(a) Supply and deliver	No.	4		
13.7.26			(b) Install	No.	4		
			Cable warning tape				
13.7.27			(a) Supply and deliver	No.	405		
13.7.28			(b) Install in ground	No.	405		
			Distribution Kiosk K3				
13.7.29			Design and manufacture new factory-wired free standing distribution kiosk complete with concrete plinth and as per schematic diagram and specification	No.	1		
13.7.30			Delivery, offloading, installation and commissioning of new factory wired distribution kiosk	No.	1		
			Netball / Basket ball court lighting installation				
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			400W metal halide floodlight complete with lamps and fixing accessories: BEKA: BekaMax 400W M/H or similar approved equal				
13.7.31			(a) Supply and deliver	No.	16		
13.7.32			(b) Install and aim	No.	16		
			Galvanised steel pole (Base - 135mmØ; Top - 76mmØ) 15-metre mounting height) including concrete mixture				
13.7.33			(a) Supply and deliver	No.	4		
13.7.34			(b) Install	No.	4		
			4 mm <sup>2</sup> PVC insulated stranded copper conductors inside light pole for luminaire wiring				
13.7.35			(a) Supply and deliver	m	170		
13.7.36			(b) Install in light pole	m	170		
			2.5 mm <sup>2</sup> bare earth copper conductors				
13.7.37			(a) Supply and deliver	m	70		
13.7.38			(b) Install in light pole	m	70		
			Tennis court lighting installation				
			1000W metal halide wide beam floodlight complete with lamps and fixing accessories: BEKA: PRL 1000W M/H or similar approved equal				
13.7.39			(a) Supply and deliver	No.	12		
13.7.40			(b) Install and aim	No.	12		
			Galvanised steel pole with bracket for 3 x 1000W (Base -135mmØ; Top - 76mmØ) (11-metre mounting height) including concrete foundation				
13.7.41			(a) Supply and deliver	No.	4		
13.7.42			(b) Install in ground	No.	4		
Total Carried Forward							

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ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			4 mm <sup>2</sup> PVC insulated stranded copper conductors inside light pole for luminaire wiring				
13.7.43			(a) Supply and deliver	m	125		
13.7.44			(b) Install in light pole	m	125		
			2.5 mm <sup>2</sup> bare earth copper conductors				
13.7.45			(a) Supply and deliver	m	55		
13.7.46			(b) Install in light pole	m	55		
13.8	PE9		STAGE 2: BUILDING LIGHTING INSTALLATION				
			Light fittings complete with lamps and fixing accessories				
			Type A luminaire - 2x28W open channel fluorescent luminaire: Lighting Innovation: SCH-228-002/840				
13.8.1			(a) Supply and deliver	No.	1		
13.8.2			(b) Install	No.	1		
			Type F luminaire - 2x18W IP 65 die cast aluminium fluorescent bulkhead luminaire with high impact opal diffuser: Lighting Innovations: SAT 218-001/840 or similar approved equal				
13.8.3			(a) Supply and deliver	No.	3		
13.8.4			(b) Install	No.	3		
			Type F1 luminaire - 2x18W IP 65 die cast aluminium fluorescent bulkhead luminaire with high impact opal diffuser complete with 1hr battery unit: Lighting Innovations: SAT 218-001/840/EMG or similar approved equal				
13.8.5			(a) Supply and deliver	No.	1		
13.8.6			(b) Install	No.	1		
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 13: ELECTRICAL WORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			Light switches complete with outlet boxes				
			16A 1-lever, 1-way light switch				
13.8.7			(a) Supply and deliver	No.	2		
13.8.8			(b) Install	No.	2		
			Photocell in IP65 enclosure				
13.8.9			(a) Supply and deliver	No.	1		
13.8.10			(b) Install	No.	1		
			360° PIR ceiling mount occupancy sensor				
13.8.11			(a) Supply	No.	2		
13.8.12			(b) Install	No.	2		
13.9	PE10		STAGE 2: SMALL POWER INSTALLATION				
			16A normal flush-mounted double switched socket outlet complete with 100 x 100 outlet box and cover plate				
13.9.1			(a) Supply	No.	3		
13.9.2			(b) Install in wall	No.	3		
			6A normal unswitched single switched socket outlet complete with outlet box and cover plate				
13.9.3			(a) Supply	No.	2		
13.9.4			(b) Install in ceiling void	No.	2		
			20A surface double pole isolator for geyser complete with outlet box and cover plate				
13.9.5			(a) Supply	No.	3		
13.9.6			(b) Install in wall	No.	3		
13.10	PE11		STAGE 2: WIRING AND WIREWAYS				
Total Carried Forward							

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 13: ELECTRICAL WORKS

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
Brought Forward							
			20mm Ø PVC conduit installed in ceiling void or built into new masonry complete with all fixing accessories, couplings, bushes, locknuts, end boxes (50 x 100mm or 100 x 100mm as the case may be), terminations and adapters				
13.10.1			(a) Supply and deliver	m	200		
13.10.2			(b) Chased into wall or surface mount in ceiling void	m	200		
			Supply and deliver PVC insulated stranded copper conductors				
13.10.3			(a) 2,5 mm <sup>2</sup>	m	120		
13.10.4			(b) 4,0 mm <sup>2</sup>	m	60		
13.10.5			(c) 6,0 mm <sup>2</sup>	m	20		
			Install PVC insulated stranded copper conductors				
13.10.6			(a) 2,5 mm <sup>2</sup>	m	120		
13.10.7			(b) 4,0 mm <sup>2</sup>	m	60		
13.10.8			(c) 6,0 mm <sup>2</sup>	m	20		
			Supply and deliver copper earth conductors				
13.10.9			(a) 2,5 mm <sup>2</sup> BCEW	m	150		
13.10.10			(b) 4,0 mm <sup>2</sup> BCEW	m	50		
			Install copper earth conductors				
13.10.11			(a) 2,5 mm <sup>2</sup> BCEW	m	120		
13.10.12			(b) 4,0 mm <sup>2</sup> BCEW	m	50		
13.11	PE7		STAGE 2: DISTRIBUTION BOARDS				
Total Carried Forward							

### Ga-Maja Sports Complex Schedule of Quantities

## SECTION 13: ELECTRICAL WORKS

[illegible]



**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SECTION 14: BOREHOLE

ITEM NO	PAYMENT	LI C	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RAND)
14			Section 14				
14.1			GEOHYDROLOGICAL SERVICES & SUPERVISION				
14.1.1			Desktop feasibility study	No.	1		
14.1.2			Field verification and hydrocensus (Mapping & Interpretation)	No.	1		
14.1.3			Borehole siting (1+Alternative)	No.	2		
14.1.4			Geohydrological feasibility report	No.	1		
14.1.5			Drilling Supervision	No.	2		
14.1.6			Test Pumping Supervision	No.	2		
14.1.7			Close-out report	No.	1		
14.1.8			Disbursement, Travel, Travel Time	Sum	1		
14.2			TEST PUMPING				
			(Targeting High Yield Borehole)				
14.2.1			Calibration Test	No.	16		
14.2.2			Stepped discharge test	hours	24		
14.2.3			Constant discharge test	hours	120		
14.2.4			Recovery monitoring	hours	120		
14.2.5			Borehole Disinfection	No.	4		
14.2.6			Borehole Protection (Casing lid)	No.	4		
14.2.7			Borehole Marking	No.	4		
14.2.8			Site Finishing (complete per borehole)	No.	4		
14.2.9			Data Recording and Reporting	Sum	4		
14.2.10			Chemical analysis of water samples	No.	4		
14.3			DRILLING				
Total Carried Forward							

## Ga-Maja Sports Complex Schedule of Quantities

## SECTION 14: BOREHOLE

[illegible]

**Ga-Maja Sports Complex**  
**Schedule of Quantities**

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT (RAND)
1	SECTION 1 : PRELIMINARY & GENERAL	
2	SECTION 2 : BULK EARTHWORKS	
3	SECTION 3 : FOUNDATIONS	
4	SECTION 4: STRUCTURAL STEELWORK	
5	SECTION 5: BUILDING WORKS: COMMUNITY HALL	
6	SECTION 6: BUILDING WORKS: ABLUTIONS & CARETAKER UNIT	
7	SECTION 7: BUILDING WORKS: GUARD HOUSE	
8	SECTION 8: SOCCER FIELD	
9	SECTION 9: COMBI-COURTS	
10	SECTION 10 : WATER/SEWER/STORMWATER	
11	SECTION 11: ROADS & PARKING	
12	SECTION 12: FENCING	
13	SECTION 13: ELECTRICAL WORKS	
14	SECTION 14: BOREHOLE	
A	<b>SUBTOTAL</b>	
B	Contingencies 10%	
C	<b>SUBTOTAL (A+B)</b>	
D	CPA 3%	
E	<b>SUBTOTAL (C+D)</b>	
F	VAT 15%	
<b>Total Carried Forward To Form of Offer (E+F)</b>		

**PART C3: SCOPE OF WORK**

**C3.1: DESCRIPTION OF WORKS**

**C3.2: LIST OF DRAWINGS**

**C3.3: PROCUREMENT**

**C3.4: CONSTRUCTION**

**C3.5: VARIATION AND ADDITIONS TO STANDARD SPECIFICATIONS**

**C3.6: PARTICULAR SPECIFICATIONS**

**C3.7: EPWP LABOUR INTENSIVE SPECIFICATIONS**

**C3.8: MANAGEMENT**

**C3.9: HEALTH AND SAFETY**

### **C3.1 DESCRIPTION OF THE WORKS**

#### **3.1.1 Employer's objectives**

The Clients objective is to address the backlog of amenities and sports facilities in previously disadvantaged communities and rural areas.

The project objectives are in-line with the City of Polokwanes objectives of service delivery, job creation, poverty alleviation and social upliftment.

#### **3.1.2 Overview of the works**

The Molepo/Maja Cluster is an outlying area with densely dispersed settlements, the need for smaller diverse social facilities, strategically located is therefore necessary.

The stand count in the clusters is approximately 17,500 with an estimated population of 60,000. As the name suggests two clusters make up the single Molepo/Maja Cluster as show in the enclosed layout drawings.

Due to the extent of the area and remoteness of villages, three facilities shall be constructed in the forthcoming three financial years. This Contract is Phase 2 of 3.

#### **3.1.3 Extent of the works**

The works to be carried out by the Contractor under this Contract comprise mainly, but not limited to, the following:

- Bulk Earthworks
- Completing Ablution Block
- Guard House
- Paved Access Road & Parking Area (Partial)
- Water, Sewer & Stormwater Supply Systems
- Multi-purpose All-Weather Courts
- Tennis Court
- Fencing

#### **3.1.4 Location of the works**

The Molepo/Maja Cluster is located approximately 40km south east of Polokwane. The cluster is located on the border of the Capricorn District Municipality at the foot of the mountainous Bewaarskloof Nature Reserve and is accessible from the north via the R71 en-route to Tzaneen, through the communities of Mountain View and Laaste Hoop or via the R37 from the south through the community of Ga-Tshwene. The co-ordinates of the scheme, referenced to the Phase 2 proposed site indicated in the attached layout is 23°59'23.87"S, 29°39'53.84"E.

## C3.2 LIST OF DRAWINGS

The Engineer will provide the Contractor with one full set of drawings, which will be used exclusively for the recording of as built information by the Contractor.

Only dimensions, positions, levels, co-ordinates etc. that change from the original values, will be required to be entered on these drawings. These drawings, fully marked up, will be handed to the Engineer at the issue of the Certificate of completion, which will not be issued until the as-built information has been received.

The following drawings are applicable to the contract:

Drawing No.	Drawing Details
P14296-001	Locality & Drawing Index
<del>P14296-002</del>	<del>Site Development Plan</del>
<del>P14296-010</del>	<del>Club House – Floor Plan</del>
<del>P14296-011</del>	<del>Club House – Roof Plan</del>
<del>P14296-012</del>	<del>Club House – Sections &amp; Elevations</del>
<del>P14296-013</del>	<del>Club House – Window Schedule</del>
<del>P14296-014</del>	<del>Club House – Door Schedule</del>
<del>P14296-015</del>	<del>Club House – Finishing Schedule</del>
<del>P14296-020</del>	<del>Club House – Foundations Layout and details</del>
<del>P14296-021</del>	<del>Club House – Strip Footings Rebar details</del>
<del>P14296-022</del>	<del>Club House – Type 1 – Bases and Starter Bars and Bending Schedule (B/S)</del>
<del>P14296-023</del>	<del>Club House – Type 2 – Bases and Starter Bars and (B/S)</del>
<del>P14296-024</del>	<del>Club House – Type Bases and Starter Bars</del>
P14296-025	Club House - Surface Bed and Bending Schedule & Details
<del>P14296-026</del>	<del>Club House – Columns – Type 1 First Lift and B/S</del>
<del>P14296-027</del>	<del>Club House – Columns – Type 2 First Lift and B/S</del>
<del>P14296-028</del>	<del>Club House – Columns – Type 1 Second Lift and B/S</del>
<del>P14296-029</del>	<del>Club House – Columns – Type 2 Second Lift and B/S</del>
<del>P14296-030</del>	<del>Club House – Ring Beams Layout and Details</del>
<del>P14296-031</del>	<del>Club House – Ring Beams Rebar and Details</del>
<del>P14296-032</del>	<del>Club House – Ring Beams B/S</del>
<del>P14296-033</del>	<del>Club House – Eaves Beams Layout and Details</del>
<del>P14296-034</del>	<del>Club House – Eaves Beams Rebar and Details</del>
<del>P14296-035</del>	<del>Club House – Eaves Beams B/S</del>
<del>P14296-036</del>	<del>Club House – Holding Down Bolt Layout</del>
<del>P14296-037</del>	<del>Club House – Structural Steel Roof Layout</del>
<del>P14296-038</del>	<del>Club House – Structural Steel Roof Trusses – and Details</del>
P14296-040	Ablutions - Layout & Details
P14296-041	Guardhouse - Layout & Details
P14296-050	Combi-Courts - Layout Plan & Details
<del>P14296-060</del>	<del>Services – Layout Plan</del>
P14296-061	Water, Sewer, Stormwater - Typical Details 1
P14296-062	Water, Sewer, Stormwater - Typical Details 2
P14296-063	Access Road & Parking - Typical Details 1
P14296-064	Access Road & Parking - Typical Details 2
P14296-065	Water, Sewer, Stormwater - Typical Details 3
P14296-070	Electrical - Site Plan

Drawing No.	Drawing Details
P14296-071	Electrical – Club House : Small Power Layout
P14296-072	Electrical – Club House : Lighting Layout
P14296-073	Electrical – Public Ablutions & Caretakers' Quarters : Small Power Layout
P14296-074	Electrical – Public Ablutions & Caretakers' Quarters : Lighting Layout
P14296-075	Electrical – Guardhouse : Small Power Layout
P14296-076	Electrical – Guardhouse : Lighting Layout
P14296-077	Electrical – Schematic Line Diagrams : Kiosk K4
P14296-078	Electrical – Schematic Line Diagrams : Kiosk K3
P14296-079	Electrical – Schematic Line Diagrams : Kiosks K2
P14296-080	Electrical – Schematic Line Diagrams : Kiosks K1
P14296-081	Electrical – Schematic Line Diagrams : DB-A
P14296-082	Electrical – Schematic Line Diagrams : DB-B
P14296-083	Electrical – Schematic Line Diagrams : DB-C / DB-C1
P14296-084	Electrical – Schematic Line Diagrams : DB-D
P14296-90	Concrete Palisade Fencing
P14296-91	Nameboard

### C3.3 PROCUREMENT

#### 3.3.1 Preferential procurement procedures

The works shall be executed in accordance with the Preferential Procurement Policy Framework Act and Preferential Procurement Regulation 2011.

#### 3.3.2 Scope of mandatory subcontract work

The Contractor shall without delay enter into contract with the subcontractor based on their accepted quotation. The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

### C3.4 CONSTRUCTION

#### 3.4.0.1 Applicable national and international standards

##### Applicable SABS 1200 standardised specifications

The following SABS 1200 standardised specifications for civil engineering construction are applicable:

SABS 1200 A	GENERAL
SABS 1200AB	ENGINEERS OFFICE
SABS 1200 C	SITE CLEARANCE
SABS 1200 D	EARTHWORKS
SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)
SABS 1200DM	EARTHWORKS (ROADS, SUBGRADE)
SABS 1200 G	CONCRETE
SABS 1200 GA	CONCRETE (SMALL WORKS)
SABS 1200 H	STRUCTURAL STEELWORK
SABS 1200 HA	STRUCTURAL STEELWORK (SUNDRY)
SABS 1200 L	MEDIUM-PRESSURE PIPELINES
SABS 1200 LB	BEDDING (PIPES)
SABS 1200 LD	SEWERS
SABS 1200 LE	STORMWATER
SABS 1200 M	ROADS
SABS 1200 ME	SUB-BASE
SABS 1200 MF	BASE

Copies of SABS 1200 Standardized Specifications are available from the Standards South Africa.

The Particular Specifications together with the Drawings and Bill of Quantities clearly indicate the sections of the Standard Specifications which apply to this contract.

#### **Model Preambles for Trades - 2008**

The Tenderer is referred to the relevant Clauses in the separate document Model Preambles for Trades (2008 Edition) and the Supplementary Preambles hereunder that is applicable to all Building Works, ie. Sections 5-7 of the bills of quantities.

These Model Preambles for Trades, and any Supplementary Preambles, shall be read in conjunction with and shall form part of the descriptions of items in the bills of quantities, applicable to building works, Sections 5-7.

Where descriptions or Supplementary Preambles in the bills of quantities differ from these Model Preambles for Trades, the descriptions or Supplementary Preambles provided herein shall take precedence. Where supplementary preambles differ from descriptions in the bills of quantities, the descriptions in the bills of quantities shall take precedence

Except where otherwise stated, all preambles contained in any individual Trade Preamble shall apply equally to any work of a similar nature in all other trades.

The 'Model Preamble for Trades' is published by and is available from the Association of South African Quantity Surveyors, P.O. Box 3527, Halfway House, 1685. Telephone (011) 315 4140. E-mail: [administration@asaqs.co.za](mailto:administration@asaqs.co.za).

### **C3.5 VARIATIONS AND ADDITIONS TO THE STANDARD AND STANDARDISED SPECIFICATIONS**

In certain clauses the standard, standardised and particular specifications allow a choice to be specified in the project specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix PS followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and is included here, is also prefixed by PS followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the standard specifications.

PSA	General
PSAB	Engineer's Office
PSC	Site Clearance
PSD	Earthworks
PSDB	Earthworks (Pipe Trenches)
PSGA	Concrete (Small Works)
PSH	Structural Steelwork
PSHA	Structural Steelwork (Sundry items)
PSL	Medium Pressure Pipelines
PSLB	Bedding (Pipes)
PSPCB	Fencing



**PSA**                      **GENERAL**

**PSA-3**                    **MATERIALS**

**PSA-3.1**                **Quality**

Where there is a standardization mark programme for any material, all such material supplied shall bear the official standardization mark.

Alternative materials or equipment proposed by the Contractor shall be tested. The test, as well as the materials or equipment, shall be approved by the Engineer prior to any such materials or equipment being built into the Works and all costs involved in testing shall be deemed to be included in the rates tendered.

**PSA- 3.2**                **Materials supplied by the Employer**

Materials as supplied by the Employer will be kept at the stores of the Employer and the Contractor will be requested from time to time to incorporate material into the Works, on instruction of the Engineer. These material quantities must not be seen as a certainty as materials to be incorporated into the Works, but the Contractor must take note of this Clause should the Engineer instruct him to do so.

Incorporation of these materials into the Works, should it be so instructed by the Engineer, will have a direct effect on the quantities of similar materials being omitted from the Schedule of Quantities requested to be supplied by the Contractor. A list of the materials to be supplied by the Employer will be fixed within 14 days after the issue of the Letter of Acceptance.

**PSA-4.**                    **PLANT**

**PSA-4.2**                **Contractor's Office, Stores and Services**

It is not a requirement of this Contract that the Contractor provide an approved field laboratory on Site, although he may elect to do so. If no laboratory is provided, the Contractor shall nevertheless arrange to have the required quality control tests (e.g. density, concrete strength and pressure testing of pipelines) performed by an approved commercial laboratory, and his tendered rates shall include full compensation for such tests.

Before commencing any establishment on Site, the proposed layout of the Contractor's offices, stores and services shall be approved by the Engineer. The Engineer will approve the layout or otherwise request modifications within five working days after receipt of the Contractor's written proposal.

The Contractor's camp shall be kept neat and clean at all times and all surplus or rejected material shall be removed from the site.

**PSA-4.3**                **Restriction on Employee Accommodation** (Additional subclause)

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and to transport them to site. With the exception of a night-watchman no employees may be housed or accommodated or allowed to sleep over on the site of the works.

The Contractor shall provide the necessary ablution facilities at his campsite and on the site of the works for the use of his employees. Chemical toilets only will be allowed.

**PSA-4.4**                **Restriction on the use of plant** (Additional subclause)

Except for the type of plant, and to the extent permitted in terms of the project specification or approved by the Engineer, the Contractor shall use only hand tools

and hand equipment in the construction of the Works or portions of the Works that are required in terms of the project specification to be constructed using labour-intensive methods.

PSA-5                    **CONSTRUCTION**

PSA-5.1                **Survey**

Co-ordinated reference pegs shall be preserved as specified in sub-clause 5.1.2.

PSA-5.1.1            Setting out of the Works

The Contractor shall verify at his own cost the accuracy of the pegs or benchmarks pointed out as being available for use to set out the works. Any discrepancies must be reported to the Engineer in writing.

All pegs or benchmarks which are damaged during the Contract which were not in the direct way of the construction of the works shall be replaced by a competent Surveyor (or Land Surveyor if the positions were determined by a Land Surveyor in the first place) at the Contractors own cost.

For any new work the Contractor shall establish his own reference lines from which the work can be set out.

Where labour-intensive work is specified, the Contractor shall also be responsible for the setting out of the daily tasks.

PSA-5.5                **Dealing with Water on the Works**

•    ***Add the following paragraph:***

“It shall be noted that any claim for extension of time or for additional compensation dealing with water on the Works will not be considered, as this payment item shall be deemed to take in account of all additional resources or costs that may be required or incurred. The Contractor shall be deemed to have acquainted himself with the site conditions during tender stage. This will include the diversion of rivers to accommodate the laying of pipes through rivers.”

PSA-5.6                **Training** (Additional Sub-clause)

It is a condition of this contract that on-the-job training be provided for local labour. Accredited training in accordance with Particular Specification 4.1.3 EPWP LABOUR INTENSIVE SPECIFICATION (1.2.2.2.5) will be paid for separately as specified.

PSA-6                    **PROVISIONAL SUMS**

Provisional Sums are allowed in the Schedule of Quantities for execution on instruction by the Engineer only, and include:

PSA-6.1                Additional Tests

Any additional tests required by the Engineer on soil, concrete, any other material or workmanship by independent laboratories or specialist service providers.

PSA-6.2                Training

As detailed in PSA 5.6

PSA-6.3                Electricity and electrical works

The sum shall include for the Installation and connection fee for power supply to the site, including provision for the design (by professional engineer) and supply and

installation (by approved nominated sub-contractor) for the cabling, distribution boards, conductors, sleeves, light switches, socketed outlets, luminaries and equipment, conduit boxes and fittings, testing/commissioning and supply and installation of 8 x 400w MH flood lights and globes on 6 x 4,5m poles.

PSA-6.4 Soccer field artificial surface

The sum shall include for the construction of the sub-base, final surfacing and drainage by a nominated sub-contractor (or approved installer). The main Contractor shall prepare/construct the terrace/platform and sub-grade. The nominated sub-contractor shall construct the sub-base, and final surface finishing's including all necessary surface/sub-surface drainage system, markings, kerbing and fencing/railings.

PSA-6.6 Combi-courts

The sum shall include for the construction of the sub-base, final surfacing and drainage by a nominated sub-contractor (or approved installer). The main Contractor shall prepare/construct the terrace/platform and sub-grade. The nominated sub-contractor shall construct the sub-base, and final surface finishing's including all necessary surface/sub-surface drainage system, markings, kerbing and fencing/railings.

PSA-6.7 Signage

The sum shall include for the supply and installation for the permanent facility signage, which shall include, but not limited to: traffic (vehicle and pedestrian), fire, services and utilities.

PSA-6.8 Student

The sum shall include allowances for a student elected by the Municipality to undergo experiential training.

PSA-6.9 PSC Member Allowances

The sum shall make provisions for six project steering committee members, for their attendance at meetings, in compensation as follows: R140 per person per meeting.

PSA-6.10 CLO

The sum shall make provision for the monthly salary of the community liaison officer as elected/appointed by the Municipality.

PSA-6.11 New Borehole Installation

Provision for the siting, drilling, test pumping, water quality analysis by Geohydrologist and equipping of submersible borehole pump and pump house, inclusive of all investigations, assessments, reporting, supply of equipment and installation by specialist Sub-Contractor in accordance with Project Specification PB and PMD.

PSA-6.12 Provision of PPE

Allowance shall be made for the procurement of personal protective equipment (PPE) for the use of local labour (allocation of approximately R1,000 per labourer).

PSA-6.13 Provision for air conditioning and ventilation

Allowance shall be made for the design (by mechanical engineer) and installation of air conditioning and ventilation system.

PSA-6.14 Provision for stage curtaining

Allowance shall be made for the supply and installation as follows:

Front Stage:

To supply and install curtains, lining, tracking system including winch, special angle including bralits, etc. complete - (colour to be selected by the principal agent) fixed in accordance with the manufacturers specification.

Back Stage:

To supply and install unlined curtains, tracking, multi pulleys, special support beams to clear walkway etc complete including one additional winch mechanism with cables and pulleys - (colour to be selected by the principal agent) fixed in accordance with the manufacturers specification.

**PSAB ENGINEER'S OFFICE**

**PSAB-3 MATERIALS**

**PSAB-3.1 Contract Sign Boards**

Three (3) Contract signboards, two sides per signboard, are to be erected in the position indicated by the Engineer. A signboard shall comprise of two information boards and stand according to Drawing P14296-091.

**PSAB-3.2 Engineers Office**

The Contractor shall provide, furnish and equip one or more offices (as scheduled) for the use of the Engineer.

Buildings for offices shall be constructed of timber, asbestos or other approved materials. The buildings shall have double walls filled with insulating material and lined on the inside with timber or other approved material. Ceilings shall be provided and offices shall have timber or concrete floors with edge to edge carpeting with foam-backed needle punch carpeting.

Office buildings shall be painted with an approved paint after erection and the paintwork shall be maintained during the contract period.

Each door shall be provided with a lock and two keys.

The siting of all offices shall be to the Engineer's satisfaction and shall be decided upon in consultation with him and confirmed in writing before erection. All accommodation shall include the provision of a constant 220 volt A.C. electrical supply, access roads where required, fresh clean potable water and sewerage, including septic tanks which will be considered as part and parcel of the accommodation provided and will not be paid for separately.

All accommodation shall meet with the approval of the Engineer.

The offices shall comply with the following requirements:

<u>Dimensions</u>	<u>Type 1 Office</u>	<u>Type 2 Office</u>
Minimum floor area	40,0m <sup>2</sup>	16,0m <sup>2</sup>
Minimum window area	6,0m <sup>2</sup>	2,4m
Minimum window area opening	3,6m <sup>2</sup>	1,5m <sup>2</sup>
Minimum clear height	2,4m	2,4m

Furniture and equipment:

Each office shall be equipped with the following:

- (i) Office desk with a surface area of at least 1,5 m<sup>2</sup> with at least 3 drawers, one of which can be locked.
- (ii) General purpose steel cabinet with doors, lock and two keys with at least 1,5 m<sup>2</sup> shelf area and a volume of 0,7 m<sup>3</sup>.
- (iii) Two office chairs.
- (iv) Double 80 watt fluorescent light fittings complete with ballast and tubes (3 per Type 1 office, 1 per Type 2 office).
- (v) A table with a smooth flat top having an area of at least 3m<sup>2</sup>
- (vi) 220/250 volt 15 amp power points (4 per Type 1 office, 2 per Type 2 office).
- (vii) Windows shall be fitted with Venetian or opaque roller blinds.

In addition to the above the Type 1 office shall be equipped with the following:

- (viii) A table large enough to accommodate ten people and have an area of at least 3 m<sup>2</sup>. This table may be the table referred to in (v), above.
- (ix) Ten chairs suitable for meetings chairs.

The Contractor shall also provide a toilet for the exclusive use of the Engineer. The toilet shall be a chemical toilet. Provision shall be made for the washing of hands at a suitable location adjacent to the toilet.

**PSAB-3.3 Carports (Additional Clause)**

The carport shall be so constructed that the vehicle parked under it will at all times be protected against the direct rays of the sun. A carport shall be at least 20 m<sup>2</sup> in area and the floor shall consist of a layer of crushed stone to alleviate dusty and muddy conditions.

**PSAB-4 PLANT**

**PSAB-4.1 Telephone**

The telephone shall be a cellphone similar to an ASHA 300 with all costs (R1000/mth airtime, R500/mth data bundle) paid by the Contractor. At the end of the Contract the phone shall revert back to the Contractor.

**PSAB-4.2 Survey Equipment (Additional Clause)**

The Contractor shall provide the following survey equipment on site for the full duration of the Contract:

- (a) 1 tacheometer capable of reading to 20 seconds of arc;
- (b) 2 tacheometer staves graduated metrically;
- (c) 1 automatic level and levelling staff;
- (b) 1 steel tape of length 30 m;
- (c) 1 measuring wheel.

All equipment may be shared by arrangement between the Contractor and the Engineer's representative. The Contractor shall insure the equipment against any loss, damage or theft and he shall indemnify the Engineer against any claims in this regard.

The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period.

Payment for survey equipment will be on a monthly basis as a time-related item under item 8.4 of SABS 1200 A.

PSAB-5	<p><b>Measuring Wheel</b></p> <p>A measuring wheel for sole use of the Engineer must be provided for the whole duration of the Contract period.</p>
PSC	<p><b><u>SITE CLEARANCE</u></b></p>
PSC-4	<p><b>PLANT</b></p> <ul style="list-style-type: none"> <li>• <i>Replace the contents of this Clause with the following:</i></li> </ul>
PSC-4.1	<p><b>Labour Intensive Construction</b></p> <p>The following provisions shall apply in respect of those portions of the Works covered by the specifications which are required in terms of the Contract, to be executed utilizing Labour Intensive Construction Methods:</p> <ol style="list-style-type: none"> <li>The Contractor shall utilise only hand tools such as saws, picks, shovels, rakes, tampers, sledgehammers etc.</li> <li>The use of trucks and other motor vehicles in the disposal of the cleared materials will only be permissible in cases where the distance over which the materials are to be transported exceeds 200 meters, provided that no mechanical plant or equipment shall be utilised in the loading of such vehicles.</li> </ol>
PSC-5	<p><b>CONSTRUCTION</b></p>
PSC-5.2.3.2	<p><b><u>Individual trees</u></b></p> <p>The Contractor shall pay a penalty of R 1 000-00 for each designated tree removed or damaged by him. Trees so designated will be marked with danger tape to be supplied by the Contractor. Upon completion of the Works, the tape shall be removed.</p>
PSC-5.3	<p>After completion of this Contract the site shall be completely cleared of all building rubble and all loose boulders, tree stumps etc. unearthed during the construction operations on that portion of the whole of the site which was handed over to the Contractor for the purpose of execution of this Contract.</p>
PSD	<p><b><u>EARTHWORKS</u></b></p>
PSD-3	<p><b>MATERIALS</b></p>
PSD-3.1.2	<p><b><u>Classes of excavation</u></b></p> <p>For this contract classes of excavation will be subdivided as follows:</p> <ol style="list-style-type: none"> <li><b><u>Excavation by labour-intensive method</u></b> <p>For the purpose of the labour-intensive contract the excavation material will generally be classified as follows for purposes of measurement and payment:</p> <ol style="list-style-type: none"> <li><b><u>Soft excavation</u></b> <p>Soft excavation shall be excavation in material that can be efficiently removed and loaded with picks, shovels and other hand tools. Soft excavation shall include all boulders with a volume of less than 0,125 m<sup>3</sup> and a maximum dimension of 500 mm, which can still be removed by hand methods.</p> </li> </ol> </li> </ol>

(ii) Hard excavation

Hard excavation shall be excavation in material which can only be removed efficiently with mechanical equipment such as jackhammers, drilling and blasting, etc. Hard excavation shall also include boulders with a volume exceeding 0,125 m<sup>3</sup> and the maximum dimension exceeding 500 mm, which cannot be broken down and removed by hand methods.

(b) Normal excavation

In cases where heavy excavation equipment are allowed only two classes of excavation will be applicable, i.e. hard rock excavation and soft excavation. Hard rock excavation shall be as specified in subclause 3.1.2 (a)(ii) and excavation in all other material will be taken as soft excavation. Boulders which require individual drilling and blasting in order to be loaded by a track-type front-end loaders or back-acting excavator, shall be classified as hard rock and will be measured individually as they are removed.

PSD-5 **CONSTRUCTION**

PSD-5.2 **Methods and Procedures**

PSD-5.2.1.2 Conservation of topsoil

During excavations for the structures all topsoil and other suitable material required for later use as backfilling around the structure and reinstatement of the site after completion of the works shall be stockpiled on site at a position to be approved by the Engineer.

PSD-5.2.2.3 Disposal

All excess excavated material not used for backfilling shall be disposed of at a site to be found by the Contractor and approved by the Engineer. The spoil site shall be finished off at the completion of the works to the satisfaction of the Engineer.

PSD-5.2.5 Transport for Earthworks

PSD-5.2.5.1 Freehaul

• **Add the following:**

"For this contract all haul will be regarded as free haul and the cost of transportation of all materials will be deemed to be included in the rates and prices tendered in the schedule of quantities."

PSD-5.2.5.2 Overhaul

No overhaul will be payable on this Contract.

PSD-5.2.6 Inspection of excavations (new clause after clause 5.2.5)

All foundations for structures shall be inspected by the Engineer and/or an Engineering Geologist or Geotechnical Engineer before any backfilling with material or concrete of any kind is commenced. The Engineer shall be given at least two days notice by the Contractor for the necessary arrangements to be made.

PSD-6 **TOLERANCES**

PSD-6.1 **Position, dimensions, levels, etc.**

Degree of Accuracy II shall apply. Over-breaks where applicable shall be filled in with 15 MPa concrete at Contractor's cost.

PSD-7      **TESTING**

PSD-7.2      **Taking and Testing of Samples**

The Contractor is responsible for his own quality control and shall therefore take an adequate number of samples and carry out tests to ensure that the material conform to the requirements in respect of quality, density, etc. (quality or process control).

Such test results and the positions where samples were taken must be submitted to the Engineer. The number and positions of tests shall be adequate to prove to the Engineer that the work as a whole complies with the requirements.

The Engineer may have additional or control tests carried out by an independent commercial laboratory at the Employer's cost and he will make the results available to the Contractor (acceptance control). Should these test results show that the work or the material does not comply with the specifications the Contractor shall take the necessary steps to rectify same and he will also be responsible for the cost of such testing. Payment for additional testing will be made under PSA-6.1.

**PSDB      EARTHWORKS (Pipe trenches)**

PSDB-3      **MATERIALS**

PSDB-3.1      **Classes of Excavation**

Add the following new sub-clause:

Classes of excavation where Labour Intensive Construction Methods are specified

The excavation of material will, in the case of work which is required in terms of the Contract to be executed utilising Labour Intensive Construction Methods, be classified as follows for purposes of measurement and payment:

(a)      Soft – (Hand excavations)

Excavation of boulders not exceeding 0,04 m<sup>3</sup>, in material that can be excavated and removed from the excavation by an average able bodies labourer or group of such labourers, at a rate of not less than 2,4 m<sup>3</sup> per 9,25 hour working day per labourer, using only picks, shovels and similar hand tools.

(b)      Soft – (machine excavation)

Excavation in trenches with the use of machines where hand excavation is not possible, but material is still classified as soft excavation.

(c)      Intermediate

Intermediate excavations shall be excavations in material which requires ripping or loosening by mechanical means prior to removal of the loosened material utilising the methods as described in (a).

(d)      Hard rock Excavation

Hard rock excavation shall be excavation of under composed boulders exceeding 0,04 m<sup>3</sup> and excavations in solid rock occurring in bulk or in banks or ledges, which requires loosening or breaking up by drilling, wedging, splitting or blasting or by other approved quarrying methods.

Class of excavation for each portion of the works is subjected to approval by the Engineers' Representative. Places where ripping is required prior to excavation in soft or intermediate material will be indicated by the Engineers' Representative.



PSDB-5      **CONSTRUCTION**

PSDB-5.3      **Site clearance**

X **Add the following to the clause:**

"The Contractor shall dispose of all surplus and unsuitable material on a site to be found by him and approved by the Engineer. All costs related to the disposal of surplus material shall be deemed to be included in the tendered rates.

Where pipes are to be laid the Contractor will be allowed to clear and grub a strip 2,5 m wide along the centre-line of the trench. No vegetation outside this strip may be damaged without the written approval of the Engineer.

All trees with a girth of 250 mm or a height of 2,5 m within this strip, shall be protected and may only be trimmed or removed after a written order by the Engineer."

SDB-5.6.4      Disposal of intermediate and hard rock material

Surplus and/or unsuitable excavated material must be disposed of at a site found by the Contractor and approved by the Engineer.

PSDB-5.6.5      Deficiency in backfill material

Any deficiency in backfill material from trench excavations because of removal of excessive quantities of organic material, unsuitable parts of the trench bottom, intermediate or hard rock, shall be made up from suitable surplus material from other excavations on the site.

PSDB-5.6.8      Transport for Earthworks for Trenches

For this contract all haul will be regarded as free haul and the cost of transportation of all materials will be deemed to be included in the rates and prices tendered in the schedule of quantities.

No overhaul will be payable on this Contract.

PSDB-7      **TESTING**

PSDB-7.1      Notwithstanding the contents of Clause 7.1, the Contractor shall bear the cost of all quality control tests regardless of whether the tests indicate acceptable compaction or not.

The following are the minimum frequencies for the process control tests to be executed by the Contractor:

- (a) Normal trench backfilling: one density test on every second layer for every 200 m of pipe trench.
- (b) Backfilling in areas subject to vehicle loads: one test on each layer of 150 mm at each road or railway crossing.

The positions of these minimum number of density tests shall be determined randomly by the Contractor and shall be clearly documented with the results. The results of the tests shall be submitted to the Engineer and shall prove to the Engineer that the work as a whole was done satisfactorily. Additional tests, over and above the minimum tests could be ordered by the Engineer. Payment for these tests will be made under Item PSA-6.1 if the tests indicate that the density is as specified. If any tests fail, the cost of such tests shall be for the account of the Contractor.

PSDB-8	<b>MEASUREMENT AND PAYMENT</b>
PSDB-8.3	<b>Scheduled Items</b>
PSDB-8.3.2	<u>Excavation</u>
-	<p>Payment for pipeline excavation will be made in three instalments as follows:</p> <p>50 % at completion of excavation, 40 % at completion of backfilling and the final 10 % after final approval which will take account of surface finishing, disposal of all unused material and approval and acceptance of all test results as specified.</p>
<b>PSGA</b>	<b><u>CONCRETE (SMALL WORKS)</u></b>
PSGA-3	<b>MATERIALS</b>
PSGA-3.2	<b>Cement</b>
PSGA-3.2.1	<u>Applicable specifications</u>
	<p>The standard cement specifications:</p> <p>SABS 471: Portland cement (ordinary, rapid-hardening and sulphate-resisting);</p> <p>SABS 626: Portland blastfurnace cement;</p> <p>SABS 831: Portland cement 15, and rapid-hardening portland cement 15;</p> <p>SABS 1466: Portland fly-ash cement; and</p> <p>SABS 1491: Portland cement extenders (Part 1: Ground granulated blastfurnace slag, Part 2: Fly ash, and Part 3: Condensed silica fume),</p> <p>have been withdrawn and are replaced by the new specifications SABS ENV-197-1: Common cements, and SABS EENV 413-1: Masonry cement. These specifications will be applicable to this contract and the descriptions and types of cements specified will be based on the designations as defined in these specifications.</p>
PSGA-5.2	<p>Formwork finishes shall be as shown on the Drawings or stated in the Bill of Quantities.</p> <p>All corners shall have 25 mm corner fillets.</p>
PSGA-5.47	After removal of formwork all concrete shall be protected by an approved curing compound or any other approved method of curing.
<b>PSHA</b>	<b><u>STRUCTURAL STEELWORK (SUNDRY ITEMS)</u></b>
PSHA-5	<b>CONSTRUCTION</b>
PSHA-5.2	<b>Fabrication and assembly</b>
PSHA-5.2.10	<u>Protective Treatment</u>
	Structural steel shall be treated in accordance with the requirements of SABS 1200 HC.
PSHA-6	<b>TOLERANCES</b>
PSHA-6.1	<b>Fabrication and assembly tolerance</b>
	Degree II accuracy shall be applicable.

PSHA-7                    **TESTING**

PSHA-7.3                **Inspection and testing of welds**

Welding must be inspected visually. The Engineer may however order to have some of the welds tested by means of ultra-sonic methods. The costs for such tests will be covered under item PSA-6.1 unless the welds fail to pass the tests. The cost of such failed tests will be for the account of the Contractor.

**PSL                        MEDIUM PRESSURE PIPELINES**

PSL-1                    **MATERIALS – WATER SUPPLY PIPELINES**

Pipes and fittings will be of the types specified in the Schedule of Quantities or the Project Specifications, unless otherwise required in terms of the Project Specifications. All pipes and fittings shall be supplied complete with couplings and jointing material.

Pipeline materials shall be so transported, stored and handled that pipes are not over stressed or the fittings not damaged at any time. All pipes, fittings and specials delivered to Site will be thoroughly inspected by the Engineer's Representative. Materials rejected by the Engineer shall be removed from the site within 14 days and shall be replaced by other approved materials by the Contractor at his own expense.

Pipes as specified under this clause will be provided to the Contractor by the Employer and the Contractor will be requested to use these material on instruction from the Engineer. The rate tendered for the supply of this material to site by the Contractor, must include all handling costs, transport and profits as deemed necessary by the Contractor.

PSL-2                    **MATERIALS – VALVES**

- (a) All valves and appurtenant fittings shall be for the use in Medium Pressure Pipelines with a designed useful life of 45 years under operating conditions. Valves shall be guaranteed for a period of 5 years from the date of delivery.

All valves shall be supplied complete with flanged adaptors, bolts, nuts, gaskets, rubber rings and all fittings as indicated on the drawings for joining. Valve bodies shall be subjected to a closed-end test pressure of 1.5 times the design pressure. Test pressure shall be maintained for 5 minutes and the valve bodies shall be watertight in all respect.

- (b) Valves and scour valves 300 mm and smaller shall be the diameter and class indicated and shall be manufactured in accordance with SABS 664. Valves 300 mm and smaller shall be Resilient Seal Waterworks pattern of the classes indicated on the drawings and shall have non-rising spindles, clockwise closing. All valves shall be of the pattern specified to connect with AC, PVC or steel piping as applicable or flanged in accordance with the schedule of fittings.
- (c) All valves shall be supplied complete with handwheels, except for scour valves. T-keys to be handed over to the Operating Authority or as otherwise specified.
- (d) Water meters shall be cast iron, dry-gear type with removable measuring mechanism complying with the specifications as given on the drawings and in the Schedule of Quantities.
- (e) The size of Air Valves required shall be specified in the Schedule of Quantities, or on the Drawings by the diameter of the inlet branch. Valve bodies shall be of stainless steel.

Valves shall be of the following type:

### Double orifice air valves

These are required to be the double orifice type approved by the Engineer, have a large controlled orifice for the release and admission of air at low pressure during filling or emptying the pipeline and a smaller lever controlled orifice for the release of air under high pressure.

- (f) Valves shall be classed according to type, size and pressure requirements and shall be paid for per Item installed, including all relevant fittings.

PSL-3

## **MATERIALS**

PSL-3.4

### **Steel pipes, fittings and specials**

PSL-3.4.1

#### General

- **Add the following:**

Before leaving the manufacturer's workshops the pipes shall be tested hydraulically in accordance with SABS 719, and the test certificates shall be submitted to the Engineer.

PSL-3.8

### **Jointing Materials**

PSL-3.8.2

#### Flexible couplings

PSL-3.8.2.1

All unflanged steel pipes used above ground shall be provided with flexible couplings as shown on the drawings.

All flexible couplings shall be "Viking Johnson" couplings without centre register, or approved similar.

Rubber rings shall be of the wedge-type and shall be manufactured from natural or synthetic rubber only. Reclaimed rubber shall not be used in the manufacture of the rubber rings.

PSL-3.8.3

#### Flanges and accessories

All flanges, not jointing to existing flanges, shall be drilled in accordance with SABS 1123 Table 1000/3; 1600/3 or 2500/3. The type, drilling pattern and sizes of flanges jointing to existing flanges shall match those of the existing flanges and shall be determined on Site.

PSL-3.8.4

#### Loose flanges

All bolts and nuts shall comply with the requirements of SABS 135. Only stainless steel bolts and nuts shall be used for stainless steel pipes and fittings. All other bolts and nuts shall be cadmium-coated.

PSL-3.9

### **Corrosion Protection**

PSL-3.9.2

#### Steel pipes

The coating of steel pipes other than Galvanised Mild steel shall be according to paragraph b(1) and the coating shall be Carboline 891 or equivalent, applied as described in paragraph b(1) to a minimum thickness of 300 microns.

PSL-3.9.5

#### Joints, Nuts, Bolts and Washers

Only stainless steel bolts, nuts and washers shall be used for all stainless steel pipes and fittings. All other nuts, bolts and washers shall be cadmium-coated.

PSL-3.9.6      Corrosive soil

In this contract all steel pipes, pipe fittings and steel flanges in contact with soil shall over and above the protection as described above be protected as specified in Clause 3.9.6 with "DENSO" tape and/or mastic or approved similar. Application shall be strictly in accordance with the manufacturer's instructions. A polyethylene tape of 300 microns minimum shall be spirally wrapped over the petrolatum tape and fixed to the clean pipe ends with pressure sensitive tape.

PSL-3.9.7      Painting of pipes and fittings (Additional clause)

In addition to the corrosion protection as specified above, the valves and pipes inside the borehole pump houses shall be painted as follows:

- |   |                   |   |                               |
|---|-------------------|---|-------------------------------|
| - | Steel water pipes | : | Calypso Orange – Plascon G127 |
| - | Valves            | : | PWD Brown – Plascon G18       |

PSL-3.10      **Valves**

Valves shall comply with Particular Specification PDE.

PSL-5      **CONSTRUCTION**

PSL-5.1      **Laying**

PSL-5.1.3      Keeping Pipelines Clean

The interior surfaces of all pipes, specials, valves and fittings shall at all times be kept free from dust, silt, foreign matter and access by rodents, animals and birds shall be prevented. Pipes and specials shall not be used as shelters by staff or for the storage of garments, tools, materials, food containers or similar goods. Particular care shall be exercised at all times to prevent faecal contamination of pipe interiors by staff, casual visitors or passers-by.

Metal night-caps approved by the Engineer shall be used to close off the ends of each laid section of pipeline when work is stopped at the end of the day or for longer periods and shall be left on the ends of sections of completed pipework until such sections are tied-in with the remainder of the completed pipeline.

Notwithstanding the use of night-caps the Contractor shall at his own expense make good all damage to pipe linings and fittings caused by the ingress of dirty water, silt, sand, debris, vermin, insects and other foreign matter. The Contractor shall at his own expense and to the satisfaction of the Engineer clean the interior of the pipeline of such contaminants, failing which the Engineer may order the Contractor to remove the pipes from the trench and replace them with clean pipes.

PSL-5.2      **Jointing Methods**

PSL-5.2.2      Flanges (Steel pipelines)

All flanges shall be installed with bolt holes off-centre and symmetrically off-set from the vertical centre line of the flange. Flanges shall be installed truly square to the axis of the pipe.

The Contractor shall ensure that the correct jointing materials, i.e. gaskets, bolts and nuts are available when required. Only correct diameters and lengths of bolts and studs shall be used. Flat washers shall be used under all nuts. The length of bolts and studs shall be such that at least two threads protrude from the nut when fully tightened. The threads of bolts, studs and nuts shall be thoroughly cleaned and then coated with a graphite/grease compound immediately prior to assembly.

Flanged fittings shall be so installed that there are no stresses induced into the pipework, specials or fittings by forcing ill-fitting units into position or by bolting up flanges with faces not uniformly in contact with their gaskets over their whole faces.

PSL-5.2.3      Welding

Welding on site shall not be allowed without the approval of the Engineer.

PSL-7            **TESTING**

PSL-7.3         **Standard Hydraulic Pipe Test**

PSL-7.3.1       Test pressure and time of test

The hydraulic tests shall be carried out within 7 to 14 days after the last anchor block in the section to be tested has been cast. The field test pressure shall be 1,5 times the working pressure of the pipes in the section to be tested. The pressure is applicable to the lowest point of the section to be tested.

The pressure will be retained for a period of one hour during which period, inspections to all joints, bends, tee-off sections, anchor blades and connections will be done.

PSL-9            **DISINFECTION OF PIPELINES**

All pipes shall be disinfected prior to being put to use. The cost will be included in the supply and laying of the pipes.

**PSLB BEDDING (pipes)**

PSLB-3          **MATERIALS**

PSLB-3.2       **Selected fill material**

Granular material shall be selected from excavations and shall be to the satisfaction of the Engineer.

PSLB-3.3       **Bedding**

Bedding for pipes shall be according to Class C as shown on Drawing LB-1 of SABS 1200 LB for rigid pipes and Drawing LB-2 for flexible pipes.

PSLB-3.4       **Selection**

Suitable selected bedding material will generally be available from trench excavations along the route and it is a requirement of this Contract that the Contractor use selective methods of excavating as described in Clause 3.7 of SABS 1200 DB and Clause 3.4.1 of SABS 1200 LB.

PSLB-5          **CONSTRUCTION**

PSLB.5-2       **Compaction**

Compaction of bedding material shall take place at optimum density. The finished layers shall be the same density as the in-situ undisturbed surrounding material or 90 % mod AASHTO, whichever is the higher.

PSLB-6          **TOLERANCES**

PSLB-6.1       **Moisture content and density**

Degree II accuracy shall be applicable.

**PSPCB                      FENCING****PSPCB-4                      MEASUREMENT AND PAYMENT**

- **Add the following item:**

PSPCB-4.8                      Supply and erection of fence complete with straining posts, stays and gates as detailed on the drawings .....Unit : m

The tendered rate shall include full compensation for the erection of the fence complete with straining posts, stays and gates as detailed on the drawings.

**C3.6                      PARTICULAR SPECIFICATIONS**

PF                      FINISHING SCHEDULE  
 PCB                      FENCING  
 PBA                      ROOF COVERINGS  
 PTP                      PRESSED STEEL TANKS  
 PSFS                      FOUNDATIONS AND STANDS  
 PB                      EQUIPPING OF BOREHOLES  
 PE                      ELECTRICAL

**PF                      FINISHING SCHEDULE**

NR	Component	General Specification
<b>01</b>	<b>Foyer</b>	
	Floors	Solvent free – Self levelling polyamine cured , Epoxy containing hard wearing aggregate & pigments.
	Skirting's	Van Acht hardwood standard skirting skirting , size 14 x 45mm plugged and screwed to wall surface.
	Walls	Dulux Brick Dressing (colour to be selected) to interior brickwork.  Surface to be clean, dry and dust free. Apply three coats Dulux Brick Dressing (Code: D41) with an overcoating time of 18 hours. Apply plaster & paint from a height of 2400mm from ffl to underside of suspended ceiling.  Dulux Rich Matt modified acrylic paint (colour to be selected) to interior cement plaster.  Surface to be clean, dry and dust free with a moisture content of less than 15%. Prime surface with one coat Dulux Primer for New Plaster (Code:D36) and finish with two coats Dulux ( colour to be selected)
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
	Lighting	Refer to electrical engineer's spec
<b>02</b>	<b>Kiosk</b>	
	Floors	Johnson Union Buff (Code : UN-760) 500x500mm Ceramic tiles. Surface to be hard, clean and free of any contaminants such as grease, oils, etc. Mix 1 part Cemcrete Tile Adhesive Coat : 3 parts clean water by volume, allow to stand for 5 minutes. Apply Cemcrete Grey Tile Adhesive paste using a 6mm notched trowel

		and fix ceramic tiles in accordance with manufacturer's recommendations and grout with Biscuit Cemcrete Tile grout.
	Skirting's	Johnson Union Buff (Code : UN-760) Ceramic tile.
	Walls	Dulux Brick Dressing (colour to be selected) to interior brickwork.  Surface to be clean, dry and dust free. Apply three coats Dulux Brick Dressing (Code: D41) with an overcoating time of 18 hours.
	Lighting	Refer to electrical engineer's spec
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
		GSA SmartGlass™ ArmourLam™ Neutral toughened laminated safety glass, complying with SANS 1263 Part 1, 2 or 3 with name of the manufacturer permanently marked on each sheet visible after glazing, glazed in accordance with NBR N schedule 1 and SABS 0137 and signed off by a competent structures or glazing specialist.
<b>03</b>	<b>Strongroom &amp; Ticket Booths</b>	
	Floors	Solvent free – Self levelling polyamine cured, Epoxy containing hard wearing aggregate & pigments.
	Ceilings	170mm Concrete flat roof
	Lighting	Refer to electrical engineer's spec
	Skirting's	Van Acht hardwood standard skirting skirting , size 14 x 45mm plugged and screwed to wall surface.
	Walls	Dulux Brick Dressing (colour to be selected) to interior brickwork.  Surface to be clean, dry and dust free. Apply three coats Dulux Brick Dressing (Code: D41) with an overcoating time of 18 hours. Apply plaster & paint from a height of 2400mm from ffl to underside of suspended ceiling.  Dulux Rich Matt modified acrylic paint (colour to be selected) to interior cement plaster.  Surface to be clean, dry and dust free with a moisture content of less than 15%. Prime surface with one coat Dulux Primer for New Plaster (Code:D36) and finish with two coats Dulux ( colour to be selected)
<b>04</b>	<b>Kitchen</b>	
	Floors	Johnson Ceramic tiles, Etna Ash (Code:ET 853) Surface to be hard, clean and free of any contaminants such as grease, oils, etc. Mix 1 part Cemcrete Tile Adhesive Coat : 3 parts clean water by volume, allow to stand for 5 minutes. Apply Cemcrete Grey Tile Adhesive paste using a 6mm notched trowel and fix ceramic tiles in accordance with manufacturer's recommendations and grout with Biscuit Cemcrete Tile grout.
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
	Lighting	Refer to electrical engineer's spec
	Skirting's	Van Acht hardwood standard skirting skirting , size 14 x 45mm plugged and screwed to wall surface.
	Walls	Gloss White Ceramic splash back tiles 900mm high from counter height. Tile size 400 x 400 x 8mm thick, fixed to wood floated 1:4 cement and sand screed with TAL tile adhesive (elsewhere



		specified) mixed with Tal bonding liquid in lieu of water on concrete surface bed (elsewhere specified), with 3mm joints continuous in both directions grouted with Tal tile grout (elsewhere specified) with minimum 5mm expansion joints at perimeter, all structural expansion and construction joints and maximum 5m centres internally and at 3m centres externally, in both directions, & Plaster & paint to underside of ceiling.
	Sink & tap	2xFankie double bowl sink Sink to include Projectline Wall Mounted Single Lever mixer (Code: 303365) with overarm swivel spout. With 5 year guarantee on body construction.
<b>05</b>	<b>Male &amp; Female toilets</b>	
	Floors	500X500 Johnson mid grey ceramic tiles ( Code: GN 572) Surface to be hard, clean and free of any contaminants such as grease, oils, etc. Mix 1 part Cemcrete Tile Adhesive Coat : 3 parts clean water by volume, allow to stand for 5 minutes. Apply Cemcrete Grey Tile Adhesive paste using a 6mm notched trowel and fix ceramic tiles in accordance with manufacturer's recommendations and grout with Biscuit Cemcrete Tile grout.
	Skirting's	Van Acht hardwood standard skirting skirting , size 14 x 45mm plugged and screwed to wall surface.
	Walls	Light Grey Ceramic splash back tiles 1500mm high from ffl. height. Tile size 400 x 400 x 8mm thick, fixed to wood floated 1:4 cement and sand screed with TAL tile adhesive (elsewhere specified) mixed with Tal bonding liquid in lieu of water on concrete surface bed (elsewhere specified), with 3mm joints continuous in both directions grouted with Tal tile grout (elsewhere specified) with minimum 5mm expansion joints at perimeter, all structural expansion and construction joints and maximum 5m centres internally and at 3m centres externally, in both directions. & Plaster & paint to underside of ceiling.
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
	Shelving	Kitchen Shelving & counters to Kitchen designer.
	Lighting	Refer to electrical engineer's spec
	Urinals ,Wash basins & Wcs.	Geberit urinal partition (article no. 115.200.11.1), size 740 x 440mm in white alpin. Vaal Sanitaryware Swift vitreous china sit-on vanity basin colour White (Code: 70440101), size 590 x 395mm with one taphole including integrated overflow and chain stay hole, fitted onto vanity top (elsewhere specified).  Franke CHRH401 1mm mirrors (Code: 359900), size 400 x 300mm high, plugged and screwed to the wall with stainless steel screws.  Franke Jetstream Airtronic 1,2mm thick brushed finish automatic hands free warm air hand dryer (Code: 359989), size 245 x 140 x 167mm high, plugged and screwed to the wall with stainless steel screws. Twyford Bathrooms Heakthcare Sola wall hung rimless WC suite colour White, overall size 360 x 530 x 480mm high with 4 litre SSIO concealed plastic cistern with lever (Code: CX9540XX) including top fix seat ring colour White with stainless steel hinges (Code: AV7861WH), bolted to wall with and sealed with abe Dow Corning acetoxo silicone sealant.
<b>06</b>	<b>Hall</b>	
	Floors	Solvent free – Self levelling polyamine cured, Epoxy containing hard wearing aggregate & pigments.

	Ceiling	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
	Walls	Dulux Brick Dressing (colour to be selected) to interior brickwork.  Surface to be clean, dry and dust free. Apply three coats Dulux Brick Dressing (Code: D41) with an overcoating time of 18 hours.
	Lighting	Refer to electrical engineer's spec.
	<b>Disabled Toilets</b>	
	Grab Rails	Franke CNTX600 Grade 304 18/10 stainless steel 32mm diameter straight grab rail with Franke fine grip (Code: 359872) 600mm x 95mm deep, plugged and screwed to the wall with stainless steel screws.
	Bathroom accessories	<p>Franke Rodan RODX600E 0,8mm thick satin finished stainless steel recessed paper towel dispenser (Code: 359986), size 324 x 112 x 513mm high with capacity of 500-800 towels, plugged and screwed to the wall with stainless steel screws.</p> <p>Franke Rodan RODX605E 0,8mm thick satin finished stainless steel recessed waste bin (Code: 359984), size 408 x 169 x 690mm high with capacity of 23 litres and cylinder lock and standard Franke key, plugged and screwed to the wall with stainless steel screws.</p> <p>Franke Chronos CHRX672 0,8mm thick satin finished stainless steel double toilet roll dispenser (Code: 359808), size 141 x 127 x 295mm high for 2 rolls maximum 108mm diameter, cylinder lock with standard Franke key, plugged and screwed to the wall with stainless steel screws.</p> <p>Franke CHRH401 1mm mirrors (Code: 359900), size 400 x 300mm high, plugged and screwed to the wall with stainless steel screws.</p> <p>Franke Jetstream Airtronic 1,2mm thick brushed finish automatic hands free warm air hand dryer (Code: 359989), size 245 x 140 x 167mm high, plugged and screwed to the wall with stainless steel screws.</p> <p>Twyford Bathrooms Healthcare Sola wall hung rimless WC suite colour White, overall size 360 x 530 x 480mm high with 4 litre SSIO concealed plastic cistern with lever (Code: CX9540XX) including top fix seat ring colour White with stainless steel hinges (Code: AV7861WH), bolted to wall with and sealed with abe Dow Corning acetoxysilicone sealant.</p>
<b>07</b>	<b>Storerooms</b>	
	Floors	Solvent free – Self levelling polyamine cured , Epoxy containing hard wearing aggregate & pigments.
	Grab Rail	Franke CNTX600 Grade 304 18/10 stainless steel 32mm diameter straight grab rail with Franke fine grip (Code: 359872) 600mm x 95mm deep, plugged and screwed to the wall with stainless steel screws.
	Skirting's	Van Acht hardwood standard skirting skirting , size 14 x 45mm plugged and screwed to wall surface.
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel

	Walls	Dulux Brick Dressing (colour to be selected) to interior brickwork.  Surface to be clean, dry and dust free. Apply three coats Dulux Brick Dressing (Code: D41) with an overcoating time of 18 hours.
	Lighting	Refer to electrical engineer's spec
<b>08</b>	<b>Passages</b>	
	Floors	Solvent free – Self levelling polyamine cured, Epoxy containing hard wearing aggregate & pigments.
	Walls	Apply plaster & paint from ffl to underside of suspended ceiling. (Colour to be selected)
	Skirting's	Van Acht hardwood standard skirting skirting , size 14 x 45mm plugged and screwed to wall surface.
	Lighting	Refer to electrical engineer's spec
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
<b>09</b>	<b>Boardroom</b>	
	Floors	Johnson Tiles Union Buff ceramic floor tiles (Code:NU 760) with PEI Class 5 rating, size 400 x 400 x 8mm thick, fixed to wood floated 1:4 cement and sand screed with TAL tile adhesive (elsewhere specified) mixed with Tal bonding liquid in lieu of water on concrete surface bed (elsewhere specified), with 3mm joints continuous in both directions grouted with Tal tile grout (elsewhere specified) with minimum 5mm expansion joints at perimeter, all structural expansion and construction joints and maximum 5m centres internally and at 3m centres externally, in both directions.  All surfaces to be clean, oil and grease, dirt, dust and fungus free, sound and free of oxidation products. All existing paint surfaces to be thoroughly washed with detergent to remove the dirt and stiff bristle brooms or wire brushes used to remove any oxidation products. Prime surface with two flood coats of Conrep - Repel by knapsack spray (spread rate 2-4m <sup>2</sup> /litre). Apply two coats Ivory Concrecote Elastomeric Concrete Coating with a minimum dry film thickness of 112 microns thick per coat with a maximum overcoating time of 2 hours. Applied in accordance with approved Flowcrete specifications by approved applicators.  Surface to be hard, clean and free of any contaminants such as grease, oils, etc. Mix 1 part Cemcrete Tile Adhesive Coat : 3 parts clean water by volume, allow to stand for 5 minutes. Apply Cemcrete Grey Tile Adhesive paste using a 6mm notched trowel and fix ceramic tiles in accordance with manufacturer's recommendations and grout with Biscuit Cemcrete Tile grout.
	Walls	Apply plaster & paint from ffl to underside of suspended ceiling. (Colour to be selected)
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
	Lighting	Refer to electrical engineer's spec
<b>10</b>	<b>Offices</b>	
	Floors	Johnson Tiles Union Buff ceramic floor tiles (Code:NU 760) with PEI Class 5 rating, size 400 x 400 x 8mm thick, fixed to wood floated 1:4 cement and sand screed with TAL tile adhesive (elsewhere specified) mixed with Tal bonding liquid in lieu of water on concrete surface bed (elsewhere specified), with 3mm

		<p>joints continuous in both directions grouted with Tal tile grout (elsewhere specified) with minimum 5mm expansion joints at perimeter, all structural expansion and construction joints and maximum 5m centres internally and at 3m centres externally, in both directions.</p> <p>All surfaces to be clean, oil and grease, dirt, dust and fungus free, sound and free of oxidation products. All existing paint surfaces to be thoroughly washed with detergent to remove the dirt and stiff bristle brooms or wire brushes used to remove any oxidation products. Prime surface with two flood coats of Conrep - Repel by knapsack spray (spread rate 2-4m<sup>2</sup>/litre). Apply two coats Ivory Concrecote Elastomeric Concrete Coating with a minimum dry film thickness of 112 microns thick per coat with a maximum overcoating time of 2 hours. Applied in accordance with approved Flowcrete specifications by approved applicators.</p> <p>Surface to be hard, clean and free of any contaminants such as grease, oils, etc. Mix 1 part Cemcrete Tile Adhesive Coat : 3 parts clean water by volume, allow to stand for 5 minutes. Apply Cemcrete Grey Tile Adhesive paste using a 6mm notched trowel and fix ceramic tiles in accordance with manufacturer's recommendations and grout with Biscuit Cemcrete Tile grout.</p>
	Walls	Apply plaster & paint from ffl to underside of suspended ceiling. (Colour to be selected)
	Ceilings	Exposed tee suspended ceiling system with 600x1200mm grid , 600x1200mm Masonite sound stop lay-in panel
	Lighting	Refer to electrical engineer's spec.
	Skirting	Van Acht hardwood standard skirting skirting , size 14 x 45mm plugged and screwed to wall surface.
<b>11</b>	<b>Covered Patios</b>	
	Floors	Solvent free – Self levelling polyamine cured, Epoxy containing hard wearing aggregate & pigments.
	Lighting	Refer to electrical engineer's spec

## **PCB      FENCING**

### **PCB-1      SCOPE**

This Specification covers the moving of existing fences where necessary, the erection of new fences, the dismantling of existing fences and the stacking of the fencing material, and the replacing or repair of existing fences where so indicated on the drawings or as directed by the Engineer. Any deviation from this Specification will be included in the Project Specifications.

### **PCB-2      MATERIALS**

#### **PCB-2.1      Posts**

Posts, stays, standards and droppers shall comply with the requirements of CKS 82, SABS 280, SABS 457 and SABS 1372 as applicable, and shall be of the types and sizes as indicated on the drawings. Posts shall include gate posts, straining posts, corner posts and end posts.

Lengths and sizes of posts, standards and droppers as well as spacing of holes shall be as shown on the drawings.

## PCB-2.2 **Bolts for stays**

All exposed steel shall be hot-dip galvanised. Bolts shall be galvanised steel bolts of the required length and shall be at least 12mm dia. All the necessary bolts and washers shall be supplied with each post.

## PCB-2.3 **Wire**

All wire shall be hot-dip galvanised (Class C) with a first-class zinc coating and shall comply with the requirements of SABS 675.

(a) Barbed wire shall be one of the following:

- (i) High tensile grade, 2,80 mm average dia. oval, single-strand wire for use at a height of less than 500 mm above the ground.
- (ii) High tensile grade, 2,36 mm average dia. oval, single-strand wire for use at a height of more than 500 mm above the ground.
- (iii) Mild steel grade, 2 x 2,50 mm dia. double-strand, unidirectional twist wire for use at any height above the ground.

Barbs shall be manufactured from 2,0 mm wire, spaced at a maximum spacing of 150 mm.

(b) Smooth wire shall be as for equivalent thickness of the wire specified below:

- (i) Fencing wire shall be high-tensile steel wire with a minimum diameter of 2,24 mm.
- (ii) Straining wire shall be mild-steel wire with a minimum diameter of 4,00 mm.
- (iii) Tying wire shall be mild-steel wire with a minimum diameter of 2,50 mm for tying fencing wire to standards and droppers and 1,6 mm for tying netting and mesh wire to fencing wire.

## PCB-2.4 **Razor Wire**

(a) Welded razor mesh

Razor mesh is made of barbed tape razor wire welded into diamond-patterned apertures. The razor mesh is supplied in 6 m lengths with heights of 1,23 m to 2,4 m as specified in the schedule of quantities.

The aperture size shall be 150 mm wide and 300 mm high.

The wires, blades and clips shall be as specified above for razor wire concertinas.

## PCB-2.5 **Gates**

Gates shall be manufactured to the dimensions shown on the drawings.

Gates shall be complete in every respect including hinges, washers, bolts and locking chain to make it operative and shall be hot-dip galvanised.

## PCB-3 **CONSTRUCTION**

### PCB-3.1 **Clearing fence line**

The fence line shall be cleared over a width of at least 1 m on each side of the centre line of the fence as agreed with the Engineer prior to clearing, and surface irregularities shall be graded so that the fence will follow the general contour of the ground. Clearing shall include the removal of all scrub, stumps, trees, rock and other obstructions, which will

interfere with proper construction of the fence.

Stumps within the cleared space shall be grubbed. No trees may be removed without the written instruction of the Engineer. The bottom of the fence shall be located a uniform distance above the ground line in accordance with the requirements shown on the drawings. All material resulting from clearing operations shall be removed from the site to authorised dumping areas.

#### **PCB-3.2 Installing razor wire**

##### Welded razor mesh

The welded razor mesh shall be erected as a fence on its own as in the case of weld-mesh and diamond mesh fencing. The welded razor mesh shall be secured to the fencing wire by means of 1,6 mm soft galvanised binding wire at 1,2 m centres along the top and bottom wires and at 2,4 m centres along each of the other fencing wires.

#### **PCB-3.3 Installing gates**

Gates shall be installed at the places indicated by the Engineer or as per drawing. The gates shall be hung on gate fittings in accordance with the requirements shown on the drawings. At pedestrian and security fences the double swing gates shall not leave a gap of more than 40 mm between them when closed and other gates shall not be further than 100 mm from the gate post when closed.

#### **PCB-3.4 General requirements**

The completed fence shall be plumb, taut, true to line and ground contour, with all posts, standards and stays firmly set. The height of the lower fencing wire above the ground at posts and standards shall not vary from that shown on the drawings by more than 25 mm. Other fencing wires shall not vary by more than 10 mm from their prescribed relative vertical positions.

The following additional requirements apply to security fencing:

- (a) The wire mesh shall be 2,5 mm dia. with openings as detailed on the Drawings.
- (b) The straining wire shall be the high-tension wire equivalent or ordinary 4 mm straining wire.
- (c) After the straining wires have been tensioned, the excess piece of the tension bolts at the gates shall be sawn off and riveted against the nut.
- (d) Straining wire shall be fixed to all posts and the mesh fence shall be fixed to all straining wires at intervals of less than one metre.
- (e) All steel posts shall be sealed at the top.
- (f) The mesh shall be fixed to the outside of the security area.
- (g) All damaged galvanising shall be repaired in accordance with the requirements of SABS 763 at the cost of the Contractor.
- (h) The following minimum applications of zinc galvanising shall apply:
  - (i) Weld mesh and diamond mesh - SABS 675 of 1971 - 75 gm/m<sup>2</sup>
  - (ii) Straining wire - SABS 935 of 1969 - 140 gm/m<sup>2</sup>
  - (iii) Binding wire - SABS 935 of 1969 - 120 gm/m<sup>2</sup>
  - (vi) Posts, standards and struts - SABS 763 of 1971 - 305 gm/m<sup>2</sup> (type B2)
  - (v) Tension bolts - SABS 763 of 1971 - 380 gm/m<sup>2</sup> (type C1)

## **BA ROOF COVERINGS**

### **CONTENTS**

BA 01	SCOPE
BA 02	STANDARD SPECIFICATIONS
BA 03	VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS
BA 04	DETAIL OF REPAIR WORK
BA 05	MAINTENANCE
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### **BA 01 SCOPE**

This specification covers the installation of new roof coverings. This specification also covers the supply, delivery, installation and maintenance of new roof coverings for various types of buildings.

Roof coverings shall mean the installation of new roof sheeting and side wall cladding, roofing screws, purlins, flashings, rainwater goods, fascias and barge boards. This specification does not include work related to trusses, ceilings and paintwork specified elsewhere.

### **BA 02 STANDARD SPECIFICATIONS**

#### **BA 02.01 GENERAL STANDARD SPECIFICATIONS**

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 be deemed to form part thereof:

SABS 1200 HB	-	Cladding and sheeting
SABS 653	-	Softwood brandering and battens
SABS ISO 1461	-	Hot-dip galvanised coatings on fabricated iron and steel articles
SABS 1273	-	Fasteners for sheet roof and wall coverings

#### **BA 03.01 ADDITIONAL REQUIREMENTS FOR INSTALLATION OF PROFILED ROOF SHEETING(NON-CONCEALED AND CONCEALED FIXING)**

##### **BA 03.01.01 Roof cladding**

The new roof sheeting shall be 0,6 mm thick galvanised (or Chromadek) IBR or approved equivalent for roof slopes exceeding 15 °. Concealed fixed type Chromadek roof sheeting will generally be used to cover roofs with slopes not exceeding 15 °. The sheeting must be laid in long lengths without end overlaps. The broad flutes must be turned up at the apex to form a dam, and turned down at the eaves and valley gutters to form a drip. Metal closers 0,8 mm thick galvanised (or Chromadek), complete with polyclosers set in one run of silicone sealant, are required at apexes, ridges, side and head walls, etc. All holes for fasteners shall be drilled. Punching of holes and nailing of cladding and flashings will not be permitted. Cutting of cladding and flashings with an angle grinder may only be done by using a tungsten steel blade.

The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation. Z275 galvanising spelter shall be used and the Contractor shall provide SABS certificates of compliance to the Project Manager. Various standard dark colours shall be used for Chromadek-finished roof sheeting, flashings, gutters and down pipes. To prevent unnecessary damage to galvanised or colour-coated sheets, proper measures must be taken to prevent contamination by moisture while material is still bundled or nested in stacks. Only stages 1 and 2 "white

rust" on sheets will be permitted, provided that the white rust is successfully removed in accordance with ISCOR recommendation. The Contractor shall provide a guarantee for the Chromadek materials obtained from the manufacturer. In all cases the roof sheeting must be laid strictly in accordance with the manufacturer's specifications.

**BA 03.01.02    Main fasteners to timber purlins: Galvanised/Chromadek IBR sheeting (or approved equivalent)**

No. 12 (5,5 mm) x 90 mm type 17 hexagon head (H/H) carbon steel (C/S) zinc-plated self-drilling roofing screws shall be used for timber. The roofing screws with no.12 x 25 mm diameter x 1,0 mm thick low carbon EPDM/galvanised bonded washers are used as main fixing for the roof sheeting to timber purlins. 65 mm long x no 14 H/H C/S Torspeed or Posidriv main fasteners for steel purlins with the same washers are to be used. Fasteners shall be provided at alternating ribs, excluding side lap ribs.

**BA 03.01.03    Side lap fasteners: Galvanised/Chromadek IBR sheeting (or equivalent approved)**

Stitching shall be done with Leak King plugs for IBR roof sheeting @ 600 c/c maximum. Provide an approved 8 x 3 mm thick butyl rubber sealer strip (PG Sealer Strip or approved equivalent) with nylon cord between sheets.

**BA 03.01.04    Flashings**

Flashings must be 0,8 mm thick Chromadek/galvanised flashings at ridge caps, side and head walls, drips, corners, etc, as described elsewhere. The minimum length of an overlap between flashings is 150 mm. Apply two runs of silicone sealant between flashings. Flashings are to be stitched together with no. 10 (4,8 mm) x 16 mm x H/H C/S zinc-plated self-drilling stitching screws. The stitching screws with no. 12 x 19 mm diameter x 1,0 mm thick low carbon EPDM/galvanised bonded washers are to be used at end laps and longitudinally @ 400 c/c maximum at ribs, etc. The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation.

**BA 03.01.05    Sealant**

Silicone sealant with an amine cure system with primer shall be used to waterproof all flashings and rainwater goods, viz gutters and down pipes. Two runs of silicone shall be provided at end overlaps.

**BA 03.01.06    Pipe flashings**

Dektite or equivalent approved pipe flashings shall be used to waterproof pipe protrusions through the roof sheeting. Installation shall be done strictly in accordance with the manufacturer's specification and shall include the application of Dektite silicone sealant and fastening of flashing to the surface with TEKS or approved equivalent self-drilling fasteners.

**BA 03.01.07    Insulation**

(a) Specification for non-visible roof insulation material:

Super Sisalation 420 RSA or equivalent approved reinforced reflective aluminium foil (heavy grade) laid on 1,6 mm diameter galvanised (unless noted otherwise) straining wires 300 mm centres to the manufacturer's specification. The insulation shall be laid longitudinally over the purlins and lapped 150 mm at joints.

(b) Specification for visible roof insulation material:

White Alucushion (code 2906) or equivalent approved white bubble foil on aluminium foil backing laid on 1,6 mm diameter white plastic (PVC) coated



straining wires at 383 mm centres to the manufacturer's specification. The insulation shall be laid longitudinally over the purlins and lapped at joints.

**BA 03.02      ADDITIONAL REQUIREMENTS FOR INSTALLATION OF PROFILED SIDE WALL CLADDING (NON-CONCEALED AND CONCEALED FIXING)**

**BA 03.02.01      Side wall cladding**

The new side wall cladding shall be 0,6 mm thick galvanised (or Chromadek) IBR or approved equivalent. The sheeting must be laid in long lengths without end overlaps. Metal closers 0,8 mm thick galvanised (or Chromadek), complete with polyclosers set in one run of silicone sealant, are required at apexes, gables, side and head walls, etc.

The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation. Z275 galvanising spelter shall be used and the Contractor shall provide SABS certificates of compliance to the Project Manager. Heavy-duty profiled polycarbonate sheets shall be used for translucent sheeting. Various standard dark colours for Chromadek finished sidewall cladding, flashings, and gutters and down pipes shall be used. In all cases the cladding must be laid strictly in accordance with the manufacturer's specifications.

**BA 03.02.02      Main fasteners to timber girt: Galvanised/Chromadek IBR (or approved equivalent) and profiled translucent sheeting**

No. 12 (5,5 mm) x 90 mm type 17 hexagon head (H/H) carbon steel (C/S) zinc-plated self-drilling roofing screws for timber. The roofing screws with no.12 x 25 mm diameter x 1,0 mm thick low carbon EPDM/galvanised bonded washers are used as main fixing for the roof sheeting to timber girts. 65 mm long x no 14 H/H C/S Topspeed or Posidriv main fasteners for steel girts with the same washers are to be used. Fasteners shall be provided at alternating ribs, excluding side lap ribs. Correct installation procedures must be followed, especially in respect of the drilling speed and torque settings of the drill for various materials.

**BA 03.02.03      Side lap fasteners: Galvanised/Chromadek IBR (or approved equivalent) sheeting**

Stitching shall be done with Leak King plugs for IBR roof sheeting @ 600 c/c maximum. Provide an approved 8 x 3 mm thick butyl rubber sealer strip (PG Sealer Strip or approved equivalent) with nylon cord between sheets.

**BA 03.02.04      End overlaps**

If unavoidable, the end overlap shall be 300 mm minimum between sheeting and sealed with two rows of silicone sealant between the sheeting. Bolt the ribs in the overlap region with the (polycarbonate) translucent sheeting with galvanised no. 14 gutter bolts, bonded washers and nuts through every alternative rib.

**BA 03.02.05      Side overlaps: Vertical profiled translucent sheeting**

Stitching shall be done with 6 mm cadmium-plated cladding bolts and nuts x 25 mm long @ ± 300 c/c with no. 12 x 19 mm diameter x 1,0 mm thick low-carbon EPDM/galvanised bonded washers.

**BA 03.03      RAINWATER GOODS**

**BA 03.03.01      Gutters**

(a)      Standard size for houses:

Gutters shall be 100 x 75 x 0,6 thick standard Chromadek/galvanised non-supporting beaded gutter. Galvanised brackets are to be provided at every second truss. Brackets shall be painted with water-based pure acrylic emulsion

paint to Technical Specification BJ 03.01.03(g). Alternatively, standard 140 x 127 x 83 x 0,6 mm thick Brownbuilt or similar continuous rolled approved Chromadek fascia gutter with galvanised gutter clips can be used.

(b) Typical size for other buildings:

125 x 100 x 0,8 thick standard Chromadek self-supporting beaded gutter to detail.

Dark colours shall be used where indicated by the Project Manager.

The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation.

**BA 03.03.02     Joints in gutters, valleys, etc**

150 mm overlap sealed with an approved silicone and riveted together with two rows of sealed pop rivets. Linings to valleys and secret gutters, etc, shall have an overlap of 225 mm.

**BA 03.03.03     Accessories and ancillary items**

(a) End stops:

0,6 mm thick Chromadek/galvanised finished end stop shall be joined to gutter on site and sealed as for joints in gutters. Thickness to be the same as for gutter.

(b) Outlets:

0,6 mm thick Chromadek/galvanised finished outlets shall be fixed to gutter with pop rivets and sealed with an approved silicone. Outlet to slip into down pipe. Thickness shall be the same as for gutter.

(c) Fascia straps:

25 mm wide x 1,0 mm thick galvanised straps at +/- 686 mm c/c.

(d) Corner joints:

Overlaps are to be neatly mitred, pop riveted together and sealed with an approved silicone.

(e) Sealant:

Clear silicone sealant with amine cured system and primer shall be used to waterproof gutters and down pipes.

**BA 03.03.04     Down pipes**

Standard sizes:

100 x 75 x 0,6 thick Chromadek/galvanised down pipes

100 x 100 x 0,8 thick Chromadek/galvanised down pipes

Dark colours shall be used where indicated by the Project Manager.

Down pipes are to have double-seamed joints. Down pipes, shoes, offsets, etc, shall be joined together by means of 100 mm slip joints and pop riveted together.

The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation.

**BA 03.03.05     Down pipe accessories**

(a) Brackets:

Standard galvanised brackets shall be spaced at centres not exceeding 2,4 metres.

Brackets shall be primed and painted with water-based pure acrylic emulsion paint as specified in Technical Specification BJ 03.01.03(g).

(b) Shoes, offsets and spreaders:

Shoes, offsets and spreaders must be manufactured from 0,8 mm thick Chromadek/galvanised material, cut and mitred to suit. All joints are to be sealed with an approved silicone sealant.

**BA 03.04      GENERAL**

The Contractor shall be responsible to ensure the stability of the supporting structure during and after the removal of existing roof cladding and sheeting.

SABS 1200 HB: Cladding and Sheeting shall be applicable for the erection of all new roofs.

The Contractor shall submit a 3-year guarantee for the watertightness of the roofs and for workmanship. **The Contractor shall make arrangements with the manufacturer to inspect the workmanship at regular intervals during the construction period. On completion of the work the manufacturer shall issue a certificate of acceptance and compliance with specifications to the Employer.**

**BA 04      DETAIL OF REPAIR WORK**

The detail of the work is described in the Schedule of Quantities.

**BA 05      MAINTENANCE**

**[Note: No maintenance work beyond defects liability period for roof coverings will be required on this Contract.]**

**BA 06      MEASUREMENT AND PAYMENT**

**BA 06.01      MEASUREMENT AND RATES**

**BA 06.01.01      General inclusion of costs and specific specifications**

**Notes:**

Where applicable, standard SABS 1200 measurement and payment items shall be used for Structural Steelwork (1200 H) and Cladding and Sheeting (1200 HB).

All sheeting, cladding and accessories are to be supplied by a South African based manufacturer and the work carried out is subject to a three year written guarantee for watertightness and workmanship.

All new material used in construction work shall be of approved equal quality, colours, profiles, thickness, etc and shall in all cases match the existing materials and shall be fixed to new material or surfaces.

All construction work shall be done carefully as to not damage any adjacent or other material or work. Any damage to other or adjacent materials or areas caused by the negligence of the Contractor shall be repaired by him free of charge.

Installation work shall also include all cutting, grinding, cutting into, welding, bending, strengthening, drilling, etc, necessary to complete the installation.

All new work is measured net and shall include all cutting, lapping, waste, bending, fixing, corners, mitres, fixing screws, pop rivets, nails, adhesive, grout, putty, etc, as well as cleaning and preparation of surfaces not already prepared as part of removed items, etc.

## **BA 06.02      DETAILS OF MATERIAL TO BE USED**

For detail descriptions of materials, thicknesses, dimensions and ancillary items to be used, as specified in the various payment items of roof sheeting, cladding, flashings, etc, refer to the scheduled list below:

## **BA 06.03      SCHEDULED ITEMS**

Standard measurement and payment items shall be used for Structural Steelwork (1200 H) and Cladding and Sheeting (1200 HB)

### **Rainwater goods**

BA.01              Supply and install rainwater goods:

BA.01.01        Description of material to be used:

BA.01.01.01    Description of item ..... Unit: m, No

The unit of measurement for rainwater goods installed shall be metre or number.

Sundry items such as stop-ends, bends, shoes, etc, are deemed to be included in the tendered rates per metre.

Separate items will be scheduled for each type, finish, shape, and when relevant, profile of rainwater goods. The rates shall cover the cost of supplying, delivery, storing on Site, handling, moving installing and fixing the goods complete with all necessary fasteners, etc as specified in BA.03.03 (all complete and subject to a three year written guarantee on watertightness and workmanship). The rates shall also cover the cost of cutting, notching and waste, and of all scaffolding, temporary supports, hoisting facilities and safety precautions (see Subclause 8.1.1 of SABS 1200 HB).

### **Alteration work**

BA.02              Alterations and repairs to existing structures:

BA.02.01        Indication of repairs, alterations, removal or sealing, etc:

BA.02.01.01    Description of work to be repaired, altered, removed,

sealed, etc ..... Unit: As scheduled

The unit of measurement for alteration or repair work shall be as scheduled.

The tendered rates shall include full compensation for providing all labour, material and equipment required to carry out the work, for all preparatory work, for all additional costs to repair, refix, remove, cutting into, realign, taking off, temporary store etc as specified in the Standard and Technical Specifications and for carrying out the work scheduled in a workmanlike manner to leave the work as new to match all existing work and/or finishing-off and cleaning up when the work has been completed. Refer also to the general inclusion of costs in BA 06.01

<b>Buildings/canopies &amp; carports</b>		
<b>Specification for Items</b>		
<b>Roof sheeting (metal): Refer to Technical Specification BA.</b>		
0,6 mm thick Chromadek IBR (m <sup>2</sup> )		
0,6 mm thick galvanised IBR (m <sup>2</sup> )		
<b>Flashings (m)</b>		
<b>Roof:</b>		
0,8 mm thick Chromadek ridge flashing	462 mm girth (231 + 231), 3 x bends (2 are shallow bends). Fix flashing to roof sheeting with Posidriv screws and washers. 150 mm overlap sealed with 2 rows of pop rivets and 2 rows of silicone; 2 rows of broad flute polyclosers bedded in silicone, 2 rows x 0,6 mm thick Chromadek broad flute metal closers. Bend up trough to form a dam.	
0,8 mm thick Chromadek eaves flashing	462* mm girth (154 vertical + 308*, girt position determines final upstand length), 3 x bends (2 are shallow bends). Fix flashing to roof sheeting with Posidriv screws and washers. 150 mm overlap sealed with 2 rows of Posidriv screws and 2 rows of silicone. 1 row each of broad and narrow flute polyclosers bedded in silicone, 1 row each x 0,6 mm thick Chromadek broad and narrow flute metal closers. Turn down trough to form a drip. Overhang length of roof sheeting to be determined on site.	
0,8 mm thick galvanised eaves flashing	462* mm girth (154 vertical + 308*, girt position determines final upstand length), 3 x bends (2 are shallow bends). Fix flashing to roof sheeting with Posidriv screws and washers. 150 mm overlap sealed with 2 rows of Posidriv screws and 2 rows of silicone. 1 row each of broad and narrow flute polyclosers bedded in silicone, 1 row each x 0,6 mm thick galvanised broad and narrow flute metal closers. Turn down trough to form a drip. Overhang length of roof sheeting to be determined on site.	
0,8 mm thick Chromadek side wall flashing	385 mm girth (231 + 154 vertical) side wall flashing, 2 x bends (1 is a shallow bend). Fix flashing to roof sheeting with Posidriv screws and washers. 150 mm overlap fixed and sealed with 2 rows of Posidriv screws and 2 rows of silicone. 1 row of broad flute polycloser bedded in silicone (only for vertical side wall cladding). 154 mm girth (114 + 25 + 15 lip @ 15°) Chromadek counter flashing, 3 x bends (1 is a shallow bend). Counter flashing (side wall is a brick wall) to overlap with side wall flashing with at least 75 mm. Cut 6 mm wide groove into brick wall parallel to roof sheeting for counter flashing. Prime joint and seal with an approved 6 x 6 mm poly-urethane sealant.	

0,8 mm thick Galvanised side wall flashing	385 mm girth (231 + 154 vertical) side wall flashing, 2 x bends (1 is a shallow bend). Fix flashing to roof sheeting with Posidriv screws and washers. 150 mm overlap fixed and sealed with 2 rows of Posidriv screws and 2 rows of silicone. 1 row of broad flute polycloser bedded in silicone (only for vertical side wall cladding). 154 mm girth (114 + 25 + 15 lip @ 15°) galvanised counter flashing, 3 x bends (1 is a shallow bend). Counter flashing (side wall is a brick wall) to overlap with side wall flashing with at least 75 mm. Cut 6 mm wide groove into brick wall parallel to roof sheeting for counter flashing. Prime joint and seal with an approved 6 x 6 mm poly-urethane sealant.
0,8 mm thick galvanised roof overhang barge flashing	616 mm girth (286 + 300 vertical + 20 + 10 vertical) standard Craft-Lock barge flashing, 4 x bends (1 is a shallow bend). Fix flashing to roof sheeting with Posidriv screws and washers, and to 250 x 25 wide x 2,5 thick with 25 mm lip galvanised bracket. The galvanised bracket to be screwed to rafter ends with 2 countersunk brass screws. 150 mm overlap fixed and sealed with 2 rows of Posidriv screws and 2 rows of silicone. 1 row of broad flute polycloser bedded in silicone, 1 row x Chromadek broad flute metal closer bedded in a row of silicone. Bend up trough to form a dam.
0,8 mm thick Chromadek roof overhang barge flashing	616 mm girth (286 + 300 vertical + 20 + 10 vertical) standard Craft-Lock barge flashing, 4 x bends (1 is a shallow bend). Fix flashing to roof sheeting with Posidriv screws and washers, and to 250 x 25 wide x 2,5 thick with 25 mm lip galvanised bracket. The galvanised bracket to be screwed to rafter ends with 2 countersunk brass screws. 150 mm overlap fixed and sealed with 2 rows of Posidriv screws and 2 rows of silicone. 1 row of broad flute polycloser bedded in silicone, 1 row x galvanised broad flute metal closer bedded in a row of silicone. Bend up trough to form a dam.
0,8 mm thick Chromadek side roof overhang flashing (carports)	616 mm girth (286 + 300 vertical + 20 + 10 vertical), 4 x bends (1 is a shallow bend). Fix flashing to roof sheeting with Posidriv screws and washers, and to 250 x 25 wide x 2,5 thick with 25 mm lip galvanised bracket. The galvanised bracket to be screwed to timber rafter ends with 2 countersunk brass screws or to be site welded to steel purlins. 150 mm overlap fixed and sealed with 2 rows of Posidriv screws and 2 rows of silicone.
0,8 mm thick galvanised side roof overhang flashing (carports)	616 mm girth (286 + 300 vertical + 20 + 10 vertical), 4 x bends (1 is a shallow bend). Fix flashing to roof sheeting with Posidriv screws and washers, and to 250 x 25 wide x 2,5 thick with 25 mm lip galvanised bracket. The galvanised bracket to be screwed to timber rafter ends with 2 countersunk brass screws or to be site welded to steel purlins. 150 mm overlap fixed and sealed with 2 rows of Posidriv screws and 2 rows of silicone.
<b>Rainwater goods (m):</b>	
100 x 75 x 0,8 mm thick Chromadek beaded non-supporting box gutter	Provide 25 x 1 mm thick galvanised fascia straps @ 686 c/c to support fascia of gutters; fix with 6 mm galvanised gutter bolts, nuts and washers. All accessories and ancillary items included. Roof sheeting troughs to be have drip bend.

## **PTP      PRESSED STEEL SECTIONAL TANKS**

### **PTP-1      APPLICABLE STANDARDS**

The latest issues of the following standards form part of this specification:

SABS 136	ISO metric precision hexagon-head bolts and screws, and hexagon nuts (coarse thread medium fit series)
SABS 0162	The structural use of steel
BS 4360	Weldable structural steels

SABS 62	Steel pipes and pipe fittings up to 150mm nominal bore suitable for screwing to ISO R7 pipe threads
SABS 135	ISO metric black bolts, screws and nuts (hexagon and square)
SABS 455	Covered electrodes for the manual arc welding of mild steel and medium high tensile steel
SABS 763	Hot-dip (galvanised) zinc coatings (other than on continuously zinc-coated sheet and wire)
SABS 1123	Steel pipe flanges
SABS 0104	Hand and guard rails (safety aspects)

## PTP-2 **SCOPE**

The specification covers the requirements for tanks (with or without covers) intended for the storage of liquids and constructed of bolted square pressed steel plate sections and of depth not exceeding 4 880mm.

NOTE : The following requirements must be specified in tender invitations and in each order or contract:

- The liquid to be stored, its nominal density and boiling point, and the maximum storage temperature, and in the case of water, whether potable, hard or soft, demineralised, or with a high oxygen content, and any turbulence that may occur in the tank as a result of, for example, storing or pumping
- The nominal size of the tank
- The type, dimensions, and location of connections required
- When relevant, that a tank cover is required, that a cover need to have a vent fitted with a cowl, and the location of the opening when relevant, that an external access ladder is required, and its location and length
- When relevant, the location of an internal access ladder
- The type of protective coating, if other than as specified
- When relevant, that the tank is required assembled

The following requirements must, when relevant, be agreed upon between Engineer and Contractor:

- When relevant, the nominal thickness(es) of the plates
- the details of the flanging, if other than as specified

## PTP-3 **DEFINITIONS**

For the purpose of this specification the following definition shall apply:

**Acceptable** - Acceptable to the Engineer.

## PTP-4 **REQUIREMENTS**

### PTP-4.1 **Materials**

#### PTP-4.1.1 Covers

Sheeting used for covers shall be of steel having a nominal thickness of at least 2,5 mm or of ISKOR Z600 closed profile pre-galvanized steel sheet of thickness at least 0.8 mm (subject to normal milling tolerances).

#### PTP-4.1.2 Electrodes

The electrodes shall be of a quality at least equal to that of electrodes complying with SABS 455, and the deposited metal shall have a tensile strength and an elongation at least equal to the appropriate minimum specified for the parent plate.

#### PTP-4.1.3 Plates, Stays, Cleats and Pads

Plates, stays cleats and pads shall be of mild steel complying with the relevant requirements of BS 4360.

#### PTP-4.1.4 Jointing Compound

The jointing compound shall be non-toxic, shall not leach out, shall be insoluble in the liquid to be stored (and in the case of tanks for potable water, shall not impart any off-flavour or off-odour to the water), and shall provide an effective seal between the plate flanges under conditions of temperature specified by the Engineer (the Engineer should obtain from the Contractor a statement of the optimum period that should be allowed for the jointing compound to mature before the tank is put into commission).

#### PTP-4.2 **Size**

The nominal size of a tank, based on dimensions each of which is a multiple of 1220 mm, 1200 mm or 1000 mm, as relevant (see 3.3.1(a)), and subject to a maximum depth of 4 880 mm, shall be as specified by the Engineer.

#### PTP-4.3 **Components**

##### PTP-4.3.1 Plates

Size : The nominal overall size of plates (after flanging) shall be 1220 mm x 1220 mm, 1200 mm x 1200 mm, or 1000 mm x 1000 mm, appropriate to the size of that tank specified.

Thickness : In the case of tanks for stored liquids of nominal density not exceeding 1000 kg/m<sup>3</sup>, the nominal thickness of the plates shall conform to the appropriate value(s) given in Table 1. For liquids of nominal density greater than 1000 kg/m<sup>3</sup> the plate thickness(es) shall be as agreed between the Engineer and the Contractor:

**TABLE 1 : PLATE THICKNESS**

Depth of Tank (mm)	Plates	Plate thickness (mm) min
1 000 – 1 220	Bottom; sides; ends	3
2 000 – 2 440	Bottom; sides : ends	3
3 000 – 3660	Bottom; first tier of sides and ends	4,5
	Second and top tiers of sides and ends	3,0
4 000 – 4 880	Bottom; first tier of sides and ends	6,0
	Second tier of sides and ends	4,5
	Third and top tiers of sides and ends	3,0

Strengthening : The plates shall be strengthened by suitable embossment (i.e. a pattern pressed into the plates) or by the welding of suitable ribs to the plates.

Flanges : The plates shall have flanges of width at least 44mm and of the following form and arrangement;

- A combined double flange at angles of 45 degrees and 90 degrees to the plane of the plate, pressed on each side of the plate;
- A single flange at an angle of 90 degrees to the plane of the plate, pressed on two, three, or four sides (depending on the position of the plate in the tank) and with flanged corners welded.

The flanges shall have bolt holes (of diameter such as to provide a bolt clearance of 1,5mm evenly spaced at a pitch of 75 plus minus 1,5mm.



#### PTP-4.3.2 Connections

Connections shall be of one of the following types as specified by the Engineer, and of dimensions as specified by the Engineer:

- Flanged bolted type connections complying with the relevant requirements of SABS 1123 for flanges for nominal pressures of 600 kPa;
- Screwed type connections complying with the relevant requirements of SABS 62.

#### PTP-4.3.3 Covers

When so specified by the Engineer, tanks shall be supplied complete with covers. Each cover shall be so fitted as to prevent the ingress of water and any foreign matter into the tank.

Each cover shall have a clear opening of diameter or smallest dimension, as relevant at least 450 mm, and shall be so constructed that it can be fitted with a lock. The location of the opening shall be as specified by the Engineer. Unless otherwise specified by the Engineer, each tank that is provided with a cover shall be equipped with a vent fitted with a cowl. The vent shall be so screened as to prevent the entry of rodents, other small animals, and mosquitoes.

#### PTP-4.3.4 Access Ladders

Access ladders shall be provided as follows and the design and construction of the rails shall be such as to comply with the relevant requirements for safety given in SABS 0104.

External Access Ladders: When so required by the Employer, each tank shall be supplied with an external access ladder of the length and in the location specified by the Engineer.

Internal Access Ladders: Each tank of depth exceeding 1220mm shall be provided with an internal access ladder. In the case of a tank that is not provided with a cover, the ladder shall be located as specified by the Engineer and in the case of a tank that is supplied with a cover, the ladder shall be located below the manhole.

#### PTP-4.4 **Construction**

##### PTP-4.4.1 Design Strength

The design strength of the tank and of all members (stays, cleats, bolts, cover-frame members, etc) shall comply with the relevant requirements of SABS 0162 and shall include allowances, as relevant, for the following:

- Exposure of the tank to corrosive conditions
- Eccentric loading
- Fatigue stresses caused by turbulence of the stored liquid.

##### PTP-4.4.2 Flanging

Tanks shall be constructed of externally flanged plates, unless otherwise agreed upon between the Engineer and Contractor.

NOTE : The agreement should be based upon the specific site conditions and whether allowances have to be made for sub-divisions, future extensions to the tank, etc.

##### PTP-4.4.3 Attachment of Connections

Connections shall be supplied in the positions specified by the Engineer and shall be welded to the tank. Screwed connections shall be as approved by the Engineer. Flanged

bolted connections shall be as follows:

- Where the size of the connection and the specified location are such that the connection can be welded to a plate that is free from embossment, single-tooled flanges shall be provided for connections that are to be made on one side of the plate only, and double-tooled flanges for connections that are to be made on both sides of the plate as specified by the Engineer;
- Parts joined by welding shall be so cut and shaped as to provide an acceptable fit and shall be correctly aligned.

#### PTP-4.4.4 Staying

When necessary, the sides and ends of tanks shall be supported by stays. Each end of each stay shall be bolted to a cleat. Cleats shall be bolted or welded to the plates.

The connections of stays shall be arranged in one or more of the following ways, as necessary:

- sides to bottom
- ends to bottom
- sides to sides
- sides to ends

#### PTP-4.4.5 Welding

All welds shall be acceptable fusion welds. The weld metal, the heat-affected zone, and the surrounding parent shall be free of cracks. Weld faces shall be free of porosity, cavities and trapped slag, shall show no pronounced humps or craters, and shall merge smoothly into the adjacent surfaces of the parent plate without overlap or excessive undercut. The throat thickness of fillet welds shall be at least 4,5mm. In the case of corner welds, the leg length shall be equal to the plate thickness.

#### PTP-4.5 **Workmanship**

The workmanship of all components shall be such that they are free from defects that are detrimental to the ease of assembly or the performance of the tank in service, or both.

#### PTP-4.6 **Finish**

Unless a different type of protective coating is specified by the Engineer, all components shall be protected from corrosion by hot-dip galvanising that complies with the relevant requirements of SABS 763.

#### PTP-4.7 **Assembly**

Unless otherwise specified by the Engineer, the tanks shall be supplied in knocked-down form, ready for assembly on site, and complete with all the necessary components plus 5% excess of bolts, nuts, washers and jointing compounds.

#### PTP-4.8 **Marking**

Each plate shall be clearly and indelibly marked to indicate the position of the plate in the tank.

#### PTP-4.9 **Foundations and stands**

##### PTP-4.9.1 Design, Drawings and Quantities

The foundations and the stand must be designed by a Professional Engineer, registered with ECSA, to suit the elevated tank. The design must be done according to the relevant SABS Codes.

The Contractor must submit the design and workshop drawings to the Engineer for approval prior to commencement of the work. A soil bearing capacity of 120 kPa must be used for the foundation design.

The quantities as well as the rates for the foundation must be entered in the Schedule of Quantities. The cost for the design must be included in the tender sum and rates.

**PTP-4.9.2**    Lightning protection

The stand shall be earthed using a suitable approved copper connector between the bottom of one tank leg and an earth spike.

**PTP-4.10**    **Disinfection of the Tank**

On completion of construction but before commencement of testing, the reservoir shall be :

- flushed with clean water until all sediment and other foreign matter have been removed;
- potable water treated with sodium hypochlorite or calcium hypochlorite or chlorine gas shall be introduced into the reservoir. On completion of filling with chlorinated water the chlorine concentration in water sampled at any point shall not be less than 3 mg/l free available chlorine.

After 24 hours retention of chlorinated water in the reservoir, samples drawn at any point shall contain not less than 0,5 mg/l free residual chlorine. Where necessary, additional chlorine shall be injected to maintain chlorine residuals.

**PTP-4.11**    **Testing of Tank**

The complete tank shall be watertight and the work will not be certified until the tank has been proven by testing to be watertight.

Upon completion of the erection and when so agreed by the Engineer, the tank shall be filled by gradual admission of water until the water level reaches the overflow level. The tank shall be allowed to remain filled for 24 hours upon which a visible inspection will be done on the tank. If at any time during the test, visible leaks appear, the test will be discontinued and remedial work done. Upon completion of the remedial work, the 24 hours test will restart.

The tank will be deemed watertight if no leaks are present at the end of test and so noted by the Engineer.

**PSFS**        **FOUNDATIONS AND STANDS**

**PSFS-1**        Design, Drawings and Quantities

The foundations and the stand must be designed by a Professional Engineer, registered with ECSA, to suit the elevated tank. The design must be done according to the relevant SABS Codes.

The Contractor must submit the design and workshop drawings to the Engineer for approval prior to commencement of the work. A soil bearing capacity of 120 kPa must be used for the foundation design.

The quantities as well as the rates for the foundation must be entered in the Schedule of Quantities. The cost for the design must be included in the tender sum and rates.

PSFS-2     Lightning Protection

The stand shall be earthed using a suitable approved copper connector between the bottom of the tank stand and an earth spike.

PSFS-3     Disinfection of the Tank

On completion of construction but before commencement of testing, the reservoir shall be disinfected as follows:

- The reservoir shall be flushed with clean water until all sediment and other foreign matter have been removed.
- Potable water treated with sodium hypo chlorite or chlorine gas shall be introduced into the reservoir. On completion of filling with chlorinated water the chlorine concentration in water sampled at any point shall not be less than 3 mg/l free available chlorine.

After 24 hours retention of chlorinated water in the reservoir, samples drawn at any point shall contain not less than 0,5 mg/l free residual chlorine. Where necessary, additional chlorine shall be injected to maintain chlorine residuals.

PSFS-4     Testing of Tank

The complete tank shall be watertight and the work will not be certified until the tank has been proven by testing to be watertight.

Upon completion of the erection and when so agreed by the Engineer, the tank shall be filled by gradual admission of water until the water level reaches the overflow level. The tank shall be allowed to remain filled for 24 hours upon which a visible inspection will be done on the tank. If at any time during the test, visible leaks appear, the test will be discontinued and remedial work done. Upon completion of the remedial work. the 24 hours test will restart.

The tank will be deemed watertight if no leaks are present at the end of test and so noted by the Engineer.

PSFS-5     Measurement and Payment

PSFS-5.1     **Galvanised Stand**

The Contractor shall tender a sum under item 5.1. (2) in the Schedule of Quantities to allow for the complete stand and all charges and profit.

PSFS-5.2     **Galvanised Pressed Steel tank**

The Contractor shall tender a sum under item 5.1 (1) in the Schedule of Quantities for the erection of a tank to allow for all charges and profit.

PSFS-5.3     **Footings**

Will be paid under item 5.1.(3) as set out in the Schedule of Quantities and according to the relevant SABS Clauses applicable.

**PB                EQUIPPING OF BOREHOLES**

**PB1              SCOPE**

This sub-section includes all work related to the installation of borehole equipment including but not limited to the following:

- o     Hand pumps

- o Windmills
- o Diesel driven engines
- o Positive displacement pumps
- o Submersible pumps and associated electrical work

The service to be rendered is the provision, installation, erection and commissioning of all the borehole equipment and appurtenant works.

## **PB2            GENERAL**

Depending on borehole test results, the borehole will be equipped upon the Engineer's site instruction. The pump set shall comprise one complete borehole pump, including all pipe work to couple to main pipeline, electric or diesel driven, pulleys, driving belts, etc.

## **PB3.           REMOVAL OF EXISTING EQUIPMENT FROM BOREHOLES**

In cases where the boreholes listed are presently equipped (handpump, power head, engine and shelter or windmill), all such equipment shall be carefully dismantled by the contractor and stored securely at the Contractor's camp, all to be handed over to the Employer with the applicable handing over certificates.

Where boreholes are sealed, the Contractor shall remove these entirely and demolish the seals. All such debris shall be dumped at spoil sites indicated by the Engineer.

The Contractor will only be permitted to expose the boreholes immediately prior to equipping such boreholes as instructed by the Engineer and shall at all times exercise great care to prevent the ingress of debris or any foreign material into the borehole.

## **PB4.           DESIGN, MEASUREMENTS AND RECORDS**

PB4.1 Prior to the ordering of any materials to be used for the equipping of boreholes, the Engineer shall issue a selection lists to the Contractor, specifying the equipment to be installed at each borehole.

The Contractor must proceed with the immediate ordering and/or installation of the specified equipment after reception of these lists.

PB4.2 Prior to equipping of each borehole, the Contractor shall measure and record the diameter of the borehole at natural ground level, the static water level ( in metres below ground level), the depth of the casing and the total depth (in metres below ground level). These measurements shall be verified with the Engineer prior to equipping of such borehole.

## **PB5.           HAND PUMPS**

Supply and delivery of equipment required for hand pumps installation:

Boreholes to be equipped with Denorco Howden Mono hand pumps with vertical helical rotor or piston positive displacement type hand pumps (or similar approved in writing).

## **PB8. BOREHOLE PUMPS**

Supply and delivery of all components required:

- (a) Pumps shall be of the type specified and be self-priming, positive displacement rotary type, vertical spindle borehole pump, suitable for pumping potable water to a concrete reservoir or elevated tanks.
- (b) Borehole column specifications
  - (i) Columns with a dia less than 55 mm must be manufactured from medium galvanised tubing according to SABS 62 spec.
  - (ii) Columns with a dia more than 65 mm must be manufactured from heavy wall tubing with a 4,85 mm min wall thickness according to SABS 62 spec.
  - (iii) Bell-mouth columns are not acceptable.
  - (iv) Columns must include sockets, shafts, bobbin bearings, etc.
  - (v) A sufficient quantity of lubricant, as prescribed by manufacturer, shall be included.
  - (vi) All threads shall be parallel truncated.
  - (vii) Sockets shall be precision machined from seamless heavy wall tube.
  - (viii) Standard galvanised sockets for sizes above 25 mm dia are not acceptable.
  - (ix) Stag sealer to be used on column threads.
- (c) Column shall be according to specification. Column stabilisers shall be fitted to at least every fourth column pipe to secure a neat fit against the borehole perimeter. During assembly of pipe columns, the pipe thread area and each socket shall be covered with a protective sealer, following securing of the socketed joint. All accordance to specification (stag).
- (d) The inlet of the pump unit shall be fitted with a suitable strainer.
- (e) The discharge head shall incorporate the pulley housing and shall be mechanically safeguarded against incorrect direction of rotation. The discharge head shall be provided with a cast iron or fabricated steel bed plate fixed to a concrete foundation block of adequate size by means of suitable anchor bolts.

Pump and electrical/diesel driven shall be accurately aligned on an integral steel frame according to installation instructions of the pump manufacturer and shall allow adjustment in any direction on the horizontal plane for both engine and pump. Length of V-belts shall be as recommended by the pump manufacturer. A detachable steel plate guard, painted red, shall cover the entire V-belt drive. Provision to be made for adjustment of the guard to suit occasional V-belt tension adjustments. See Drawing No. 131 159/99 ME and 131 160/99 ME.

- (f) After installation, the contractor must check the horizontal alignment in both directions of the complete pump installation before starting and commissioning of the pump installations.
- (g) Centrifugal clutches will be provided where pumps are driven by diesel engines.
- (h) Name plates:

Two name plates required:

10 mm punched letters.

To be installed as follows:

- \* One nameplate inside the pumphouse.
- \* One nameplate outside the pumphouse.  
(Pumphouse door - outside position)

Information required on each nameplate:

BOREHOLE NO.	.....
DATE INSTALLED	.....
STATIC WATER LEVEL (m)	.....
DEPTH OF PUMP INLET (m)	.....
DEPTH OF BOREHOLE (m)	.....
PUMPING RATE (l/s)	.....
RECOMMENDED PUMPING TIME (h/day)	.....
TYPE AND PUMP NAME	.....
CONTRACTORS NAME	.....

**PB9. SUBMERSIBLE CENTRIFUGAL PUMPS**

**PB9.1** Complete submersible pump price assemblies for various depths and heads shall comprise of:

Detail of submission must be submitted by tenderer.

- (a) Pump and motor  
Non-return valve must be installed at the discharge of the pump.
- (b) Pipe and pump coupling
- (c) HDPE pipe
- (d) Pipe and baseplate coupling
- (e) Baseplate
- (f) Term joint kit (electrical connection)
- (g) Starter and control panel  
Motor protection should be sufficient to open the circuit within 10 seconds of the occurrence of locked rotor or single phasing or dry running.
- (h) Mef bend - galvanised
- (i) Barrel nipple - galvanised
- (j) Brass gate valve
- (k) Brass check valve
- (l) Valve and pipe coupling
- (m) 20 NB HDPE Type IV Class 6 for water level measurement strapped to columns with heavy duty cable-ties
- (n) Submersible cable  
The cable sizes must be based on the distance between the supply entry point (starter and control panel) and the motor.
- (o) Earth cable  
Size of earth cable must be larger than the drop nylon rope and must be connected to the MOV surge arrestors.
- (p) Nylon rope
- (q) Nameplate  
The borehole nameplate must be installed and support with a suitable bracket
- (r) Installation  
The borehole pumps must not be installed deeper than 5 metre from the bottom of the borehole or sediment area.

**PB9.2** Refer to PB12 and PD1-PD7 for electrical specifications and requirements.

**PB9.3** Submersible centrifugal pumps shall be suitable for either 220 volt or three phase 380 volts.

**PB10. ANCILLARY PIPEWORK**

Ancillary pipework to be supplied and installed according to specification.

**PB11. EQUIPMENT**

Equipment to be supplied and installed all in accordance with the applicable specification.

## **PE1 ELECTRICAL (PART 1)**

<b>PE1.GENERAL .....</b>	<b>308</b>
<b>PE2.SITE LOCATION AND DETAILS.....</b>	<b>308</b>
<b>PE3.DETAILS OF CONTRACT .....</b>	<b>309</b>
<b>PE4.INSPECTION OF SITE.....</b>	<b>309</b>
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### **PE1. GENERAL**

- 1.1 The work to be carried out under this subcontract comprises of the electrical services installation for the new sports complex in Ga-Maja, Limpopo Province.
- 1.2 The Project Specification shall be read in conjunction with the schedule of quantities and the drawings contained in this document. Where contradictions occur between the documents, the most stringent requirement shall rule, unless otherwise stated by the Engineer.
- 1.3 Only equipment based on proven technology and of high reliability shall be considered for use.
- 1.4 All schedules included in the project documentation shall be completed in full and submitted with the tender. Failure to comply with the above will result in the tender being disqualified.
- 1.5 All relevant technical information regarding each component or item offered shall be included either in the forms to be completed by the tenderer or as an appendix to the tender in order that the Engineer can make a true evaluation of the offer.
- 1.6 Where the Contractor chooses to offer items imported from other countries, these shall be offered as an alternative offer. Complete technical details of all alternative equipment shall be included in the Bid document and the Contractor shall prove that all the requirements of the specification have been complied with.

### **PE2. SITE LOCATION AND DETAILS**

- 2.1 The site is situated in Ga-Maja, Limpopo Province.
- 2.2 The site is subject to the following prevailing conditions.



- Maximum Temperature : 37° C
- Minimum Temperature : -3° C
- Altitude : ±1230 above sea level

2.2 The system conditions are as follows:

- Supply voltage : 400 V 3 phase
- Rated frequency : 50 Hz

**PE3. DETAILS OF CONTRACT**

The work to be carried out under this sub-contract consists mainly of electrical services installation for the new sports complex in Ga-Maja, Limpopo Province.

**PE4. INSPECTION OF SITE**

Tenderers are required to visit the site to thoroughly acquaint themselves with the nature and extent of the work to be done, and to make allowance for items obviously intended and necessary for the proper completion of the work although not specifically specified in this document. Claims due to lack of knowledge will not be entertained. All uncertainties shall be cleared out with the Engineer before the tender closing date.

**PE5. SITE FACILITIES**

The Electrical Sub-Contractor may negotiate with the Main Contractor for establishment of stores/yard and site office on the premises.

**PE6. CONSTRUCTION PROGRAMME**

- 6.1 A detailed construction programme shall be submitted within fourteen days after acceptance of the tender. This programme shall be finalised in liaison with the Main Contractor and shall have to be approved by the Engineer.
- 6.2 The Main Contractor's programme shall be co-ordinated with the programme of all his Sub-contractors and shall include allowance for builders holidays and public holidays as specified in the Standard Conditions of Contract.

**PE7. STANDARD SPECIFICATIONS, REGULATIONS AND CODES**

The latest edition, including all amendments up to date of tender of all the applicable SABS specifications, publications and codes of practice including Manufacturers' specifications and installation instructions, shall be read in conjunction with this specification and shall be deemed to form part thereof.

**PE8. DELAYS AND OVERTIME**

- 8.1 If the Electrical Sub-Contractor's work should cause any delay to the late completion of the works, he will be held responsible for any claims arising out of such delays in accordance with the stipulations of the Principal Contract.
- 8.2 Payments for overtime will only be considered if formally instructed by the Engineer and no payment will be made for overtime to maintain progress in accordance with the programme or to make good lack of progress by the Electrical Sub-Contractor.

**PE9. SECURITY OF MATERIALS AND EQUIPMENT**

- 9.1 The Electrical Sub-Contractor shall provide and maintain, at his own cost, all lights, guards, barriers, fencing and safeguarding as may be required for his works, installations, materials, equipment and public safety, until all works have been completed in full. Any materials damaged or stolen from site prior to final handover of the whole project shall be replaced by the Electrical Sub-Contractor with no cost to the Client.
- 9.2 All materials and equipment e.g. distribution kiosks, distribution boards, light fittings, etc supplied as part of this Subcontract shall be well protected against damage during transportation, off-loading, storage and building operations.

**PE10. STORAGE**

The Sub-Contractor shall be responsible for provision of an adequate and safe storage for all his materials. All materials shall be stored or stacked in positions that will not interfere with other work in progress in the area, or the safe and unhindered movement of the public in the area.

**PE11. QUALITY OF MATERIALS**

- 11.1 All materials supplied by the Electrical Sub-Contractor under this Subcontract Works shall be new and unused. Only materials of first class quality shall be utilised. Samples of all materials e.g. luminaires, outlets, cable support systems, etc, shall be subject to approval by the Engineer before the procurement process commences.
- 11.2 All materials shall comply with the relevant specifications as listed in Section 7 above.
- 11.3 Factory tests
- The Contractor shall arrange factory inspections and tests by the Engineer of equipment manufactured and supplied as part of this Contract e.g. distribution boards, kiosks, etc.

**PE12. COMPETENCE OF PERSONNEL, WORKMANSHIP AND STAFF**

- 12.1 The Sub-Contractor shall ensure that all safety regulations and measures are applied and enforced during construction work on existing live cabling, wiring, distribution boards, luminaires, power points, fixed appliances, etc.
- 12.2 Only suitably qualified Artisans shall be permitted to carry out work. The Electrical Sub-Contractor shall provide proof of current Artisan qualifications and experience on request.
- 12.3 Work shall at all times be subject to full time supervision by qualified and experienced Artisans. These representatives must be authorised and competent to receive instructions on behalf of the Sub-Contractor.
- 12.4 The Sub-Contractor shall at all times have an adequate number of employees, plant and equipment available during the construction period to ensure that the electrical work does not delay the construction programme.

**PE13. FINISHING AND TIDYING**

- 13.1 In view of the concentration of construction and other activities likely to be experienced during the Contract period, progressive and systematic finishing and tidying will form an essential part of this Subcontract. On no account will soil, rubble, materials, equipment or unfinished operations be allowed to accumulate in such a manner as to unnecessarily impede the activities of others.
- 13.2 Finishing and tidying shall therefore not be left to the end of the Contract, but shall be a continuous operation.

**PE14. PROTECTION OF OTHER SERVICES AND STRUCTURES**

- 14.1 The Sub-Contractor shall take all the necessary precautions to protect finishes, structures and existing services during the execution of the Contract.
- 14.2 The Sub-Contractor shall be responsible for obtaining information regarding services and existing works which may be affected by the new works. Before the Sub-Contractor commences with any work on site, he must discuss with and have the approval of the Engineer regarding the method he proposes to use for safeguarding any services and existing works he may encounter during construction.
- 14.3 The cost of all precautionary measures which may be necessary to ensure the safety of such services and existing works, as well as the protection for all persons, shall be borne by the Electrical Sub-Contractor. Any alteration to services which may be required shall be carried out by the Authority concerned at the expense of the Sub-Contractor. The Electrical Sub-Contractor shall be held responsible for any damage, injury or accident caused as a result of his failure to take the necessary precautionary measures.
- 14.4 The Electrical Sub-Contractor shall, during the execution of this contract, suitably protect the working area and his staff and shall indemnify the Owner in respect of all claims arising out of injury or deaths of any persons lawfully on the premises, whose injury or death is caused by the execution of this Sub-Contract.
- 14.5 The Sub-Contractor shall also exercise extreme care when and where excavations are made to avoid damage to existing or newly installed services. Any damage to other services shall be rectified forthwith and the cost for the rectification will be recovered from the Sub-Contractor.

**PE15. SHOP DRAWINGS**

A set of three (3) copies of all drawings must be submitted to the Engineer for approval before manufacture commences. This specifically applies to the purpose-made distribution boards.

**PE16. INSPECTIONS**

- 16.1 The Engineer will inspect the installation at any time. All inferior, unsuitable, unacceptable or rejected work shall, if indicated by the inspecting officers, be removed and shall be rectified by the Sub-Contractor at his own expense. Under no circumstances will these inspections relieve the Sub-Contractor of his obligations in terms of the document nor will these inspections be regarded as final approval of the works or portions thereof.
- 16.2 Where inspections are requested by the Engineer, the Engineer's inspection shall only be carried out after the Sub-Contractor has carried out his own preliminary inspection to ensure that the works are completed and comply with the documents. The Engineer's inspection shall therefore not be regarded as supervision, fault listing, quality assurance or site management.

**PE17. SITE TESTS AND COMMISSIONING**

- 17.1 It is the responsibility of the Electrical Sub-Contractor to provide all labour, accessories and properly calibrated and certified measuring instruments necessary for all the tests required under this Sub-Contract.
- 17.2 Prior to beginning any aspect of commissioning, the Sub-Contractor shall present for the Engineer's review/approval, two copies of a complete commissioning procedures manual including checklists. The relevant checklists shall be utilised and formally signed off as part of the commissioning phase.

**PE18. AS-BUILT / OPERATING AND MAINTENANCE MANUALS**

- 18.1 The Contractor shall prepare as-built drawings for the complete installation and any other equipment installed as part of this Sub-Contract.
- 18.2 One copy of the Operating and Maintenance Manuals shall be submitted to the Engineer for approval at least four weeks prior to commissioning of the works.

- 18.3 Approved "as-built" drawings and documents shall be bound in hard cover dossiers, fully indexed.  
The same information shall also be submitted on compact disc.
- 18.4 Hard copies of the test sheets and certificates, Guarantees and Warranties shall also be submitted.
- 18.5 Three copies of CD and hard copies of all items listed in 18.2 to 18.4 above must be submitted.  
The Contract will be regarded as incomplete until this requirement has been complied with.

**PE ELECTRICAL (PART 2)**

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**PE1. GENERAL**

- 1.1 This specification comprises all aspects regarding the electrical services installation for the new sports complex in Ga-Maja, Limpopo Province.
- 1.2 The work shall also include the bulk supply to site by the supply authority, new building electrical services installation for the clubhouse, ablutions and guardhouse; area and all sports field lighting including external LV cable reticulation and distribution kiosks.
- 1.3 Extreme care shall be taken when working on live electrical installations on site. Only qualified electricians shall be expected to work on live installations e.g. distribution boards, cabling, etc.
- 1.4 The Detail Specification shall be read in conjunction with the Standard Specifications listed in section 3 below, schedule of quantities, drawings and the Conditions of Contract for the Main Contract. Where contradictions occur between the documents, the most stringent requirement shall rule, unless otherwise stated by the Engineer.
- 1.5 All work shall be scheduled in liaison with the Main Contractor to suit his master programme.

## **PE2. SCOPE OF WORKS**

The scope of the installation shall comprise of the supply, delivery, off-loading, installation, commissioning, testing and guarantee of the following material and equipment associated with the above-mentioned works:

- 2.1 Compilation of shop drawings, manufacture and installation of new distribution boards and kiosks
- 2.2 Internal and external lighting installation for the clubhouse, ablutions and guardhouse
- 2.3 Power installation
- 2.4 Wireways and conduits to lights, socket outlets, power outlets and all electrical equipment and or plant
- 2.5 Wiring of lighting and power points with PVC insulated conductors and bare copper earth wire
- 2.6 Earthing and bonding of metal structures and sanitary ware accessories
- 2.7 High mast installation
- 2.8 Area and sports field light poles including luminaires
- 2.9 Excavation, backfilling and compaction of cable trenches
- 2.10 Low voltage cable reticulation from kiosks to all buildings on site including area and sports field lighting and proposed borehole
- 2.11 Sleeve and manhole installation, where required
- 2.12 Lightning protection system
- 2.13 Site supervision and quality management
- 2.14 Commissioning, testing and handing over of complete electrical installation detailed above and to provide "as-built" drawings

These aspects should be seen only as a brief summary of the scope of work and not as a complete record. Quantities and volume of work shall be read or obtained from the drawings and the text of the specification.

**All components, mounting brackets, draw boxes, junction boxes, cabling, wiring and all other electrical, mechanical and civil works required to complete the works in accordance with the specification, prior to handover, shall be deemed to be included in the tendered rates and prices even though some items may not be mentioned separately.**

## **PE3. STANDARDS AND CODES OF PRACTICE**

- 3.1 The electrical work shall be carried out strictly in accordance with:-
  - SANS Code of Practice - 10142-1:2012: "The Wiring of Premises"
  - SANS Code of Practice - 10313-2012: "Protection Against Lightning – Physical Damage to Structures & Life Hazard"
  - Occupational Health and Safety Act 85/1993.
  - The Municipal By-Laws and any Local Authority Regulations which may be in force
  - The Local Fire Office Regulations.
- 3.2 Manufacturers' specifications and installation instructions.

## **PE4. POWER SUPPLY TO SITE**

- 4.1 There is currently no power supply to the site. It shall be the responsibility of the Electrical Sub-Contractor to make necessary arrangement with the relevant supply authority regarding the supply of power to the site.
- 4.2 Further to the arrangements required above, the limit of responsibility of the Electrical Sub-Contractor is the distribution of power from the main distribution kiosk to all buildings, equipment and installations on site.

- 4.3 The electrical subcontractor shall make all the necessary arrangements with the municipal authority regarding registration of work to be done, testing and certificate on completion. Proof of registration shall be submitted to the engineer within 14 days of the contract being awarded. All regulations and requirements of the local supply authority shall be strictly complied with.

**PE5. WORK PROVIDED BY OTHERS**

The following work shall be provided by others:

**5.1 Power supply**

Provision of bulk power supply to site.

**5.2 Mechanical services**

- 5.2.1 Air conditioning equipment and ventilation fans if required, shall be supplied and installed by the Mechanical Sub-contractor.

The electrical subcontractor shall be responsible for provision of the necessary outlet points and isolators. The final connection from the isolator to the equipment shall be done by the Electrical Sub-contractor.

**5.3 Water supply and distribution**

- 5.3.1 Geysers shall be supplied and installed by the plumbing subcontractor. The Electrical Sub-contractor shall be responsible for providing the local isolator adjacent to each geyser.

The final sprague connection from the isolator to the geyser shall be done as part of this Sub-Contract.

- 5.3.2 Equipment for the domestic water pump system if required, shall be supplied and installed by others. The Electrical Sub-contractor shall be responsible for provision of supply cables to local isolators and/or distribution boards as may be required.

The final connection from the isolator and/or distribution board to the equipment shall be done by others.

**5.4 Communication systems**

Wiring for telephone services shall be done by others. The Electrical Subcontractor shall be responsible for provision of all communication cable sleeves and manholes, conduit, data and telephone outlets including steel draw wires in all communication cable sleeves and conduit

**PE6. LOW VOLTAGE CABLE INSTALLATION**

- 6.1 The tender price shall include the supply, delivery, installation, testing and commissioning of all the cables specified including the marking off and connections at both ends.

- 6.2 All cables shall have stranded copper conductors and shall be of the PVC/SWA/PVC type, 600/1000V Grade and shall comply with SANS 1507. Cables with aluminium conductors are not acceptable.

- 6.3 All terminations shall be done with lugs, glands and shrouds as specified. Shrouds shall cover the gland completely.

- 6.4 All cables shall be labelled at both ends. The cables shall be labelled by means of "Grafoplast" or approved type cable markers. The cable labels shall indicate the full name of both distribution boards. Thus if DB A2 feeds DB B2, the label at each cable end shall read "DB A2/DB B2".

- 6.5 Copper earth continuity conductors shall be installed with all low voltage cables, and shall be strapped to the cable at 1500mm intervals.

- 6.6 Cables in which the phase conductors are colour coded by means of a coloured stripe along the insulation will not be accepted. The entire conductor PVC insulation shall be fully colour coded in red, white, blue or black. The conductors of cables used for single phase loads or connections shall be red and black. Cables with red, white and blue conductors will not be accepted for use on single phase loads or connections.

- 6.7 All cables shall be tested after installation in accordance with SABS 1507 by means of a 600V megger. In addition all cables shall be phased out to ensure correct phase rotation.
- 6.8 All test results shall be submitted to the Engineer in writing, before the final commissioning of the equipment and cables take place.
- 6.9 It shall be the responsibility of the Electrical Sub-contractor to determine the correct lengths of cable required on site, before placing an order. The Sub-Contractor shall not be reimbursed for any surplus or shortfall of cable.
- 6.10 Cable reticulation outside the buildings shall be by means of underground cables installed in uPVC sleeves where cables cross paved areas or run underneath the sports ground. Where sleeves are not specified, cables shall be laid directly in the ground. Minimum laying depths shall be 650 mm below final ground level unless otherwise specified, and routes shall be as indicated on the drawings.
- 6.11 All trenching, including excavations, bedding layers, shoring and prevention of waterlogging, drainage of excavations, backfilling and compaction of trenches form part of this contract. Trenches shall be compacted to a minimum of 93% of modified AASHTO density during backfilling.
- 6.12 The Sub-Contractor shall take cognisance of the fact that other services might be installed along the same routes as the cables. The Sub-Contractor shall, before commencing with any excavations, peg out the proposed cable route and confirm it with the Engineer.
- 6.13 Positions of cable markers shall be pegged on site in collaboration with the Engineer. The wording of the labels shall be provided by the Engineer.
- 6.14 Joints will not be permitted in any of the low voltage cables.
- 6.15 Cables Installed on Cable trays
- 6.15.1 Cables shall be fixed to the cable trays by means of stainless steel strapping at 600mm spacing.
- 6.15.2 The Contractor shall plan cable runs prior to installation of cables as crossing of cables will not be accepted unless it is impossible to avoid.
- 6.16 Cable Schedule

Item No.	Cable Description	Earth Conductor
1	70mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K1, in trench to Kiosk K2	70mm <sup>2</sup> BCEW
2	6mm <sup>2</sup> 3-core PVC/SWA/PVC Cu LV cable from Kiosk K1, in trench to DB-C	
3	6mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K1, in trench to area lighting circuit AL1/K1	4,0mm <sup>2</sup> BCEW
4	16mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K2, in trench to DB-A	10 mm <sup>2</sup> BCEW
5	10mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K2, in trench to Kiosk K3	10mm <sup>2</sup> BCEW
6	10mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K3, in trench to DB-C	6mm <sup>2</sup> BCEW
7	6mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K3, in trench to combi court lighting	4,0mm <sup>2</sup> BCEW
8	6mm <sup>2</sup> 3-core PVC/SWA/PVC Cu LV cable from Kiosk K3, in trench to borehole pump	
9	16mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K2, in trench to Kiosk K4	10 mm <sup>2</sup> BCEW



Item	Cable Description	Earth
10	6mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from Kiosk K4, in trench to high mast DB	4,0mm <sup>2</sup> BCEW
11	6mm <sup>2</sup> 4-core PVC/SWA/PVC Cu LV cable from high mast DB to mast light fittings	4,0mm <sup>2</sup> BCEW

#### 6.16 Cables Installed on Cable trays

6.16.1 Cables shall be fixed to the cable trays by means of stainless steel strapping at 600mm spacing.

6.16.2 The Contractor shall plan cable runs prior to installation of cables as crossing of cables will not be accepted unless it is impossible to avoid.

### PE7. DISTRIBUTION BOARDS AND KIOSKS

#### 7.1 General

Extreme care shall be taken when working on existing live electrical installations. Only qualified electricians shall be expected to work on live distribution boards and kiosks.

#### 7.2 Manufacture

- (i) Electrical Sub-Contractor is advised to order all new distribution boards and kiosks from a reputable manufacturer as inferior equipment will not be accepted.
- (ii) The Electrical Sub-Contractor to note that manufacturer of the distribution boards and kiosks shall only commence after approval of the factory drawings by the Engineer.
- (iii) Distribution boards shall be of the recessed type with pad lockable doors.
- (iv) Distribution kiosks shall be of the free standing type with pad lockable doors. The kiosks shall be supported on concrete plinth to be supplied as part of this subcontract.
- (v) All equipment in distribution boards and kiosks shall be mounted behind removable panels.
- (vi) The front panel of the board shall be secured by means of the Perano or Procast type knurled edge catches. Catches with slots or square key facilities will not be acceptable. Each front panel shall also be fitted with 2 approved D type handles top and bottom, to assist removal and replacement.
- (vii) Door hinges shall be of the "Procast" or similar type. All panels shall be supplied with handles.

#### (b) Equipment

- (i) All equipment in distribution board and kiosks shall bear the SABS mark of approval and be of Merlin Gerin manufacture or similar approved equal.
- (ii) All phase, neutral and earth bars shall be adequately sized to accommodate the specified circuits as well as allowance for 40% future circuits.
- (iii) Circuit breakers shall be used in the cascade arrangement and only cascade arrangements proven by SABS tests shall be utilised throughout.
- (iv) All circuit breakers shall be rated for a fault level as indicated on the relevant distribution board schematic diagram.

#### (c) Drawings

- (i) Three sets of manufacturers' drawings of each new distribution board shall be submitted for approval by the Engineer before manufacture of the distribution board may commence.
- (ii) It shall be noted that late approval of drawings and distribution boards due to non-compliance with the specification will not relieve the Sub-Contractor from his

obligations to complete the installation according to programme. No claims for delays or for extension of time in this regard will be entertained.

(d) Schedule of distribution boards

Distribution Boards shall be installed at the positions indicated on the drawings and according to the detailed schematic diagrams forming part of this specification.

BOARD	TYPE	LOCATION	FAULT LEVEL
DB-A	Surface, with lockable doors	Kitchen	6KA
DB-B	Recessed, with lockable doors	Library	6KA
DB-C	Recessed, with lockable doors	Ablution Block	6KA
DB-D	Recessed, with lockable doors	Guardhouse	6KA

(e) Schedule of distribution kiosks

Distribution kiosks shall be installed at the positions indicated on the drawings and according to the detailed schematic diagrams forming part of this specification.

KIOSK	ALLOCATION	FAULT LEVEL
Kiosk-K1	Main Gate	6kA
Kiosk-K2	Hall	6kA
Kiosk-K3	Caretakers / Ablutions	6kA
Kiosk-K4	Athletics Track	6kA

## **PE8. CONDUITS, POWERSKIRTING, CABLE TRAYS AND CABLE DUCTS**

### **8.1 Conduits**

- 8.1.1 All conduits and accessories shall bear the SABS mark of approval.
- 8.1.2 PVC conduit and accessories may be used for indoor installation unless specified otherwise.
- 8.1.3 External draw box covers shall be sealed with white silicone after the installation is completed.
- 8.1.4 Conduit installation on masonry wall surfaces shall **not** be permitted inside and outside the building.
- 8.1.5 All chasing work where approved, shall be carried out by means of power driven machinery using abrasive cutting discs. Chasing by means of hammer and chisel will not be accepted.
- 8.1.6 Conduit work under open roof structures and inside accessible ceilings shall be done in a rectangular grid pattern. All conduit offsets shall be neat and at equal angles. Steel saddles installed at 1500mm intervals shall be used inside ceilings. Caddy clamps shall be used on roof purlins, maximum spacing of saddles and clamps shall be 750 mm.
- 8.1.7 All steel conduits and cable supports shall be securely bonded to earth.
- 8.1.8 Bushes fitted to steel conduits shall be brass only. Other materials are unacceptable.
- 8.1.9 All conduits installed for services provided by others shall be fitted with 2,5 mm ø galvanised draw wire if the wiring is not installed as part of this subcontract.

### **8.2 Cable trays**

- 8.3.1 Cable trays if required shall be the perforated, heavy-duty, 2.5 mm thickness hot dipped galvanised steel type. The cable tray width shall be as specified on the relevant drawings or in the bills of quantities.
- 8.3.2 Only purpose-made accessories, e.g. splices, risers, offsets and bends shall be used.

- 8.3.3 Trays shall be fastened onto 500 mm lengths of P2000 unistrut. Each unistrut section shall be fixed to the roof, wall or floor with galvanized 10 mm x 50mm Ø Fisher anchors. Unistrut spacing shall be 600 mm maximum. Only purpose-made accessories shall be used.
- 8.4 Cable ladders
- 8.4.1 Cable ladders if required, shall be hot dipped galvanized and all members shall be 2 mm thick, with 76 mm side rails and cross rungs at 375 centres. Cable ladders shall be supported at maximum 800 mm intervals with approved galvanized suspension brackets or P2000 unistrut or 10 mm galvanized threaded rod hangers.
- 8.4.2 The width shall be as specified and only purpose-made accessories shall be used.
- 8.5 Trunking
- 8.5.1 Steel trunking, where required, shall be the hot dip galvanised type with 0,8 thickness complete with elbows, tees and covers. The width shall be as specified.
- 8.5.2 Where sleeves are not indicated on drawing, any surface-mounted distribution boards not installed behind a cupboard shall be linked to openings in ceilings or floors by means of 127 mm wide, hot dip galvanised steel trunking supplied complete with distribution outlets and covers. The trunking shall be powder coated and the colour shall match the DB exterior colour.

## **PE9. LIGHTING INSTALLATION**

### **9.1 General**

- 9.1.1 The Electrical Sub-Contractor shall allow for the supply and installation of the complete new internal lighting system as indicated on the relevant drawings.
- 9.1.2 Samples of luminaires shall be submitted to the engineer for approval before ordering commences.
- 9.1.3 All light fittings shall be delivered to site new and unused and in boxes as packed by the manufacturer. When the work is handed over, all light fittings shall be in a working condition.
- 9.1.4 The permanent light fittings intended for installation shall not be used for temporary lighting during construction. The certificate of completion for the installation will not be finalised, unless all light fittings and lamps are in working order.
- 9.1.5 All linear fluorescent type luminaires shall be equipped with high efficiency 16 mm diameter tubes (T5), generally 600 and 1200 mm long and with a colour temperature of 4 300 k (cool white) and minimum colour rendering index (Ra) of 64 unless otherwise stated. The engineer will reject unmarked lamps. All costs to replace these lamps with marked lamps will be for the contractor's account.
- 9.1.6 All PL type lamps shall be colour 41, with a temperature of 2 700 k. Lamps not marked thus will not be accepted, as stipulated above.
- 9.1.7 Wiring for the lighting installation shall generally be installed inside conduits.
- 9.1.8 Special care shall be taken to ensure that conduit connections do not violate the IP rating of luminaires. This applies specifically to the exterior luminaires. Mounting holes and conduit entries shall be sealed with black silicone after connection.
- 9.1.9 No luminaires shall be fitted to masonry wall with fasteners smaller than 3,5 mm diameter and a wall plug smaller than 8 mm diameter. Galvanised 30 mm ø fender washers shall be used with each fastener.
- 9.1.10 Tenderers to note that recessed type fluorescent luminaires shall be installed in all office areas and corridors. Wiring to the recessed fluorescent fittings shall consist of 20 mm conduits and standard 100 x 50 mm draw boxes above the ceiling. In close vicinity of the luminaire positions, 1 x 6A unswitched socket outlet shall be provided, fixed to the conduits for support, for power supply to luminaires. All indoor fluorescent luminaires shall therefore be supplied with 3 m electrical cord fitted with a 6 Amp plug.

### **9.2 Light Switches**

- 9.2.1 Tenderers to note the 16A current rating of light switches.
- 9.2.2 100 x 50 x 50 mm drawboxes shall be provided for light switches.

- 9.2.3 Light switches shall be the 16A, of Crabtree or Clipsal manufacture or similar approved equal, supplied complete with white cover plates.
- 9.2.4 Photocell shall be accommodated inside IP 65 bulkhead luminaires. No direct switching of lighting circuits via photocell contacts shall be accepted.
- 9.3 Luminaire mounting position
- 9.3.1 Internal and external light fittings shall be installed at positions shown on the relevant lighting drawings.
- 9.3.2 Mounting heights for wall mounted light fittings shall be as shown on the relevant drawings.
- 9.4 Schedule of Luminaires
- 9.5.1 All luminaires shall bear the SABS mark of approval. Luminaires shall be provided complete with lamps and control gear.
- 9.5.2 The following luminaire types are to be installed in the positions indicated on the drawing:
- 9.5.3

Type	Description
A	Type A luminaire - 2x28W open channel fluorescent luminaire: Lighting Innovations: SCH-228-002/840 or similar approved equal
A1	Type A1 luminaire - 2x28W open channel emergency fluorescent luminaire: Lighting Innovations: SCH-228-002/840/EMG 20% or similar approved equal
B	Type B luminaire - 2x54W open channel fluorescent luminaire: Lighting Innovation: SCH-254-002/840 or similar approved equal
B1	Type B1 luminaire - 2x54W open channel emergency fluorescent luminaire: Lighting Innovations: SCH-254-002/840/EMG 20% or similar approved equal
D	Type D luminaire - 2x18W downlight luminaire BEKA: BEKARONDO/218W
D1	Type D luminaire - 2x18W emergency downlight luminaire BEKA: BEKARONDO/218W/EMG
E	Type E luminaire - 8W surface mounted LED emergency escape signage luminaire with 1-hr battery back-up unit: Type: Beka LISU-AD or similar approved
F	Type F luminaire - 2x18W IP 65 die cast aluminium fluorescent bulkhead luminaire with high impact opal diffuser: Lighting Innovations: SAT 218-001/840 or similar approved equal
F1	Type F1 luminaire - 2x18W IP 65 die cast aluminium emergency fluorescent bulkhead luminaire with high impact opal diffuser complete with 1hr battery back-up unit: Lighting Innovations: SAT 218-001/840/EMG or similar approved equal
G	Type G luminaire - 2x54W moisture proof, fluorescent luminaire with UV stabilised polycarbonate body and diffuser: Lighting Innovations: IPA-254-002/840 or similar approved equal
G1	Type G luminaire - 2x54W moisture proof, emergency fluorescent luminaire with UV stabilised polycarbonate body and diffuser complete with 1hr battery back-up unit: Lighting Innovations: IPA-254-002/840/EMG or similar approved equal
H	Type H: 57W post top luminaire: BEKA: BEKARAY 57W CFL or similar approved equal
J	Type J: 4 x 54W Megabay fluorescent luminaire: Lighting InnovationS: IMH-454-002/840 or similar approved equal
J1	Type J1: 4 x 54W Megabay emergency fluorescent luminaire: Lighting InnovationS: IMH-454-002/840/EMG 20% 1Hr or similar approved equal

**PE10.****PE11. POWER INSTALLATION****10.1 General**

10.1.1 The Electrical Sub-Contractor shall allow for the supply and installation of the complete new small power installation as indicated on the relevant drawings.

10.1.2 Samples of all outlets shall be submitted to the engineer for approval before ordering commences.

10.1.3 All outlets shall be delivered to site new and unused and in boxes as packed by the manufacturer.

**10.2 Single phase socket outlets in wall**

Normal socket outlets shall be the 16 Amp, flush mounted single or double 3-pin switched socket with white cover plates.

**10.2 Isolators**

10.4.1 Local isolators shall consist of normal 20A recessed double pole complete with outlet box, white cover plate and "cord grip" grommet to accommodate the hand dryer cable; final position shall be agreed on site.

10.4.2 Isolators for geysers where required in ceiling void shall consist of 20A surface mounted double pole complete with outlet box and cover plate. Final position shall be agreed on site.

**PE12. WIRING**

11.1 All internal wiring shall generally comprise of PVC insulated stranded copper conductors and bare stranded copper earth continuity conductors.

11.2 Only new wiring shall be used under this Sub-contract.

11.3 Wiring shall not be drawn into conduit until the conduit installation has been completed, fitted with bushes and all moisture and debris has been removed.

11.4 No joints of any kind shall be permitted in wiring.

11.5 No more than 1 single or 1 three phase circuit may be drawn into any conduit.

11.6 No "surfix" / "twin & earth" wiring will be accepted.

11.7 The following minimum conductor sizes shall be used:

Circuit	Minimum conductor (size)	
	Phase (mm <sup>2</sup> )	Earth (mm <sup>2</sup> )
Lighting	2.5	2.5
Socket outlet	4	2.5
Geyser	4	2.5
Extraction fan	4	2.5

**PE13. TELEPHONE AND DATA INSTALLATION**

12.1 The supply, delivery and installation of the telephone distribution boards, conduit, draw boxes, outlets and cover plates, external sleeves and manholes shall form part of this contract.

12.2 Telephone points shall be flush mounted 100 x 50 x 50 mm draw boxes complete with cover plate.

12.3 2.5mm diameter galvanised draw wire shall be installed in all telephone and data conduits. All information and communication outlet points shall be interlinked by means of 25mm diameter

conduit which shall terminate in the telephone distribution boards supplied and installed as part of this Sub-Contract.

12.4 Telephone outlets shall be the RJ45.

#### **PE14. CABLE SLEEVES AND MANHOLES**

13.1 All sleeves and manholes shown on the drawings shall be supplied and installed as part of this Sub-Contract.

13.2 The sleeves shall be the flexible type installed at a minimum depth of 650mm below final ground level.

13.3 Crossings of all sleeves must be at 90° with the communication sleeves on the top.

13.4 All spare sleeves including electronic and communication sleeves shall be fitted with 4 mm ø galvanised draw wire.

13.5 On completion of the project, the end of all unused sleeves shall be sealed with paper and weak cement mixture.

#### **PE15. EARTHING AND BONDING**

##### **14.1 General**

14.1.1 The Electrical Sub-Contractor is to ensure that the installations covered in this document are effectively earthed and bonded in accordance with the requirements of SABS 0142.

14.1.2 All hot and cold water and waste metal pipes are to be effectively bonded by means of 12,5 mm x 1,6 mm solid or perforated copper tape (not wire), clamped by means of brass bolts and nuts. The tape is to be fixed to walls by means of rounded brass screws at intervals not exceeding 150 mm.

14.1.3 Metal cable supports and others structures e.g. aerials shall be bonded by means of green insulated copper earth conductor of 16mm<sup>2</sup> minimum size.

#### **PE16. LIGHTNING PROTECTION**

Provisional sum has been allowed in the bills of quantities for supply and installation of an earthing and lightning protection system by a Specialist Sub-Contractor.

#### **PE17. AREA AND SPORTFIELD LIGHTING**

##### **16.1 Area Lighting**

- (a) Area and security lighting around the site shall be provided as part of this Sub-Contract.
- (b) Lighting shall be provided by means of pole mounted light fittings installed at positions shown on the relevant drawing.
- (c) Light poles shall be the 76mm diameter, 4m high (mounting height) manufactured from hot deep galvanised steel. The light poles shall be painted and architect shall advise on colour. Mounting brackets shall also be hot dipped galvanised.
- (d) Light fitting for the area lighting shall be 57W post top luminaire: BEKA: BEKARAY 57W CFL or similar approved equal

##### **16.2 Sports field Lighting**

- (a) High mast lighting shall be provided for general lighting of the athletics track. The mast shall be hot dip galvanised to SANS 121 ISO 1461 and shall be 25m in height.
- (b) Lighting shall be provided for the combi courts. The light poles shall be hot dip galvanised to SANS 121 ISO 1461 and shall be 12m in height (mounting).
- (a) Each mast shall be installed over a concrete foundation and shall be properly earthed.
- (b) Each mast shall be supplied complete with an internal IP30 glass fibre DB, IP 65 splitterbox and 5-core x 4mm<sup>2</sup> trailing cable.

- (c) All luminaires, associated equipment and control gear shall be new and unused and shall be complete with lamp control gear, visors, refractor bowls as applicable, mounting brackets and all other accessories to make the luminaires fully operative. The luminaires shall be delivered to site in protective covering.
- (d) All luminaires shall be equipped with an earth terminal and shall be earthed.

**PE18. BALANCING OF LOADS**

The Electrical Sub-Contractor shall be responsible for the measurement, testing and balancing of load between all the phases of busbars to the satisfaction of the Engineer. Distribution board equipment shall be connected in such an order that the load is balanced across all three phases.

**PE19. SITE TESTS AND COMMISSIONING**

- 18.1 It shall be the responsibility of the Electrical Sub-Contractor to provide all labour, accessories and properly calibrated and certified measuring instruments necessary for all the tests required under this contract.
- 18.2 Prior to beginning any aspect of commissioning, the contractor shall present for the Engineer's review/approval, two copies of a complete commissioning procedures manual including checklists. The relevant checklists shall be utilised and formally signed off as part of the commissioning phase.
- 18.3 Preparation of commissioning report shall include, but not necessarily limited to:
  - 18.3.1 Manufacturer's operating, servicing and maintenance manuals for each and every individual item of plant installed.
  - 18.3.2 Inventory for the items of mechanical/electrical plant(s) and or equipment that shall be for installation in the project.

**PE20. MAINTENANCE PERIOD**

- 19.1 The equipment and installation supplied under this Sub-Contract shall be guaranteed for a period of twelve months from date of completion of the whole project of the Contract Works. The tender price shall include for the above.
- 19.2 The maintenance period will be for a period of twelve months, calculated from the date the complete installation has been taken over by the Client. Payment of the full amount of the retention money will be effected after the lapse of the maintenance period, provided the installation has been in satisfactory working order during this period. The Electrical Sub-Contractor shall be responsible for the replacement of all faulty electrical equipment supplied and installed as part of this Sub-Contract, including blown or faulty lamps during the maintenance period.

**PE21. SCHEDULE OF DRAWINGS (DRAWINGS AVAILABLE TO TENDERER UPON REQUEST)**

Drawing No.	Description
-200	Site Plan
-201	Club House : Small Power Layout
-202	Club House : Lighting Layout
-203	Public Ablutions & Caretakers' Quarters : Small Power Layout
-204	Public Ablutions & Caretakers' Quarters : Lighting Layout
-205	Guardhouse : Small Power Layout
-206	Guardhouse : Lighting Layout

Drawing No.	Description
-294	Schematic Line Diagrams :Kiosk K4
-295	Schematic Line Diagrams : Kiosk K3
-296	Schematic Line Diagrams : Kiosks K2
-297	Schematic Line Diagrams : Kiosks K1
-298	Schematic Line Diagrams : DB-A
-299	Schematic Line Diagrams : DB-B
-300	Schematic Line Diagrams : DB-C / DB-C1
-301	Schematic Line Diagrams : DB-D

**PE22. TECHNICAL DATA SCHEDULE**

The trade name and/or catalogue numbers of all equipment forming part of the tender offer must be submitted. This information schedule must be fully completed by the Contractor.

1. Cables
  - (a) Manufacturer : .....
  - (b) Type : .....
  - (c) Complies with SABS 1507 : .....(Yes/No)
2. Labeling system for cables
  - (a) Manufacturer : .....
  - (b) Type : .....
3. Cable trays
  - (a) Manufacturer : .....
  - (b) Type : .....
4. Cable ladders
  - (a) Manufacturer : .....
  - (b) Type : .....
5. Cable trunking
  - (a) Manufacturer : .....
  - (b) Type : .....
6. Wall-mounted isolators
- 6.1 Flush-mounted double pole
  - (a) Manufacturer : .....
  - (b) Type (No of pins) : .....
  - (c) IP rating : .....
- 6.2 Flush-mounted triple pole
  - (a) Manufacturer : .....
  - (b) Type (No of pins) : .....
  - (c) IP rating : .....



- 6.3 Surface mounted double pole
- (a) Manufacturer : .....
- (b) Type (No of pins) : .....
- (c) IP rating : .....
- 6.4 Surface mounted triple pole
- (a) Manufacturer : .....
- (b) Type (No of pins) : .....
- (c) IP rating : .....
7. Light switches
- (a) Manufacturer : .....
- (b) Range / Type : .....
- (c) Current rating : .....
- (d) Industrial type: manufacturer : .....
- (e) Industrial type: current rating : .....
- (f) Industrial type: IP rating : .....
8. Switched socket outlets
- (a) Manufacturer : .....
- (b) Range / Type : .....
- (c) Current rating : .....
9. Telephone outlets
- (a) Manufacturer : .....
- (b) Range / Type : .....
- (c) To spec : .....(yes/no)
10. Data outlets
- (a) Manufacturer : .....
- (b) Range / Type : .....
- (c) To spec : .....(yes/no)
11. Luminaires
- 11.1 Type A : 2 x 28W open channel fluorescent luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec? : .....(Yes/No)
- 11.2 Type A1 : 2 x 28W open channel emergency fluorescent luminaire with 1Hr battery unit @ 20%
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Battery back-up time : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.3 Type B : 2 x 54W open channel fluorescent luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec? : .....(Yes/No)

- 11.4 Type B1 : 2 x 54W open channel emergency fluorescent luminaire with 1Hr battery unit @ 20%
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Battery back-up time : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.5 Type C : 2 x 28W dimmable open channel fluorescent luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec? : .....(Yes/No)
- 11.6 Type D : 2 x 18W fluorescent downlight luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec? : .....(Yes/No)
- 11.7 Type D1 : 2 x 18W emergency fluorescent downlight luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec? : .....(Yes/No)
- 11.8 Type E : LED emergency signage luminaire 1hr battery unit
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Battery back-up time : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.9 Type F : 2 x 18W IP65 fluorescent luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) IP rating : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.10 Type F1 : 2 x 18W IP65 emergency fluorescent luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) IP rating : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.11 Type G : 2 x 54W moisture proof fluorescent luminaire
- (a) Manufacturer : .....

- (b) Type : .....
- (c) IP rating : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.12 Type G1 : 2 x 54W moisture proof emergency fluorescent luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) IP rating : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.13 Type H : 57W post top luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec? : .....(Yes/No)
- 11.14 Type J: 2 x 54W megabay fluorescent luminaire
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec? : .....(Yes/No)
- 11.15 Type J1 : 3 x 54W megabay emergency fluorescent luminaire with 1Hr battery unit @ 20%
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Battery back-up time : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.16 Type K: 1000W M/H floodlight for combi court
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Type of light beam : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.17 Type L: 400W M/H floodlight
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Type of light beam : .....
- (d) Complies with Spec? : .....(Yes/No)
- 11.18 Type M: 1000W M/H floodlight for athletics track
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Type of light beam : .....
- (d) Complies with Spec? : .....(Yes/No)
12. Photocell
- (a) Manufacturer : .....

- (b) Installation method : .....
- (c) Type and IP rating of enclosure : .....
13. Occupancy sensor
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Installation method : .....
- (d) Coverage : .....
14. Wiring
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Complies with Spec : .....(Yes/No)
15. Labeling system for wiring
- (a) Manufacturer : .....
- (b) Type : .....
16. Distribution boards
- 16.1 Recessed distribution boards
- (a) Manufacturer : .....
- (b) Enclosure type : .....
- (c) Current density of busbars : ..... A/mm<sup>2</sup>
- 16.2 Circuit breakers
- (a) Manufacturer : .....
- (b) Trade name : .....
- (c) Port of delivery : .....
- (d) Minimum fault level : ..... kA
- 16.3 Isolators
- (a) Manufacturer : .....
- (b) Trade name : .....
- (c) Minimum fault level : ..... kA
- 16.4 Earth leakage units
- (a) Manufacturer : .....
- (b) Sensitivity rating : .....
- (c) Minimum fault level : ..... kA
- 16.5 Contactors
- (a) Manufacturer : .....
- (b) Type : .....
- (c) Current rating reference : ..... (e.g. AC3)
- (d) Control voltage : .....
17. High Mast poles
- (a) Manufacturer : .....

- (b) Type : .....
- (c) Material : .....
- (d) Height : .....
- (e) Type of DB : .....
- (f) To spec? : ..... yes/no
18. Combi court scout light poles
- (a) Manufacturer : .....
- (b) Material : .....
- (c) Mounting height : .....
- (d) Pole diameter : .....
- (d) To spec? : ..... yes/no
19. Area lighting light poles
- (a) Manufacturer : .....
- (b) Material : .....
- (c) Mounting height : .....
- (d) Pole diameter : .....
- (d) To spec? : ..... yes/no

## C3.7 EPWP LABOUR INTENSIVE SPECIFICATION

### 4.1.1 Labour intensive competencies of supervisory and management staff

Contractors having a CIDB contractor grading designation of 6CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed or are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a contractor grading designation of 1GB, 2 GB, 3 GB and 4 GB shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

**Table 1: Skills programme for supervisory and management staff**

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, <b>and</b>
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, <b>and</b>
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent / Manager (i.e. the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

### 4.2.0 Employment of unskilled and semi-skilled workers in labour-intensive works – According to SANS 1914-5.

#### 4.2.1 Requirements for the sourcing and engagement of labour.

4.2.1.1 Unskilled and semi-skilled labour required for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

4.2.1.2 The rate of pay set for the EPWP per task or per day is as legislated in latest publication.

4.2.1.3 Tasks established by the contractor must be such that:

- a) the average worker completes 5 tasks per week in 40 hours or less; and
- b) the weakest worker completes 5 tasks per week in 55 hours or less.

4.2.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 4...2.1.3.

4.2.1.5 The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- a) where the head of the household has less than a primary school education;
- b) that has less than one full time person earning an income;
- c) where subsistence agriculture is the source of income.
- d) those that are not in receipt of any social security pension income

4.2.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

#### **4.2.2.0 Specific provisions pertaining to SANS 1914-5**

##### **4.2.2.1 Definitions**

**Targeted labour:** Unemployed persons who are employed as local labour on the project.

##### **4.2.2.2 Contract participation goals**

4.2.2.2.1 The target participation goal for this Contract shall be a minimum of:

<b>Project</b>	<b>Labour Intensity</b>	<b>Wages Rate</b>	<b>Months</b>	<b>Target</b>
Maja Sports Complex	5%	As per Gazetted rates at close of tender	8	21

The contract participation goal shall be measured to these requirements.

4.2.2.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

##### **4.2.2.3 Terms and conditions for the engagement of targeted labour**

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

##### **4.2.2.4 Variations to SANS 1914-5**

4.2.2.4.1 The definition for net amount shall be amended as follows:

Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.

4.2.2.4.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

##### **4.2.2.5 Training of targeted labour**

4.2.2.2.5.1 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.

4.2.2.2.5.2 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.

4.2.2.2.5.3 A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works– Cinderella Makunike, Fax Number 012 328 6820 or email [cinderella.makunike@dpw.gov.za](mailto:cinderella.makunike@dpw.gov.za) Tel: 083 677 4026.

4.2.2.2.5.4 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.

4.2.2.2.5.5 The contractor shall do nothing to dissuade targeted labour from participating in training programmes.

4.2.2.2.5.6 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 4...2.2.2.5.4 above.

4.2.2.2.5.7 Proof of compliance with the requirements of 4...2.2.2.5.2 to 4...2.2.2.5.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

#### **4.3 Certification by recognized bodies – N/A.**

#### **4.4 Plant and materials provided by the employer**

No material will be supplied by the employer. The contractor must supply all materials and plant.

All materials and plant shall be made available by the Contractor for the execution of the works.

All materials used in the Works shall, where such mark has been awarded for a specific type of material, bear the SABS mark.

#### **4.5 Construction Equipment**

No equipment will be supplied by the employer. The contractor must supply all equipment and as far as possible, hire equipment from the local community.

The contractor's equipment for construction shall be adequate for the purpose required, of modern design and in good condition to carry out the works expeditiously. Should the Engineer be of the opinion that the equipment in use is in any way unsuitable for carrying out the works in a manner or at a rate commensurate with the requirements of the contract, he shall have the right to call on the Contractor at any time during the progress of the works to provide such additional or improved equipment as may be necessary to meet these requirements.

The Employer makes no provision in this contract for financial assistance to the Contractor for the acquisition of plant, machinery and equipment.

#### **4.6 Existing Services**

A number of existing underground services are on the site, and prior to any excavation work being commenced, it shall be the responsibility of the Contractor to make all the necessary enquiries with the Local Authority to satisfy himself as to the existence or not of any services on the site and to obtain permission to open up any existing services. Any damage to underground or visual overhead services that are shown on the drawings or that have been pointed out by the Engineer or authority in charge of



such services, shall be repaired at the contractor's cost. The contractor shall also be liable for any compensations claimed resulting from damage to services that were pointed out to him.

#### **4.6.1 Care of Existing Services**

It is to be noted that construction work will be done adjacent to or traversing existing services. Prior to commencement of any constructional work in the aforesaid affected area, the Contractor shall satisfy the Engineer that all necessary precautions with respect to setting out procedures have been taken by the Contractor to evade the existing services.

The Contractor shall, before starting any excavations, carefully search and probe the terrain for any existing services or indications of the presence of such services. A payment item is included in the Schedule of Quantities for excavations by hand to locate known and unknown services. If other methods are to be used, the cost thereof is to be included in the Preliminary and General payment items.

In addition if the proposed new service(s) crosses underneath overhead power lines belonging to Eskom as well as underground pipelines and communication cables belonging to Telkom, the Contractor shall have to comply with all the requirements laid down by the relevant authorities when working in the vicinity thereof. The Contractor shall be responsible for checking the locations of all such services with representative of the relevant authorities to ensure that no damage is caused by construction operations.

Work executed within the road reserve of provincial or local roads shall be carried out strictly in accordance with the requirements laid down by the relevant provincial or local authorities. These include the use of traffic signs, flagmen and other requirements as applicable.

As the above work entails working in or close to an already developed enclosure, special care must be taken so as not to disturb the functioning of the existing facilities.

#### **4.6.2 Connection to Existing Services**

Prior to connection of new services to existing services, the Contractor shall ensure that the constructed services are clean and free of foreign matter and shall subsequently request the Engineer, in writing, to inspect such Works. Only upon written approval of the Engineer, may connections to existing services be made.

#### **4.6.3 Contractor to Notify Relevant Authority and the Engineer of Damaged Service**

In the event of any service being damaged or accidentally disconnected for any reason, the Contractor shall immediately contact the relevant authority for instructions and shall report the occurrence to the Engineer in writing. The report shall include the reasons for the occurrence of the incident. When instructed the damage is to be repaired as soon as possible to the approval of the Engineer and Authority. The Contractor will be held responsible for paying all costs incurred by the Service owner or himself as result of each incident where the relevant service was clearly identified beforehand.

### **4.7 Site Establishment**

#### **4.7.1 Contractor's Camp site**

The contractor shall provide a suitable site for his camp. The choice of the site for the establishment of the camp, offices and the layout thereof, shall be approved.

The camp site shall be cleared and grubbed and properly fenced with a security fence around the perimeter. The Contractor is to provide his own security at the camp or on the site if required, at his own expense.

After completion of the contract, the Contractor shall remove all his temporary buildings, plant and equipment. The site shall be made good and be left in a neat and tidy condition before a certificate of completion shall be issued.

#### **4.7.2 Water Supply**

The Contractor shall make his own arrangement for potable and construction water. See Item 4.10 below.

#### **4.7.3 Power Supply**

The Contractor shall make his own arrangements. The Contractor shall make his own arrangements for the supply of electric power to suit his own and the Engineer's requirements and operations. The cost of providing connections any transformer sub-stations and switch gear, generators fuel and/or overhead power lines or underground cables required to supply the electric power shall be included in the rates entered in the Schedule.

#### **4.7.4 Ablution Facilities**

The Contractor shall, at each construction area, provide sufficient portable chemical latrine units. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the approval of the engineer. No separate payment shall be made for this requirement and the costs thereof shall be deemed to be included in the rates billed for the contractor's time-related obligations.

#### **4.7.5 Cellular Telephone – See PSAB**

It is a requirement of the contract that the contractor shall equip his site agent(s) with a cellular telephone to allow for effective communication between the contractor's supervisory personnel and the engineer's supervisory staff. All costs associated with the provision of cellular telephones for the contractor's personnel shall be deemed to be included in rates billed for time-related charges.

#### **4.7.6 Site Facilities required by the Engineer – See PSAB**

Type 1 Office requirements as per PSAB, one site office of approximately 20m<sup>2</sup> complete with sufficient lighting and power points. Two desks, ten chairs, one conference table and two steel filing cabinets. Two carports for his exclusive use, a net shade cover will suffice. An ablution unit for his exclusive use.

The engineer does not require housing for personnel or laboratory facilities.

### **4.8 Site Usage**

The Employer expects the contractor, his staff or agents to maintain good public relations with landowners, other contractors and members of the public at all time.

Access to the site will be arranged by the Employer with the contractor. The Contractor shall submit a list of all his staff to the Employer for the purpose of access control.

### **4.9 Permits and Wayleaves**

No way leaves are required on the project. The Contractor's staff will require access permits to enter the site.

The Contractor shall give 7 days advance notice to both the Engineer and the property owner of his intention to commence work in a servitude. The Contractor shall not permit his workmen and labourers to use the servitude as a temporary right-of-way and shall carry out the work expeditiously and with minimum inconvenience to the occupiers and to owners of adjacent property.

The Contractor shall take all necessary precautions for the protection of persons livestock, buildings and property. The soil shall be kept segregated and all gardens, fences, paths etc. shall be reinstated to their former condition.

Where acquisition of a servitude has not been finalised it may not be possible to obtain continuity of the work. The Contractor will be required temporarily to omit such sections until instructed that the work may proceed.

No extra payment will be made to the Contractor should it be necessary to omit sections and return to them later. It is not intended, however, that the Contractor should be called upon to return to the Site after all other sections of the Contract have been completed and the Contractor has removed his plant and equipment.

Trees removed in a servitude shall remain the property of the stand owners if required by them.

#### **4.10 Water for Construction Purposes**

The Contractor shall make provision in his rates for the purchasing of water from local or other sources.

Should water be drawn from a Municipal source, the current tariffs shall be applicable. The Contractor can only draw water from points specified by the Municipality only after written authority has been granted. When permission is granted the water must be drawn through a metered stand pipe issued by the Water & Sanitation Division.

The Contractor shall cease to operate until other arrangements have been made for the supply of water. No claims for delays so caused will be considered.

#### **4.11 Survey Control and Setting Out of the Works –**

The Contractor shall verify at his own cost the accuracy of the pegs or benchmarks pointed out as being available for use to set out the works. Any discrepancies must be reported to the Engineer in writing.

All pegs or benchmarks which are damaged during the Contract which were not in the direct way of the construction of the works shall be replaced by a competent Surveyor (or Land Surveyor if the positions were determined by a Land Surveyor in the first place) at the Contractors own cost.

#### **4.12 Plant and equipment - See Section 4.1.2 – Project Specifications and for the purpose of Labour Intensive approach, are indicated in the SOQ, identified as 'Li'**

## C3.8 MANAGEMENT

### 1.0 Applicable SANS 1921 standards

The following parts of SANS 1921 Construction works standards and associated specification data are applicable to the works:

- 1) SANS 1921 – 1
- 2) SANS 1921 – 5
- 3) SANS 1921 – 6

The abovementioned South African National Standards make several references to the Specification Data for data, provisions and variations that make these standards applicable to this contract. The Specification Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and these standards.

Each item of Specification Data given below is cross-referenced to the clause in the standard to which it mainly applies.

The associated Specification Data is as follows:

<b>SANS 1921-1, Construction and management requirements for works contracts – Part 1: General engineering and construction works</b>	
<b>Clause</b>	<b>Specification data</b>
<b>Essential data</b>	
4.1.7	The Contractor shall be responsible for the pressed steel elevated tank shop drawings for approval by the Engineer
4.2.1	The responsibility strategy assigned to the contractor for the works is A.
4.2.2	The structural engineer is <b>T Tlou, PrEng (Tlou Consulting (Pty) Ltd)</b>
4.3.1	The planning, programme and method statements are to comply with the following: <ol style="list-style-type: none"> <li>1) Planned weekly progress in the form of a bar chart</li> <li>2) Monthly Updating and forecast.</li> <li>3) Critical Path Method.</li> </ol> And must be produced electronically in Microsoft Project version 2010 or later.
4.3.3	The notice period for inspection is 2 Days
4.9.3	The trees and shrubs which are not to be disturbed are identified in the scope of work.
4.12.2	The samples of materials, workmanship and finishes that the contractor is to provide and deliver to the employer are: N/A
4.12.2	The fabrication drawings that the contractor is to provide and deliver to the employer are: <ol style="list-style-type: none"> <li>1) All structural steelwork</li> <li>2) Elevated Pressed Steel Tank</li> <li>3) Precast Concrete pumphouse</li> </ol>
4.14.3	The office accommodation, equipment, accommodation for site meetings and other facilities for use by the employer and his agents are as per Project Specification PSAB.
4.14.5	The Contractor is required to provide latrine and ablution facilities- See Project Specifications
4.14.6	The requirements for the provision and erection of separate sign boards for consultants and subcontractors are as per Drawing No. P14296-091.
4.17.1	The requirements for the termination, diversion or maintenance of existing services are: <ol style="list-style-type: none"> <li>1) Exposure of the service to determine extent of interference with the planned works and informing the Resident Engineer..</li> <li>2) Coordinating with the responsible Authority for the diversion works</li> <li>3) Take photo of the exposed service before and after diversion.</li> <li>4) Record the new position of the service in the “as built drawings”.</li> </ol>
4.17.3	Services which are known to exist on the site are: water network as shown in Drawing No. P14296-001.
<b>Variations</b>	
<b>Additional clauses</b>	

<b>SANS 1921-5, Construction and management requirements for works contracts – Part 5: Excavation activities which are to be performed by hand.</b>	
<b>Clause</b>	<b>Specification Data</b>
<b>Essential Data:</b>	
5.1	The depth of trenches which are to be excavated by hand is 1, 5 meters.
<b>Additional clauses:</b>	
1	<b>Stone pitching and rubble concrete masonry</b> All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, shall be collected, loaded, off loaded and placed by hand. Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m. Grout shall be mixed and placed by hand.
2	<b>Manufactured Elements</b> Elements manufactured or designed by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. In addition the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper hand hold on them.

<b>SANS 1921-6, Construction and management requirements for works contracts – Part 6: HIV/AIDS awareness.</b>	
<b>Essential Data:</b>	
4.2.1(a)	A qualified service provider is a service provider that is one that is accredited or provisionally accredited training service provider in the HIV/AIDS field. A list of accredited service providers can be obtained from the Construction SETA (CETA) (tel 011-265 5900), Health and Welfare SETA (HWSETA) (011-622 6852) or on the Health and Welfare SETA website: <a href="http://www.hwseta.org.za">www.hwseta.org.za</a> .
<b>Additional clauses</b>	
	The duration of each workshop is not to be less than 2 ½ hours.

## 2 Recording of weather

The Contractor shall erect an effective rainfall gauge on the site and record the daily rainfall figures in a book. Such book shall be handed to the employer's representative for his signature no later than 12 days after rain that is considered to justify an extension of time occurs according to Standard Condition of Contract Clause 45(3)(b), as follows:

“(b) Abnormal climatic conditions, with the understanding that no extension of the time for completion shall be granted on the grounds of normal rainfall conditions, but extension of time in terms of clause 45.(2) of the General Conditions of Contract, on the grounds of abnormal rainfall or wet conditions, shall be calculated separately for each calendar month or part thereof, according to the following formula:  
When the value of  $V$  for any month exceeds the number of days in the particular month,  $V$  will be the number of days in the month. When  $V$  is negative and its absolute value exceeds  $N_n$ , then  $V$  shall be taken as equal to the negative of  $N_n$ .

The symbols shall have the following meanings:

$V$	=	Extension of time in calendar days for the calendar month under consideration.
$N_w$	=	Actual number of days in the calendar month on which a rainfall of $Y$ mm or more were recorded.
$N_n$	=	Average number of days, derived from existing rainfall records, on which a rainfall of $Y$ mm or more were recorded for the calendar month.
$R_w$	=	Actual rainfall in mm recorded on the Site in an approved rain gauge for the calendar month under consideration.
$R_n$	=	Average rainfall in mm for the calendar month, derived from existing rainfall records.
$Y$	=	Daily rainfall base value in mm. (Refer to PS 12).

$X$  = Average number of days per year with daily rainfall exceeding  $Y$  mm.  
(Refer to PS 12).

For the purposes of the contract  $N_n$ ,  $R_n$ ,  $X$  and  $Y$  shall have the values stipulated in the Project Specifications.

The total extension of time is the algebraic sum of the monthly totals for the period concerned.

Extension of time for parts of a month shall be calculated by using pro rata values of  $N_n$  and  $R_n$ . If the algebraic sum of the monthly totals is negative, no reduction of the time for completion as a result of rainfall shall be applicable.

This formula does not take into consideration any delays as a result of flood damage which may cause further or simultaneous delays, and flood damage shall be treated separately for the purposes of extension of time for completion.

The factor  $(N_w - N_n)$  is considered as a fair allowance for deviations from the normal for the number of days on which the rainfall exceeds  $Y$  mm. The factor  $(R_w - R_n)/X$  is considered as a fair allowance for deviation from the normal for the number of days on which the rainfall does not exceed  $Y$  mm, but on which wet conditions will hamper or disrupt work.

## **7 Unauthorized persons**

The Contractor shall keep NO unauthorized persons from the works at all times, and Under no circumstances may any person except guards be allowed to sleep on the building site.

The Contractor to keep a "Site Visitor's Register" and steps to be taken to ensure that all visitors ( all persons who is not Contractor's regular employee) register before entering the site. Sign to be provided to direct all visitors to Site Office.

## **8 Management meetings**

There will be scheduled monthly site progress meetings, which all parties to Contract must attend. The meeting will be conducted by the Engineer. The Contractor will be required to submit his progress and forecast progress for the project during this meeting as well as his achievements of the preferential project goals. The Project Labour, Plant and equipment, all site incidents and events to be reported. The Community to be represented by Project Steering Committee (PSC) and the Community Liaison Officer (CLO).

## **9 Electronic payments**

The Contractor to provide all his banking details when requested for the purpose of Electronic payments when as when necessary.

## **10 Daily records**

Daily records of resources (equipment and people employed) must be kept and must be available on site at all times. These records will include i.e. site instruction book, site diary, site visit register, contractual documentation and minutes of all project meetings. Labour information should be kept updated at all times.

## **11 Payment certificates**

Monthly progress payment certificate shall be submitted to the Engineer's Representative on site on the last day of the calendar month in which the work was done to allow for reconciliation of all quantities, rates, extensions and additions in the certificate. Upon approval by the Engineer's Representative, the certificate shall be submitted in typed Form to the Engineer before or on the 20<sup>th</sup> of each month following the month of measurement, together with the required number of copies, for certification. It will be assumed that the Contractor has made adequate provision in the prices tendered for manufacture/supply, delivery, assembly and commissioning all necessary aids required to execute the contract.

The certificates shall be according to the standard format included in the annexure to these specifications.

Where day works have been instructed by the Engineer, the Contractor shall submit the returns to the Engineer for signature and approval within twenty-four (24) hours of the end of the working day on which the work was executed. Day work returns shall be submitted on forms included in the annexure to the Specifications.

**12 Permits – N/A**

**13 Proof of compliance with the law**

The Contractor shall, in performance of the Contract, comply with all applicable laws, regulations and statutory provisions and agreements, and shall in particular, on the request of the Engineer, provide proof that he has complied therewith with regard to amongst others:

- ✓ Wages and conditions of work; and
- ✓ Safety

**City of Polokwane**



# **Occupational health and safety specification for the Molepo-Maja Sports Complex**

**Proudly prepared by**

**Tlou Consulting (Pty) Ltd and  
EMPOWERisk (Pty) Ltd**



**3. May 2018**



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# Occupational health and safety specification for the Molepo-Maja Sports Complex

## 1. Definitions

In this document the following expressions shall bear the meanings assigned to them below:

- 1.1 Client** means any person for whom construction work is being performed and/or undertaken [i.e. Johannesburg (Pty) Ltd for purposes of this specification];
- 1.2 Construction Regulations** means the Occupational Health and Safety Act's, No 85 of 1993, new Construction Regulations (GNR.84 of 07 February 2014) that came into effect on 01 March 2014;
- 1.3 Occupational health and safety plan** means a sufficiently documented plan to the standards of the Client, which addresses hazards identified and includes safe working procedures to mitigate, reduce or control the hazards identified;
- 1.4 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 construction site and/or other applicable areas such as site camp;
- 1.5 OHSACT** means the Occupational Health and Safety Act, No 85 of 1993, as amended; and
- 1.6 Principal Contractor** means an employer, as defined by Section 1 of the OHSACT who performs construction work and is appointed by the Client to be in overall control and management of the construction site and works.

## 2. Introduction

In terms of Construction Regulation 5(1)(b) of the OHSACT, the Client is required to compile an occupational health and safety specification for any intended project and provide such specification to prospective tenderers/bidders.

This specification has as objective to ensure that the principal contractor entering into a contract with the Client achieves and maintain 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 coming on site or on adjacent properties as far as it relates to the construction activities.

### 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.

Any contractor interested in submitting a bid in response to the Client's formal tender for any construction project, has to prepare and include a draft occupational health and safety plan based on this specification and the OHSACT in its tender submission. The Client will evaluate this plan as part of its formal tender adjudication processes to ensure compliance with Construction Regulation 5 that stipulates that the Client may only appoint a contractor who has the necessary competencies and resources to carry of the work appointed for safely.

### 4. General occupational health and safety provisions

#### 4.1 Hazard identification and risk assessment (Construction Regulation 9)

##### 4.1.1 Risk assessments

Annexure 5 of 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. It therefore remains the overall responsibility of the principal contractor to consider all applicable risks and pro- actively undertake risk assessments and implement appropriate risk mitigation measures.

##### 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 in writing, and the risk assessments shall form part of the occupational health and safety plan and be implemented and maintained as contemplated in Construction Regulation 9(1).

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;
- 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 SWPs; and
- A plan to review the risk assessments as the work progresses and changes are introduced or incidents occurred which requires the re-evaluation of the processes/risk mitigation.

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 mobilisation on site commences.

Despite the risk assessments listed in Annexure 5, 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 SWPs and the applicable method statements based on the risk assessments.

Hazard identification and risk assessments must be undertaken whilst SWPs must be developed for all out-of-scope work.

#### **4.1.3 Review of risk assessments**

The principal contractor is to review the hazards identified, the risk assessments and the SWPs 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.

It is also proposed that should an incident occur the SWPs and all other applicable processes be re-evaluated to ensure that the mitigation measures are still applicable and appropriate and if not a revision of the risk assessments be undertaken.

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 calendar days of such changes.

#### **4.2 Legal Requirements**

All Contractors entering into a contract with the Client shall, as a minimum, comply with the -

- OHSACT and a current, up-to-date copy of the OHSACT and its Regulations must be available on site at all times; and
- Compensation for Occupational Injuries and Diseases Act, No 130 of 1993 (COIDA) as amended. 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 COIDA must be available on site at all times.

### 4.3 Structure and responsibilities

#### 4.3.1 Overall supervision and responsibility for occupational health and safety

- a. The principal contractor [appointed in terms of Construction Regulation 5(1)(k)] is responsible to implement and maintain the occupational health and safety plan approved by the Client.
- b. The Chief Executive Officer (in terms of Section 16(1) of the OHSACT) of the principal contractor is to ensure that the Employer (as defined in the OHSACT) complies with the OHSACT. Annexure 1 "Legal Compliance Checklist" may be used for this purpose and assistance.
- c. 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 OHSACT. Such Designated Person is responsible to assist the Chief Executive Officer to ensure that the Employer complies with the requirements of the OHSACT.
- d. The construction manager, assistant construction manager, construction supervisor and assistant construction supervisor(s) appointed in terms of Construction Regulation 8 are responsible for supervising the construction work and in specific to ensure that all work undertaken comply with the requirements of the OHSACT, its Regulations and the Client's specifications.

#### 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.

Appointment description	Appointment required in terms of
Assistant construction manager	Construction Regulation 8(2)
Assistant construction supervisor	Construction Regulation 8(8)
Construction health and safety officer	Construction Regulation 8(5)
Construction manager	Construction Regulation 8(1)
Construction supervisor	Construction Regulation 8(7)
Construction vehicle, mobile plant and machinery supervisor	Construction Regulation 23
Demolition supervisor	Construction Regulation 14
Drivers of construction vehicles and operators of plant	Construction Regulation 23
Electrical installation and appliances inspector	Construction Regulation 24
Emergency, security and fire coordinator	Construction Regulation 29
Excavation supervisor	Construction Regulation 13

Appointment description	Appointment required in terms of
Fall risk protection supervisor	Construction Regulation 10
First-aiders	General Safety Regulation 3
Fire fighting equipment inspector	Construction Regulation 29
Hazardous chemical substances supervisor	Hazardous Chemicals Substances Regulations 10
Incident investigator	General Administrative Regulation 9
Ladder inspector	General Safety Regulation 13(a)
Lifting machines and equipment inspector	Construction Regulation 22
Occupational health and safety committee	OHSACT Section 19
Occupational health and safety representatives	OHSACT Section 17
Person responsible for machinery	General Machinery Regulation 2
Risk assessor	Construction Regulation 9(1)
Scaffolding supervisor	Construction Regulation 16
Stacking and storage supervisor	Construction Regulation 28
Structures supervisor	Construction Regulation 11
Traffic management supervisor	OHSACT Section 9(1)
Traffic safety officer	OHSACT Section 9(1)
Welding supervisor	General Safety Regulation 9

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.

Copies of appointments must be submitted to the Client together with 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 of 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.

#### 4.3.3 Construction health and safety officer

This project requires the appointment of a full-time construction health and safety officer, appointed in terms of Construction Regulation 8(5). This appointee should be duly registered and in good standing with a statutory body approved by the Chief Inspector as is required by Construction Regulation 8(6).

The South African Council for Project and Construction Management Professions (SACPCMP) is currently the statutory body responsible for the professional registration of construction health and safety officers and a copy of the appointee's SACPCMP's registration certificate should be submitted as part of the principal contractor's health and

safety plan and also be readily available in the health and safety file to be kept and maintained on site.

#### **4.3.4 Designation of occupational health and safety representatives (Section 17 of the OHSACT)**

Where the principal contractor employs more than 20 persons [including the employees of other contractors (sub-contractors) and its supervisors] 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. (Section 17 of the OHSACT as well as General Administrative Regulation 6 and 7 refer).

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.

#### **4.3.5 Duties and functions of the occupational health and safety representatives (Section 18 of the OHSACT)**

- a. 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.
- b. Occupational health and safety representatives must be included in accident and/or incident investigations.
- c. Occupational health and safety representatives must attend all occupational health and safety committee meetings.

#### **4.3.6 Appointment of occupational health and safety committee (Section 19 of the OHSACT)**

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 the chairperson 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:

1. Opening and welcome.
2. Members present, apologies and absent.
3. Minutes of previous meeting.
4. Matters arising from the previous meeting.



5. Occupational health and safety representatives' reports.
6. Incident and/or accident reports and investigations.
7. Incident, accident and/or injury statistics.
8. Other matters.
9. Endorsement of registers and other statutory documents by a duly authorised representative of the principal contractor.
10. Close and next meeting.

#### 4.4 Mandataries

It is a requirement that the principal contractor, when he appoints contractors or sub-contractors in terms of Construction Regulations 7(1)(c) includes an OHSACT Section 37(2) agreement (i.e. Agreement with Mandatary) in his agreement with such contractor.

#### 4.5 Administrative controls and the occupational health and safety file

##### 4.5.1 The occupational health and safety file [Construction Regulation 7(1)(b)]

As required by Construction Regulation 7(1)(b), the principal contractor and other contractors will each keep an occupational health and safety file on site containing the following documents as a minimum:

1. Notification of construction work (Construction Regulation 4.).
2. Updated copies of the OHSACT and its Regulations as well as the COID Act (General Administrative Regulation 4.).
3. Proof of registration and good standing with the Compensation Commissioner or a COID Insurer [Construction Regulation 5(1)(j)].
4. Occupational health and safety plan agreed with the Client including the underpinning risk assessment(s) and method statements [Construction regulation 7(1)].
5. Copies of occupational health and safety committee meetings and other relevant minutes.
6. Designs and/or drawings [Construction Regulation 7(1)(b)].
7. A list of contractors (sub-contractors) including copies of the agreements between the parties, proof of good standing with the Compensation Commissioner or COID Insurer, and the type of work to be undertaken by each contractor (Construction Regulation 7).
8. Appointment and designation forms as per paragraphs 4.3.1 and 4.3.2 above.
9. Copy of the construction health and safety officer's SACPCMP registration certificate.
10. 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 actuated fastening devices;
  - Inspection of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
  - Fall risk 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);
  - Inspections of scaffolding;
  - Inspections of stacking and storage;
  - Inspections of structures; and
  - Inspections of welding equipment.
12. All other applicable records.

The Client will conduct and evaluation of the principal contractor's occupational health and safety file from time to time.

#### **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 not more than four (See Annexure 2 to this document: "Measuring Injury Experience") and report on this to the Client on a monthly basis.

#### **4.7 Notification of construction work (Construction Regulation 4)**

The principal contractor must at least 7 days before construction work is to be carried out, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure 2 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.

#### **4.8 Medical certificates of fitness (Construction Regulation 7)**

As required by Construction Regulation 7(1)(g), the principal contractor must ensure that all employees have a valid medical certificate of fitness specific to the construction work to be performed. These certificates must be issued by an occupational health practitioner in the form of Annexure 3 (i.e. Annexure 3 in the Construction Regulations).

## 4.9 Training, awareness and competence

The contents and syllabi of all training required by the OHSACT and Regulations must be included in the principal contractor's occupational health and safety plan.

### 4.9.1 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.

All subsequent and newly appointed employees must also be subjected to the induction training as soon as possible after the appointment but prior to starting working on site.

### 4.9.2 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.

### 4.9.3 Other training

1. 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 or proof of competency.
2. All employees in jobs requiring training in terms of the OHSACT and Regulations must be in possession of valid proof of training.
3. 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. -
  - a. General induction (Section 8 of the OHSACT);
  - b. Site and job specific induction, including visitors (Sections 8 and 9 of the OHSACT);
  - c. Site and project manager;
  - d. Construction manager;
  - e. Construction supervisor;

- (3) of the OHSACT];
- f. Occupational health and safety representatives [Section 18
  - g. Training of the appointees indicated in paragraphs 4.3.1 and 4.3.2;
  - h. Operators and drivers of construction vehicles and mobile plant (Construction Regulation 23);
  - i. Basic fire prevention and protection (Environmental Regulations 9 and Construction Regulation 29);
  - j. Basic first-aid (General Safety Regulations 3);
  - k. Storekeeping methods and safe stacking (Construction Regulation 28); and
  - l. Emergency, security and fire coordinator.

#### 4.9.4 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 as well as sub-contractors. The following are some of the methods that may be used:

- Toolbox talks
- Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as employee “occupational health and safety circles”.

#### 4.9.5 Notices and signs

The following notices and signs are, where applicable, compulsory on the construction site as well as the contractors’ yards:

Area and/or activity where notice or sign is required	Notice or sign required in terms of
Display of notices and signs	General Safety Regulation 2B and SABS Code 1186
Entry	General Safety Regulation 2C(2)
First-aid	General Safety Regulation 3(6)
Toilets and change rooms	Facilities Regulation 2 (5) 4(2)(f)
Storage of flammable materials	General Safety Regulation 4(8)(a)(i) and (ii) [10(e) only applicable to contractor’s yards]
Grinding wheels	Driven Machinery Regulation 8(1)(7)
Machinery	General Machinery Regulation 9 (Schedule D)
Explosive actuated fastening devices	Construction Regulation 21(2)(f)
Prohibition on smoking and eating or drinking at the workplaces where high risk substances [FR5 (1)] are stored or handled	Facilities Regulation 6(b)
Non-potable water	Facilities Regulation 7(B)
Construction Works Permit	Construction Regulation 3(4)

#### **4.9.6 Competence**

The principal contractor shall ensure that his and other contractors' employees appointed are competent and that all training required to undertake 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 or requirements changes.

Records of all training must be kept on the occupational health and safety file for auditing purposes.

#### **4.10 Consultation, communication and liaison**

The following arrangements will apply-

- 4.10.1** 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.
- 4.10.2** In addition to the above, communication may be directly to the Client or his appointed Agent, verbally (followed up in writing within 14 calendar days) or in writing, as and when the need arises.
- 4.10.3** 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.
- 4.10.4** 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 etcetera.
- 4.10.5** 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.
- 4.10.6** The principle and other contractors will be required to conduct toolbox talks with their employees on at least a weekly basis and records of these including the topics discussed 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.

**4.10.7** The principal contractor's most senior manager on site will be required to attend all the Client's occupational health and safety meetings.

**4.10.8** The Client or his Agent and the principal contractor will agree on the dates, times and venues of the occupational health and safety meetings.

#### **4.11 Checking, reporting and corrective actions**

##### **4.11.1 Monthly compliance assessment by Client [Construction Regulation 5(1)(0)]**

The Client will be conducting a periodic 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.

##### **4.11.2 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.

##### **4.11.3 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.

##### **4.11.4 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.

##### **4.11.5 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.

##### **4.11.6 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.

#### 4.11.7 Reporting of inspection results

The principal contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 3: "Safety, Health and Environment Risk Management Report".

### 4.12 Incident reporting and investigation

#### 4.12.1 Reporting of accidents and incidents (Section 24 and General Administrative Regulation 8 of the OHSACT)

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 calendar days and to the Provincial Director of the Department of Labour within seven calendar days from date of incident (Section 24 of the OHSACT 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 OHSACT within seven calendar 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 (3) and (4) below, within seven calendar days of the incident occurring.

#### **4.12.2 Accident and incident investigation (General Administrative Regulation 9)**

1. 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.
2. The results of the investigation to be entered into the accident and/or incident register.
3. 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 OHSACT and keeping a record of the results of such investigations including the steps taken to prevent similar accidents/incidents in future.
4. 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.
5. The Client reserves the right to hold its own investigation into an incident or call for an independent external investigation.

### **5. Operational control**

#### **5.1 Emergency preparedness, contingency planning and response**

- 5.1.1 The principal contractor must appoint a competent person to act as emergency controller and/or coordinator.
- 5.1.2 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.
- 5.1.3 The principal contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

#### **5.2 First-aid (General Safety Regulation 3)**

- 5.2.1 The principal contractor must provide first-aid equipment and have qualified first-aider(s) on site as required by General Safety Regulation 3 of the OHSACT.
- 5.2.2 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 getting emergency medical support to person(s) who may require it.

- 5.2.3 The principal contractor must have firm arrangements with his contractors in place regarding the responsibility of these contractor's first-aid arrangements as well as treatment of injured and/or ill employees.

### **5.3 Security**

- 5.3.1 The principal contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must, among others, include the rule that non-employees will not be allowed on site unaccompanied.
- 5.3.2 The principal contractor must develop a set of project applicable security rules and procedures and maintain these throughout the construction period.

### **5.4 Accommodation of traffic**

- 5.4.1 Where construction work is undertaken in, next to or close to a public road, the use of appropriate as well as a sufficient number of road signs is of paramount importance to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/risks/vehicles.
- 5.4.2 The principal contractor shall ensure that appropriate as well as a sufficient number of road signs are posted to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/vehicles. These signs shall be repeated and utilised, where appropriate, as actual construction work is approached.
- 5.4.3 The following signage is required as a minimum where construction work is undertaken in, next to or close to a public road:
- a. "Construction work ahead" sign at least 45 meters before the start of the construction work;
  - b. "Lane narrows" sign 30 meters before the start of the construction work;
  - c. "Keep right/left" sign 15 meters before the start of the construction work and again where the tapering begins; and
  - d. Delineators and cones every 5 meters for the entire stretch of construction work.
- 5.4.4 Where construction work includes excavations in or next to a public road, warning lights or visible boundary indicators should be provided after dark or when visibility is poor.
- 5.4.5 The maintenance of all signage and especially those that is suitable after dark should be duly managed.



- 5.4.6 Where appropriate duly trained flag persons should be deployed a good distance ahead of areas where traffic is deviated or lanes closed off. These flag persons should be managed assertively to ensure that they add optimal value and should they not do so they should be retrained and if necessary replaced.
- 5.4.7 In high risk areas where the posting and maintenance of applicable road signs and the deployment of flag persons not mitigate the traffic risk to an acceptable level, additional traffic calming measures such as liaison with local law enforcement agencies, speed humps etcetera should be considered. In the event where speed humps are opted for these speed humps should be constructed as per the engineer's specifications and in a manner where they mitigate and not actually aggravate the risk by creating sudden emergency risks, i.e. cause damage to vehicles or prompt road users to drive on the wrong side of the road to avoid them.
- 5.4.8 The community liaison officer (CLO) should also be sensitised on the optimal management of traffic and the risks involved and then be instructed to increase community awareness through talking to all stakeholders including the distribution of suitable information brochures.

## **5.5 Fall protection [Working in fall risk positions (Construction Regulation 10)]**

- 5.5.1 A pre-emptive risk assessment will be required for any work to be carried out from a fall risk position and will be classified as "work in elevated positions".
- 5.5.2 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 suitable fall arrest equipment to prevent the person falling from the platform, ladder or other device utilised. This fall arrest equipment 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.

- 5.5.3 Where the requirement in paragraph 5.5.2 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.
- 5.5.4 Where the requirements in paragraph 5.5.3 are not practicable, a suitable catch net, which must be able to sustain the weight of at least the average person working in the elevated position, must be erected.

- 5.5.5 Employees working in elevated positions must be trained to do this safely and without risk to their or other person's health and safety.
- 5.5.6 Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material and openings in the roof.
- 5.5.7 Updated records confirming the physical and psychological fitness of employees working at elevated positions should be kept on the health and safety file at all times.

## **5.6 Structures (Construction Regulation 11)**

The principal contractor must ensure that:

- 5.6.1 Only skilled employees are allowed to erect structures and that the skills of these employees are being verified at regular intervals.
- 5.6.2 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.
- 5.6.3 No structure is overloaded to the extent where it becomes unsafe.
- 5.6.4 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.
- 5.6.5 All drawings pertaining to the design are on site, utilised and available for inspection.

## **5.7 Access scaffolding (Construction Regulation 16)**

Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulation 16 and SA Bureau 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 and safely.

Scaffolding must be erected, altered, maintained or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous and direct supervision of such a person.

## 5.8 Lifting equipment (Construction Regulation 22)

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 OHSACT:

The Driven Machinery Regulation requires that:

- a. Lifting equipment to be 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;
- b. 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;
- c. 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;
- d. 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;
- e. 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)
  - fibre ropes- 10 (ten)
- f. Every hook or load attaching device must be designed as such or fitted with a device that will prevent the load from slipping off or disconnecting;
- g. 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;
- h. 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
- i. 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.

## 5.9 Lifting tackle

The following requirements will apply to lifting tackle:

- a. Manufactured of sound material, well constructed and free from latent defects;
- b. Clearly and conspicuously marked with an identity number;
- c. Maximum mass load factor of safety:

- Natural fibre ropes - 10(ten)
  - Man-made fibre ropes and woven webbing - 06(six)
  - Steel wire ropes – single rope - 06(six)
  - Steel wire ropes – combination slings - 08(eight)
  - Mild Steel chains - 05(five)
  - High tensile/alloy steel chains - 04(four)
- d. 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.

### 5.10 Construction vehicle and mobile plant operators

The following requirements will apply to construction vehicle and mobile plant operators:

- a. Only certified and/or competent employees may be allowed to operate any construction vehicle and mobile plant.
- b. Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating.
- c. Only employees duly authorised to do so may operate any construction vehicle and mobile plant.
- d. Only employees physically and psychologically fit, i.e. in possession of a medical certificate of fitness, may be allowed to operate any construction vehicle and mobile plant.

### 5.11 Construction vehicles and mobile plant (Construction Regulation 23)

Construction vehicles and mobile plant should be formally and duly inspected by a competent person appointed by the principal contractor prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment must be required to comply with this specification as well as the OHSACT and Regulations.

Construction vehicles and mobile plant must be:

- a. Of acceptable design and construction;
- b. Maintained in good working order;
- c. Used in accordance with their design and intention for which they were designed;
- d. Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons to be allowed to drive construction vehicles and mobile plant;
- e. Provided with safe and suitable means of access;
- f. Fitted with adequate signalling devices to make movement safe including reversing;
- g. Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same;
- h. Provided with roll-over protection;
- i. Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book and any defects addressed as matter of urgency;

- j. Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and
- k. Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

No loose tools, material etcetera 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 organised 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 adequate 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.

All construction vehicles and mobile plant daily inspection records must be kept in the occupational health and safety file.

## **5.12 Electrical installations (Construction Regulation 24)**

Any electrical work undertaken as part of the project, including 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:

- a. Existing services are to be located and clearly marked before construction commences and during the progress thereof;
- b. Where the abovementioned is not possible, employees with jackhammers etc. will be protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etcetera;
- c. Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;
- d. 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;
- e. 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

- f. A competent person appointed in writing must control all temporary electrical installations.

### 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 be informed of and adhere to this lockout procedure.

### 5.14 Use and storage of flammables (Construction Regulation 25)

The principal contractor must ensure that:

- a. No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions is taken;
- b. Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with consistent access control measures in place and sufficient fire fighting equipment installed and fire prevention methods practiced for example proper housekeeping;
- c. Only one day's quantity of flammable is to be kept in the workplace;
- d. Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas; and
- e. Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.

### 5.15 Hazardous chemical substances

The principal contractor must ensure that:

- a. Employees receive the necessary information and training to be able to use, handle and store hazardous chemical substances safely;
- b. The risk assessments required in terms of Construction Regulation 9 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;
- c. Suppliers provide the necessary information in the form of material safety data sheets regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances;
- d. 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;
- e. 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;



- f. No person eats or drinks in an area where hazardous chemical substances are stored or utilised; and
- g. Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.

#### **5.16 Storage of flammable and hazardous chemicals (Hazardous Chemical Substances Regulations)**

See paragraphs 5.14 and 5.15 above.

#### **5.17 Fire prevention and protection**

The principal contractor must ensure that:

- a. The risk of fire is avoided;
- b. Sufficient and suitable storage of flammables is provided;
- c. All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire;
- d. A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;
- e. Employees are informed regarding emergency evacuation procedures and escape routes;
- f. Emergency escape routes are kept clear at all times and clearly marked;
- g. Evacuation assembly points are demarcated and made known to employees;
- h. Evacuation is regularly practiced to ensure that all persons are evacuated timeously and;
- i. Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors and disabled persons have been left behind; and
- j. A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.

#### **5.18 Housekeeping (Construction Regulation 27)**

The principal contractor must ensure that:

- a. Housekeeping is continuously implemented and maintained;
- b. Materials and equipment is properly stored;
- c. Scrap, waste and debris is removed off site regularly;
- d. Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- e. An unimpeded work space is maintained for every employee;
- f. Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done; and
- g. 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.

#### **5.19 Stacking and storage (Construction Regulation 28)**

The principal contractor must ensure that:

- a. A competent person is appointed in writing to supervise all stacking and storage on a construction site;
- b. Adequate storage areas are provided and demarcated;
- c. The storage areas are kept neat and under control;
- d. The base of any stack is level and capable of sustaining the weight exerted on it by the stack;
- e. The items in the lower layers can support the weight exerted by the top layers;
- f. Cartons and other containers that may become unstable due to wet conditions are kept dry;
- g. Pallets and containers are in good condition and no material is allowed to spill out;
- h. 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);
- i. The articles that make up a single tier are consistently of the same size, shape and mass;
- j. Structures for supporting stacks are structurally sound and able to support the mass of the stack;
- k. No articles are removed from the bottom of the stack first but from the top tier first;
- l. Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her;
- m. Stacks that are in danger of collapsing are broken down and restacked;
- n. Stability of stacks are not threatened by vehicles or other moving plant and machinery;
- o. Stacks are built in a header and stretcher fashion and that corners are securely bonded; and
- p. Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.

## **5.20 Eating, changing, washing and toilet facilities (Construction Regulation 30)**

### **5.20.1 Toilets**

- a. The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 30.
- b. 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.

### **5.20.2 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.



### 5.20.3 Change rooms

Some form of screened off changing facility must be provided separately for each sex.

### 5.20.4 Eating facility

Some form of eating facility sheltered from the sun, wind and rain must be provided.

### 5.20.5 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 after obtaining of the necessary permission from authorities and adhering to requirements such as Bylaws of the local municipality.

## 5.21 Personal and other protective equipment (Sections 8, 15 and 23 of the OHSACT)

The principal contractor is required to proactively identify the hazards in the workplace and deal with them on an ongoing 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 re-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 in a consistent and correct manner.

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 blatantly abused or neglected the equipment leading to early failure; and
- Where the employee has lost the equipment.

**Please note:** Bullet points two and three above should form part of a formal disciplinary process, i.e. following a disciplinary hearing.

## **5.22 Portable electrical tools and equipment (Electrical Machinery Regulation 9)**

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, etcetera must be inspected regularly but at least on a weekly basis 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 authorised 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.

## **5.23 Public health and safety (Section 9 of the OHSACT)**

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 minimise those dangers. This includes among others:

- a. Non- employees entering the site for whatever reason;
- b. The surrounding community; and
- c. Passers by 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.

## 5.24 Excavations (Construction Regulation 13)

All excavation work has to comply with the following:

- 5.24.1 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.
- 5.24.2 Before excavation work begins the stability of the ground must be evaluated.
- 5.24.3 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.
- 5.24.4 No person may be required or permitted to work in an excavation that has not been adequately shored or braced.

2.24.5 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.

- 5.24.6 Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.
- 5.24.7 Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained, before excavation proceeds, whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavation supervisor.
- 5.24.8 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. Best practice requires a one meter clearance so as to reduce the pressure on the side walls as well as risk of material falling onto persons inside the excavation.
- 5.24.9 Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.
- 5.24.10 Every excavation must be provided with means of access that must be within 6 metres of any employee within the excavation at any time. Should ladders be utilised for this purpose they should be duly secured.

- 5.24.11 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.
- 5.24.12 Every excavation, including the shoring and bracing or any other method to prevent a possible collapse, must be inspected by the appointed competent person as follows:
- Daily before work commences
  - After an unexpected collapse of the excavation or part thereof
  - After substantial damage to any support
  - After rain
- 5.24.13 The results of any inspections must be recorded in a register kept on site in the health and safety file.
- 5.24.14 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, on all sides, to at least one meter high and as close to the excavation perimeter as practicable. All such excavations must also be provided with warning lights or visible boundary indicators after dark or when visibility is poor.

## **5.25 Welding, flame cutting or similar operations**

Should any welding work be undertaken as part of emergency repairs to plant and equipment on site or as part of the construction activities, the principal contractor must ensure that:

- 5.25.1** A competent person will be appointed to supervise welding, flame cutting or similar operations on site.
- 5.25.2** The following rules will govern all welding and flame cutting or similar operations:
- a. The welder will be trained regarding the safe use/operation of the equipment.
  - b. The welder and his assistant will be provided with effective and appropriate personal protective equipment and/or clothing.
  - c. Cables and electrode holders will be effectively insulated.
  - d. The workplace will be effectively screened off to prevent bystanders from being affected by the welding rays or they will be provided with personal protective equipment.
  - e. Special precautions will be taken where welding is undertaken in confined spaces e.g. proper and sufficient ventilation will be provided.
  - f. 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.
  - g. 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.

- h. 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 it dangerous; or
  - contains any substance which, under the action of heat may explode or react to form dangerous or poisonous substances.
- i. 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.
- j. Gas welding hoses may only be joined with approved connectors and clamps.
- k. No oil or grease may be applied to oxygen valves and fittings.
- l. It is a sound practice to store pressure vessels and/or welding cylinders vertically and to secure them by means of a chain.
- m. Acetylene cylinders may never be inclined in excess of 45°.
- n. Proper and adequate fire prevention measures will be instituted and maintained for as long as the welding continues.
- o. Where explosive and/or flammable vapours are present welding will only be done under “hot work” permits.

## **5.26 Transportation of employees**

**5.26.1** Any vehicle used to transport employees must have seats firmly secured and adequate for the number of employees to be carried.

**5.26.2** Regulation 247 of the National Road Traffic Act, Number 93 of 1996 (NRTA) stipulates that the principal contractor shall not allow employees to be transported in a vehicle unless the portion of the vehicle in which the employees are being conveyed is enclosed to a height of –

- a. at least 350 mm above the surface on which employees are seated; or
- b. 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.

**5.26.3** Regulation 247 of the NRTA also stipulates that the principal contractor shall also not allow any employees to be conveyed in the goods compartment of a vehicle together with any tools or goods, except their personal effects, unless that portion in which the employees are being conveyed is separated by means of a partition, from the portion in which such goods are being conveyed.

## **5.27 Working in inclement weather**

The principal contractor shall implement an early warning system to identify inclement weather and to prevent such weather from posing negative implications on the safety of employees and other persons visiting.

The early warning system shall as a minimum provide for the following:

### **5.27.1 Construction work done during electrical storms**

- a. The principal contractor shall ensure that all employees are removed from heights and all employees are as safe as possible, in inclement weather conditions.
- b. No work is allowed on the construction site during electric storms where employees cannot be protected from it. Protection involves employees being restricted to:
  - eating area fitted with a lightning mast
  - workshops
  - inside buildings
- c. No work is allowed in electrical storms on top of open structural steel, even when earthed.
- d. No work is allowed on heights when the lightning is within a 10 kilometre radius.
- e. After inclement weather on-site risk assessments will be reviewed to include wet conditions.

### **5.27.2 Lifting equipment operations during inclement weather**

- a. Lifting operations will stop during lightning within a 10 kilometre radius and wind above 28 km/h, and the lifting equipment operator will not be allowed to leave the lifting equipment with the booms extended.
- b. Lifting operations will stop during rain, rigging and hand lifts.
- c. Booms on all lifting equipment will be retracted.
- d. All rigging operations will stop and employees will be removed from site.

### **5.27.3 Construction work done during rain**

- a. During rainy conditions all work on steel structures will stop.
- b. No electrical tools will be used during rainy weather in open areas.
- c. Work can be done in water proof areas where there is a zero risk for electrocution.
- d. Areas that may be cleared for work during rain includes:
  - workshops
  - offices
  - work on ground level with the provision that the area is maintained in a safe dry condition

#### 5.27.4 Scaffolding activities during inclement weather conditions

During inclement weather only limited scaffolding actions will be permitted i.e. erecting and dismantling activities.

Guidelines for safe choices:

Weather type	Building and dismantling of scaffolding
Lightning	Stop all activities
Light rain	Stop all activities
Heavy rain	Stop all activities
Wind <28 km/h	Full use
Wind >40 km/h	Stop all activities
Light mist	Full use
Heavy mist	Full use
Hail	Stop all activities

All scaffold users will:

- Ensure that scaffolding is inspected immediately after inclement weather conditions.
- Ensure that the risks associated with working at heights during inclement weather are identified and reasonably mitigated.
- Be cautious of slip/trip hazards when performing activities during inclement weather.
- Take note of the weather when completing the daily safe task instructions on site, where applicable.

#### 5.27.5 Driving in inclement weather

The principal contractor shall ensure that the danger of driving in wet conditions is adequately covered in a risk assessment.

The risk assessment will include, but not limited to:

- route planning
- speed reduction
- planning for emergency situations
- driving precautions for slippery surfaces
- visibility hazards

### 6. 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.

### 7. Cost for health and safety measures during the construction process

To enable the Client to comply with Construction Regulation 5(1)(g), all potential principal contractors submitting tenders/bids have to demonstrate to the Client that



sufficient provision has been made for the cost to implement and maintain the health and safety plan proposed by the principal contractor to meet the requirements of this health and safety specification as well as that of the OHSACT and its Regulations.

A detailed schedule of costs has to be included in the health and safety plan submitted as part of the potential principal contractor's tender document. Failure by the principal contractor to adhere to this requirement will force the Client to reject the tender/bid in terms of Construction Regulation 5(1)(h).

## **8. Project specific risk assessment requirements**

See Annexure 5.

## **9. Overview of annexures**

Annexure 1:	Legal compliance assessment.
Annexure 2:	Measuring injury experience.
Annexure 3:	SHE risk management report.
Annexure 4:	Guide to risk assessments.
Annexure 5:	List of risk assessments.

## **10. Enquiries**

For any enquiries regarding this occupational health and safety specification, please contact –

Name: Bertie Viljoen Pr CHSA EMPOWERisk

Tel: 012 819 1600

Cell: 082 415 3714

Fax: 086 672 9573

E-mail: bviljoen@empowerisk.co.za



# City of Polokwane



## Annexure 1

### Legal compliance assessment

Proudly prepared by

**Tlou Consulting (Pty) Ltd and EMPOWERisk  
(Pty) Ltd**



# Occupational health, -safety and environment: Risk assessment checklist

(Based on the Construction Regulations of the Occupational Health and Safety Act)

ELEMENT	REMARKS
1. Administrative and legal requirements	
2. Education, training and promotion	
3. Public safety, security measures and emergency preparedness	
4. Personal protective equipment	
5. Housekeeping	
6. Working at heights (including roof work)	
7. Scaffolding and temporary work	
8. Ladders	
9. Electrical safeguarding	
10. Emergency, fire prevention and protection	
11. Excavations and demolition	
12. Tools	
13. Cranes	
14. Builder's hoist hoists	
15. Transport and materials handling equipment	
16. Site plant and machinery	
17. Plant and storage yard or site workshop specifics	
18. Workplace environment, health and hygiene	

## 1. Administrative and Legal Requirements

OHSACT Section or Regulation	Subject	Requirements	Yes/No
Construction Regulation 3	<b>Application for construction permit</b>	Should the project qualifies to trigger this requirement - <ul style="list-style-type: none"> <li>• Application for permit lodged;</li> <li>• Copy of construction permit in the OHS file; and</li> <li>• Is the site specific permit number</li> </ul>	

OHSACT Section or Regulation	Subject	Requirements	Yes/No
		conspicuously displayed at the main entrance.	
Construction Regulation 4	<b>Notice of carrying out Construction work</b>	For construction projects where no permit is required - <ul style="list-style-type: none"> <li>Was the Department of Labour notified; and</li> <li>Is a copy of notice available on site.</li> </ul>	
General Admin. Regulation 4	<b>Copy of OHSACT</b>	Updated copy of the OHSACT and Regulations on site. Readily available for perusal by all employees.	
COID Act Section 80 and Construction Regulation 5(1)(j)	<b>Registration with Compensation Commissioner or other approved compensation insurer</b>	Written proof of registration/Letter of good standing available on site.	
Construction Regulation 4 and 5(1)	<b>OHSACT specification, plans and program</b>	OHSACT spec received from CoP. OHSACT plan developed. OHSACT program implemented. Plans and program updated regularly.	
Section 8(2)(d) Construction Regulation 9	<b>Hazard identification and risk assessment</b>	Competent risk assessor appointed in writing Proof of risk assessor's competence available on site Risk assessment and –plan drawn up and updated. Baseline risk assessment undertaken prior to commencement of construction work. Copy of baseline risk assessment available on site. Continued risk assessments undertaken and recorded. Copies of ongoing risk assessments available on site. Employees and sub-contractors informed and trained by a competent person in the risk assessment before work commences and an ongoing basis thereafter. Health and safety committee or employee representatives consulted on the monitoring and review of the risk assessments.	
Section 16(2)	<b>Assigned duties (Managers)</b>	Responsibility of complying with the OHSACT assigned to other person/s by CEO.	
Construction Regulation 8(1)	<b>Designation of person ultimately responsible for occupational health and safety on site</b>	Competent person appointed in writing as construction manager.	

OHSACT Section or Regulation	Subject	Requirements	Yes/No
Construction Regulation 8(2)	<b>Designation of assistant construction manager</b>	Competent person appointed in writing as assistant construction manager.	
Construction Regulation 8(7)	<b>Designation of person responsible for ensuring occupational health and safety compliance</b>	Competent person appointed in writing as construction supervisor.	
Construction Regulation 8(8)	<b>Designation of assistant responsible person</b>	Competent person(s) appointed in writing as assistant construction supervisors.	
Section 17 & 18 and General Administrative Regulations 6 and 7	<b>Election and designation of occupational health and safety representatives</b>	More than 20 employees - one representative and one additional representative for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified. Meaningful reports. Reports actioned by management.	
Section 19 and 20 and General Administrative Regulations 5	<b>Occupational health and safety committee/s</b>	Committee/s established. Members appointed in writing. Meetings held monthly. Minutes kept. Actioned by management.	
Section 37(1) and (2)	<b>Agreement with mandataries, contractors and sub-contractors</b>	Written agreement with contractors and sub-contractors. Updated list of contractors and sub-contractors displayed. Proof of Registration with Compensation Commissioner or Compensation Insurer as well as Letter of Good Standing. Construction Supervisor designated. Written arrangements regarding representatives and committee. Written arrangements regarding first-aid.	
Construction Regulation 7(1)(c) and 7(2)(a)	<b>Management of sub-contractors</b>	Has the principal contractor – <ul style="list-style-type: none"> <li>provided all sub-contractors with relevant sections of the client's OHS specification</li> <li>formally evaluated and approved all sub-contractors' OHS plans.</li> <li>ensured that the sub-contractors appointed made sufficient provision for the costs to be incurred to implement and maintain their OHS plan.</li> </ul>	
Construction Regulation 7(1)(g)	<b>Medical certificates of fitness</b>	Are medical certificates of fitness (issued by an occupational health practitioners) specific to the construction work performed available for all employees on site	

OHSACT Section or Regulation	Subject	Requirements	Yes/No
Section 24 and General Administrative Regulation 8 COID Act Section 38, 39 and 41	<b>Reporting of incidents (Department Labour)</b>	Incident reporting procedure displayed. All incidents in terms of section 24 reported to the Provincial Director, Department of Labour, within 3 days (Annexure 1 and/or WCL 1 or 2). Cases of occupational disease reported. Copies of reports available on site. Record of first-aid injuries kept.	
General Administrative Regulation 9	<b>Investigation and recording of incidents</b>	All injuries which resulted in the person receiving medical treatment other than first aid, recorded and investigated by investigator designated in writing. Copies of reports (Annexure 1) available on site. Tabled at committee meeting. Actioned taken by site management.	
Construction Regulation 10	<b>Fall protection</b>	Competent person appointed to draw up and supervise the fall protection plan. Proof of appointees' competence available on site. Risk assessment carried out for work at heights. Fall protection plan drawn up and updated. Plan available on site.	
Construction Regulation 10(5)	<b>Roof work</b>	Competent person appointed to plan and supervise roof work. Proof of appointees' competence available on site. Risk assessment carried out. Roof work plan drawn up and updated. Roof work inspect before each shift and inspection register kept. Employees medically examined for physical and psychological fitness and written proof on site.	
Construction Regulation 12	<b>Temporary works</b>	Competent person appointed in writing as temporary works designer to inspect and approved any erected temporary works before use. Proof of appointees' competence available on site. Competent person appointed in writing as temporary works supervisor. Proof of appointees' competence available on site. Risk assessment carried out for work on temporary works structures. Temporary works drawings approved by temporary works designer and available on site. Other relevant documentation that includes construction sequence and method statements available on site.	

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OHSACT Section or Regulation	Subject	Requirements	Yes/No
		<p>Competent person(s) appointed in writing to:</p> <ul style="list-style-type: none"> <li>• erect, move or dismantle temporary works structures; and</li> <li>• examine and check all temporary works structures before being used;</li> </ul> <p>Written proof of competence of above appointees.</p> <p>Temporary work structures are inspected:</p> <ul style="list-style-type: none"> <li>• before, during and after the placement of concrete;</li> <li>• after inclement weather;</li> <li>• after a load was imposed;</li> <li>• daily whilst in place; and</li> <li>• before stripping or dismantling and inspection register kept.</li> </ul> <p>Inspection registers kept.</p> <p>Fall protection plan drawn up and updated.</p> <p>Plan available on site.</p>	
Construction Regulation 16	<b>Scaffolding</b>	<p>Competent persons appointed in writing to:</p> <ul style="list-style-type: none"> <li>• erect scaffolding (scaffold erector/s);</li> <li>• act as scaffold team leaders; and</li> <li>• inspect scaffolding weekly and after inclement weather (scaffold inspector/s).</li> </ul> <p>Written proof of competence of above appointees.</p> <p>Appointees available on site.</p> <p>Copy of SANS 10085 available on site.</p> <p>Risk assessment carried out.</p> <p>Inspected weekly and/or after bad weather. Inspection register/s kept.</p>	
Construction Regulation 17	<b>Suspended platforms</b>	<p>Competent persons appointed in writing to:</p> <ul style="list-style-type: none"> <li>• control the erection of suspended platforms;</li> <li>• act as suspended platform team leaders; and</li> <li>• inspect suspended scaffolding weekly and after inclement weather.</li> </ul> <p>Risk assessment conducted.</p> <p>Certificate of authorisation issued by a registered professional engineer available on site and copy forwarded to the Department of Labour.</p> <p>The following inspections of the whole installation carried out by a competent person</p> <ul style="list-style-type: none"> <li>• after erection and before use;</li> <li>• daily prior to use; and</li> </ul>	

OHSACT Section or Regulation	Subject	Requirements	Yes/No
		<ul style="list-style-type: none"> <li>inspection register kept.</li> </ul> <p>The following tests to be conducted by a competent person:</p> <ul style="list-style-type: none"> <li>load test of whole installation and working parts every 12 months; and</li> <li>hoisting ropes, hooks and load attaching devices quarterly; and</li> <li>tests log book kept.</li> </ul> <p>Employees working on suspended platforms should be medically examined for physical and psychological fitness. Written proof available.</p>	
Construction Regulation 13	<b>Excavations</b>	<p>Competent person/s appointed in writing to supervise and inspect excavation work. Written proof of competence of above appointee/s available on site. Risk assessment carried out. Excavations inspected:</p> <ul style="list-style-type: none"> <li>before every shift;</li> <li>after any blasting;</li> <li>after an unexpected fall of ground;</li> <li>after any substantial damage to the shoring; and</li> <li>after rain.</li> </ul> <p>Inspections register kept. Method statement developed where explosives will be and/or are used.</p>	
Construction Regulation 14	<b>Demolition work</b>	<p>Competent person/s appointed in writing to supervise and control demolition work. Written proof of competence of above appointee/s available on site. Risk assessment carried out. Engineering survey and method statement available on site. Inspections to prevent premature collapse carried out by competent person before each shift. Inspection register kept.</p>	
Construction Regulation 19	<b>Materials hoist</b>	<p>Competent person appointed in writing to inspect the material hoist. Written proof of competence of above appointee available on site. Materials hoist to be inspected weekly by a competent person. Inspection register kept.</p>	
Construction Regulation 26	<b>Water environments (including caissons and cofferdams)</b>	<p>Competent person appointed in writing to supervise, control and inspect work on or over water and the construction, installation, and dismantling of caissons and/or cofferdams. Written proof of competence of above appointee available on site.</p>	

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OHSACT Section or Regulation	Subject	Requirements	Yes/No
		Risk assessment carried by a competent person on a daily basis. Inspection register kept.	
Construction Regulation 21	<b>Explosive actuated fastening devices</b>	Competent person appointed to control the issue of the Explosive actuated fastening devices and cartridges as well as the service, maintenance and cleaning. Register kept of above. Empty cartridge cases, nails and fixing bolts returns recorded. Cleaned daily after use.	
Construction Regulation 20	<b>Bulk mixing plant</b>	Competent person appointed to control the operation of the bulk mixing plant as well as the service, maintenance and cleaning of this plant. Register kept of above. Risk assessment carried out. Bulk mixing plant to be inspected weekly by a competent person and inspections register kept.	
Construction Regulation 15 and Mine Health and Safety Act	<b>Tunnelling</b>	Complying with Mines Health and Safety Act (29 of 1996). Risk Assessment carried out.	
Construction Regulation 22 Driven Machinery Regulations 18 and 19	<b>Cranes and lifting machines equipment</b>	Competent person appointed in writing to inspect cranes, lifting machines and equipment. Written proof of competence of above appointee available on site. Cranes and lifting tackle identified and numbered. Register kept for lifting tackle. Logbook kept for each individual crane. Inspection: <ul style="list-style-type: none"> <li>• <b>All cranes:</b> Daily by operator.</li> <li>• <b>Tower cranes:</b> After erection and thereafter 6 monthly.</li> <li>• <b>Other cranes:</b> Annually by competent person.</li> <li>• <b>Lifting tackle (slings, ropes, chain slings etcetera):</b> Three monthly.</li> </ul>	
Construction Regulation 24 Electrical Machinery Regulations 9 and 10 Electrical Installation Regulations	<b>Inspection and maintenance of electrical installation and equipment (including portable electrical tools)</b>	Competent person appointed in writing to inspect/test the installation and equipment. Written proof of competence of above appointee available on site. Inspections: <ul style="list-style-type: none"> <li>• Electrical installation and equipment inspected after installation, alterations and quarterly thereafter. Inspection registers kept.</li> <li>• Portable electric tools and -lights and extension leads identified/numbered.</li> </ul> Monthly visual inspection by user, issuer	

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OHSACT Section or Regulation	Subject	Requirements	Yes/No
		or storeman. Register kept.	
Diving Regulations	<b>Diving operations</b>	Competent person appointed in writing to supervise diving operations and ensure maintenance, statutory inspection and testing by an approved inspection authority of equipment used. Written proof of competence of above appointee available on site. Proof of registration of all divers present on site available. Risk assessment carried out. Diving manual produced and available on site. Record of voice communications kept. Diving operations record kept. Each diver keeps a personal logbook and entries countersigned by the diving supervisor. Decompression tables available on site. Records of any decompression illness kept. Certificate of manufacture of any compression chamber or diving bell in use available on site.	
Construction Regulation 28 General Safety Regulation 8(1)(a)	<b>Designation of stacking and storage supervisor</b>	Competent persons with specific knowledge and experience designated to supervise all stacking and storage. Written proof of competence of above appointee available on site.	
Construction Regulation 29 Environmental Regulation 9	<b>Designation of a person to coordinate emergency planning and fire protection</b>	Person/s with specific knowledge and experience designated to coordinate emergency contingency planning and execution and fire prevention measures. Emergency evacuation plan: <ul style="list-style-type: none"> <li>• Developed and available on site;</li> <li>• Drilled and practiced; and</li> <li>• Records of drills and practices available on site.</li> </ul> Fire risk assessment carried out. All fire extinguishing equipment: <ul style="list-style-type: none"> <li>• Identified and on register;</li> <li>• Inspected weekly and inspection registers kept;</li> <li>• Replaced after use; and</li> <li>• Serviced annually.</li> </ul>	
General Safety Regulation 3	<b>First-aid</b>	Every workplace provided with sufficient number of first-aid boxes (required where 5 persons or more are employed). First-aid boxes freely available. Content of boxes as per the minimum requirements of the OHSACT. One qualified first-aiders appointed for every 50 employees (required where more than 10 persons are employed).	

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OHSACT Section or Regulation	Subject	Requirements	Yes/No
		List of First-aiders and competency certificates available on site. Name and contact details of person in charge of first-aid box clearly displayed. Location of first-aid boxes clearly demarcated. Signs instructing employees to report all injuries and/or illness including first-aid injuries.	
General Safety Regulation 2	<b>Personal protective equipment (PPE)</b>	PPE risk assessment carried out. Items of PPE prescribed and use enforced. Records of issue kept. Undertaking by employee to use and/or wear PPE.	
General Safety Regulation 9	<b>Inspection and use of welding and/or flame cutting equipment</b>	Competent person/s with specific knowledge and experience designated to inspect electric arc, gas welding and flame cutting equipment. Written proof of competence of above appointee available on site. Equipment identified/numbered and entered into a register. Equipment inspected monthly. Inspection register kept.	
Hazardous Chemical Substances (HCS) Regulations Construction Regulation 25	<b>Control of storage and usage of HCS and other flammables</b>	Competent person/s with specific knowledge and experience designated to control the storage and usage of HCS (including flammables). Written proof of competence of above appointee available on site. Risk assessment carried out. Register of HCS kept and/or used on site.	
Pressure Regulations	<b>Pressure (PV)</b>	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections and testing of PVs. Written proof of competence of above appointee available on site. Risk assessment carried out. Certificates of manufacture available on site. Register of PVs on site. Inspections and testing by approved inspection authority (AIA): <ul style="list-style-type: none"> <li>• after installation, re-erection or repairs;</li> <li>• every 36 months; and</li> <li>• register or log kept of inspections, tests, modifications and repair on site.</li> </ul>	

OHSACT Section or Regulation	Subject	Requirements	Yes/No
Construction Regulation 23	<b>Construction vehicles and earth moving equipment</b>	Operators or drivers appointed to: <ul style="list-style-type: none"> <li>Carry out a daily inspection prior to use; and</li> <li>Drive the vehicle or plant that he/she is competent to drive or operate.</li> </ul> Written proof of competence of above appointee available on site. Record of daily inspections kept on site. Medical assessments.	
General Safety Regulation 13A	<b>Inspection of Ladders</b>	Competent person appointed in writing to inspect ladders. Ladders inspected at arrival on site and monthly thereafter. Inspections register kept on site.	
General Safety Regulation 13B	<b>Ramps</b>	Competent person appointed in writing to supervise the erection and inspection of ramps. Inspection register kept on site.	

## 2. Education, training and promotion

Subject	Requirement	Yes/No
*Occupational Health and Safety Policy as per OHSACT Section 7(1)	Policy signed by CEO and published and communicated to employees. Policy displayed on employee notice boards. Management and employees committed.	
*Company and site health and safety rules as per OHSACT Section 13(a)	Rules published. Rules displayed on employee notice boards. Rules issued and explained to employees with written proof hereof. Follow-up to ensure employees understand and adhere to the rules.	
*Induction and task safety training as per OHSACT Section 13(a)	All new employees receive health and safety induction training. Training includes task safety instructions. Employees acknowledge receipt of training. Follow-up to ensure employees understand and adhere to instructions.	
*General health and safety training as per OHSACT Section 13(a)	All employees receive basic health and safety training. Written proof kept. Operators of plant and equipment receive specialised training. Follow-up to ensure employees understand and adhere to instructions.	
*Occupational health and safety promotion	Incident experience board indicating among others - Number of hours worked without an injury; and Number of days worked without an injury. Safety grading - Board kept up to date. Relevant safety posters displayed and changed regularly. Employee notice board for health and safety notices. Site health and safety competitions. Company health and safety competition. Participation in regional health and safety competitions. Suggestion scheme.	

### 3. Public safety, security measures and emergency preparedness

Subject	Requirement	Yes/No
*Notices and signs	Notices and signs at entrances along perimeters indicating “ <b>No unauthorised entry</b> ” and “ <b>Entry at own risk</b> ”. Notices and signs at entrance instructing visitors and non-employees what to do, where to go and where to report on entering the site or yard with directional signs for example “ <b>Visitors to report to office</b> ”. Notices and signs posted to warn of overhead work and other hazardous activities for example <b>General Warning Signs</b> .	
Site safeguarding	Nets, canopies, stills, fans etcetera to protect members of the public passing and/or entering the site.	
*Security measures	Access control measures and register in operation. Security patrols after hours and weekends. Sufficient lighting after dark. Guard has access to telephone or other means of emergency communication.	
*Emergency preparedness	Emergency contact numbers displayed near telephone. Emergency evacuation instructions posted up on all notice boards (including employees' notice boards). Emergency contingency plan available on site or in yard. Doors open outwards and unobstructed. Emergency alarm audible all over (including in toilets).	
*Emergency drill and evacuation	Adequate number of employees trained to use fire equipment. Emergency evacuation plan available, displayed and practiced. (See Section 1 for designation and register).	

### 4. Personal protective equipment (PPE)

Subject	Requirement	Yes/No
*PPE needs analysis	Need for PPE identified and prescribed in writing.	
*Head protection	It is compulsory for all persons on site to wear safety helmets including sub-contractors and visitors (where prescribed).	
*Foot protection	All persons on site have to wear safety footwear including gumboots for concrete or wet work and non-slip shoes for roof work.	
*Eye and face protection	Eye and face protection (such as goggles, face shields, welding helmets) to be used when operating the following: <ul style="list-style-type: none"> <li>• Jack or kango hammers;</li> <li>• Angle or bench grinders;</li> <li>• Electric drills (overhead work into concrete, cement and bricks);</li> <li>• Explosive actuated fastening devices;</li> <li>• Concrete vibrators or pokers;</li> <li>• Hammers and chisels;</li> <li>• Cutting or welding torches;</li> <li>• Arc welding equipment;</li> <li>• Skill or bench saws; and</li> <li>• Spray-painting equipment etcetera.</li> </ul>	

Subject	Requirement	Yes/No
*Hearing protection	Hearing Protectors (such as muffs, plugs) used when operating the following: <ul style="list-style-type: none"> <li>• Jack or kango hammers;</li> <li>• Explosive actuated fastening devices; and</li> <li>• Wood or aluminium working machines such as saws, planers, routers.</li> </ul>	
*Hand protection	Protective gloves to be worn by employees handling or using: <ul style="list-style-type: none"> <li>• Cement, bricks, steel or chemicals;</li> <li>• Welding equipment;</li> <li>• Hammers and chisels; and</li> <li>• Jack or kango hammers etcetera.</li> </ul>	
*Respiratory protection	Suitable and efficient respirators to be worn correctly by employees handling or using: <ul style="list-style-type: none"> <li>• Dry cement;</li> <li>• Dusty areas;</li> <li>• Hazardous chemicals;</li> <li>• Angle grinders; and</li> <li>• Spray-painting etcetera.</li> </ul>	
*Fall Prevention Equipment	Suitable fall arrest equipment correctly used by persons working on or in unguarded, elevated positions such as: <ul style="list-style-type: none"> <li>• Scaffolding;</li> <li>• Riggers;</li> <li>• Lift shafts;</li> <li>• Edge work; and</li> <li>• Ring beam edges etcetera.</li> </ul> Other applicable methods of fall prevention should also be applied such as catch nets.	
*Protective clothing	All jobs requiring protective clothing (such as overalls, rain wear, welding aprons etcetera) to be identified and clothing worn.	
*PPE issue and control	Identified equipment to be issued free of charge. All PPE should be maintained in good condition (i.e. regular checks). Workers instructed in the proper use and maintenance of PPE. Commitment obtained from wearer accepting conditions and to wear the PPE. Record of PPE issued kept on file.	

## 5. Housekeeping

Subject	Requirement	Yes/No
*Scrap removal system	All items of scrap, unusable off cuts, rubble and redundant material removed from working areas on a regular basis. Scrap and/or waste removal from heights by chute, hoist or crane (i.e. nothing thrown or swept over sides). Scrap disposed of in designated containers or areas. Removal from site or yard on a regular basis.	
Stacking and storage (See Section 1 for designation and register)	Stacking: <ul style="list-style-type: none"> <li>• Stable;</li> <li>• On firm level surface or base;</li> <li>• Not leaning and/or collapsing;</li> <li>• Irregular shapes bonded;</li> <li>• Not exceeding 3 times the base;</li> </ul>	

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Subject	Requirement	Yes/No
	<ul style="list-style-type: none"> <li>Stacks accessible; and</li> <li>Removal from top only.</li> </ul> <p>Storage:</p> <ul style="list-style-type: none"> <li>Adequate storage areas provided;</li> <li>Functional for example demarcated storage areas, racks, bins etcetera;</li> <li>Special areas identified and demarcated for example flammable gas, cement etcetera;</li> <li>Neat, safe, stable and square;</li> <li>Store and storage areas clear of superfluous material;</li> <li>Storage behind sheds etcetera should be neat and under control; and</li> <li>Storage areas free from weeds, litter etcetera.</li> </ul>	
*Waste control or reclamation	<p>Re-usable off cuts and other re-useable material removed daily and kept to a minimum in the work areas.</p> <p>All re-useable materials neatly stacked or stored in designated areas (i.e. nails removed or bent over in re-useable timber).</p> <p>Issue of hardware, nails, screws and cartridges etcetera should be controlled and return of unused items monitored.</p>	
Sub-contractors	Sub-contractors required to comply with the site or yard's housekeeping requirements.	

## 6. Working at heights (including roof work)

Subject	Requirement	Yes/No
Openings	<p>Unprotected openings adequately guarded, fenced and barricaded with catch nets installed where necessary.</p> <p>Covers over openings in roof of robust construction and secured against displacement.</p>	
General requirements	<p>Roof work discontinued when bad or hazardous weather prevails.</p> <p>Fall protection measures (including warning notices) when working close to edges or on fragile roofing material.</p>	

## 7. Scaffolding and temporary work

Subject	Requirement	Yes/No
<p>Access and system scaffolding</p> <p>(See Section 1 for designation and register)</p>	<p>Foundation firm and stable.</p> <p>Sufficient bracing.</p> <p>Tied to structure and secured from side or cross movement.</p> <p>Platform boards in good condition and secured.</p> <p>Sufficient platform boards to be used.</p> <p>Handrails and toe boards provided.</p> <p>Access ladders or stairs provided.</p> <p>Area/s under scaffolding tidy.</p> <p>Safe and unsafe for use signs to be used.</p> <p>Complying with OHSACT and SANS 10085.</p>	

Subject	Requirement	Yes/No
Free Standing Scaffolding	Foundation firm and stable. Sufficient bracing. Platform boards in good condition and secured. Sufficient platform boards to be used. Handrails and toe boards provided. Access ladders or stairs provided. Area/s under scaffolding tidy. Safe or unsafe for use signs to be used. Height and base ratio correct. Outriggers used and tied to structure where necessary. Complying with OHSACT and SANS 10085.	
*Mobile scaffolding	Foundation firm and stable. Sufficient bracing. Platform boards in good condition and secured. Sufficient platform boards to be used. Handrails and toe boards provided. Access ladders or stairs provided. Area/s under scaffolding tidy. Safe and unsafe for use signs to be used. Wheels and swivels in good condition Brakes working and applied. Height to base ratio correct. Outriggers used where necessary. Complying with OHSACT and SANS 10085.	
Suspended scaffolding	Outriggers securely supported and anchored. Correct number of steel wire ropes used. Platform as close as possible to the structure. Handrails on all sides. All winches, ropes, cables and brakes inspected regularly. Inspection registers kept on site. Scaffolding complies with OHSACT. Winches maintained by competent person.	
Temporary works	All components in good condition. Foundation firm and stable. Adequate bracing and stability ensured. Good workmanship, uprights straight and plum. Good cantilever construction. Safe access provided. Areas under support work tidy. Same standards as for system scaffolding.	
Special scaffolding	Special scaffolding for example cantilever, jib and truss-out scaffolds erected to an acceptable standard and inspected by specialists. Inspection registers to be kept on site.	
Edges and openings	Edges barricaded to acceptable standards. Manhole openings covered and/or barricaded. Openings in floor and other openings covered, barricaded or fenced. Stairs provided with handrails. Lift shafts barricaded or fenced off.	



## 8. Ladders

Subject	Requirement	Yes/No
*Physical condition, use and storage (See Section 1 for designation and register)	<p>Stepladders – hinges, stays, braces and stiles in order. Extension ladders – ropes, rungs, stiles, safety latch and hook in order.</p> <p>Extension or straight ladders secured or tied at the bottom or top.</p> <p>No joined ladders used.</p> <p>All ladders stored on hooks or racks and not on ground.</p> <p>Ladders protrude 900 mm above landings, platforms or roof. Fixed ladders higher than 5 m have cages or fall arrest system.</p>	

## 9. Electrical safeguarding

Subject	Requirement	Yes/No
*Electrical distribution boards and earth leakage	<p>Colour coded, numbered and symbolic sign displayed. Area in front kept clear and unobstructed.</p> <p>Fitted with inside cover plate, openings blanked off and no exposed “live” conductors or terminals.</p> <p>Door kept close.</p> <p>Switches and/or circuit breakers identified.</p> <p>Earth leakage protection unit fitted and operating.</p> <p>Tested with instrument - test results within 15 – 30 milli-amps.</p> <p>Aperture openings provided for the plugging in and removal of extension leads without the need to open the door.</p>	
*Electrical installations and wiring	<p>Temporary wiring or extension leads in good condition with no bare or exposed wires.</p> <p>Earthing continuity and polarity correct:</p> <p><b>“Brown is live, Blue is neutral, Green and Yellow earth the lot”</b></p> <p>Cables protected from mechanical damage and moisture.</p> <p>Correct loading observed for example no heating appliance used from lighting circuit etcetera.</p> <p>Light fittings and lamps protected from mechanical damage/moisture.</p>	
*Physical condition of electrical appliances and tools	<p>Electrical Equipment and Tools (includes all items plugging in to a 15 Amp supply socket):</p> <ul style="list-style-type: none"> <li>Insulation and casing in good condition.</li> <li>Earth wire connected or intact where not of double insulated design.</li> <li>Double insulation mark where no earth wire.</li> <li>Cord in good condition/no bare wires/secured to machine &amp; plug.</li> <li>Plug in good condition, connected correctly and correct polarity.</li> </ul>	



## 10. Emergency, fire prevention and protection

Subject	Requirement	Yes/No
*Fire extinguishing equipment (See Section 1 for designation and register)	Fire Risks Identified and on record. Fire Extinguishing Equipment available for: <ul style="list-style-type: none"> <li>• Offices;</li> <li>• General stores;</li> <li>• Flammable store;</li> <li>• Fuel storage tanks;</li> <li>• Gas welding or cutting operations; and</li> <li>• Where flammable substances are being used or applied.</li> </ul>	
*Maintenance	Fire equipment serviced minimum annually, but preferably 6 monthly.	
*Location & Signs	Fire Extinguishing Equipment: <ul style="list-style-type: none"> <li>• Clearly visible;</li> <li>• Unobstructed; and</li> <li>• Sign posted including “No Smoking” and “No Naked Lights” where required i.e. (flammable store, gas store, fuel tanks etc.).</li> </ul>	
*Storage issue and control of flammables (incl. gas cylinders)	Storage area provided for flammables with suitable doors, ventilation, bund etcetera. Flammable store neat and tidy with no Class A combustibles. Decanting of flammable substances carried out in ignition free and adequately ventilated area. Container bonding principles applied. Only sufficient quantities issued for one day's use. Special gas cylinder store or storage area. Gas cylinders stored, used and transported upright and secured in trolley, cradle or structure that is well ventilated. Types of gas cylinders identified and stored separately. Full cylinders stored separately from empty cylinders.	
*Storage, issue and control of Hazardous Chemical Substances (HCS) (See Section 1 for designation and register)	HCS storage principles applied i.e. products segregated. Provision made for leakage and spillage containment. Emergency (serviceable) showers and eye wash facilities provided. HCS under lock and key as well as controlled by designated person. Decanted or issued in containers with information and warning labels. Disposal of unwanted HCS by recognised disposal agent.	

## 11. Excavations and demolition

Subject	Requirement	Yes/No
Excavations deeper than 1.5 m. (See Section 1 for designation and register)	Shored or braced to prevent caving or falling in. Provided with an access ladder. Excavations guarded, barricaded or lighted after dark in public areas. Soil dumped at least 1 m away from edge of excavation. On sloping ground soil dumped on lower side of excavation.	

## 12. Tools

Subject	Requirement	Yes/No
*Hand tools	Shovels, Spades and Picks: <ul style="list-style-type: none"> <li>• Handles free from cracks and splinters;</li> <li>• Handles fit securely; and</li> <li>• Working end sharp and true.</li> </ul> Hammers: <ul style="list-style-type: none"> <li>• Good quality handles, no pipe or reinforcing steel handles;</li> <li>• Handles free from cracks and splinters; and</li> <li>• Handles fit securely.</li> </ul> Chisels: <ul style="list-style-type: none"> <li>• No mushroomed heads or heads chamfered;</li> <li>• Not hardened; and</li> <li>• Cutting edge sharp and square.</li> </ul> Saws: <ul style="list-style-type: none"> <li>• Teeth sharp and set correctly; and</li> <li>• Correct saw used for the job.</li> </ul>	
*Explosive actuated fastening devices (See Section 1 for designation and register)	Only used by trained and authorised personnel. Prescribed warning signs placed or displayed where tool is in use. Inspected at least monthly by competent person and results recorded in on site register. Issue and return recorded including cartridges or nails and unused cartridges, nails, empty shells recorded. Cleaned daily after use in on site register.	

## 13. Cranes

Subject	Requirement	Yes/No
Tower crane (See Section 1 for designation and register)	Only operated by trained authorised operator with valid certificate of training. Certificate available on site. Structure - no visible defects. Electrical installation good and safe. Crane hook - throat pop marked, safety latch fitted and functional. SWL/MML displayed. Limit switches fitted and operational. Access ladder fitted with backrests or fall arrest system installed. Lifting tackle in good condition and inspection colour coding current.	
*Mobile crane (See Section 1 for designation and register)	Only operated by trained authorised operator with valid certificate of training. Certificate available on site. Rear view mirrors and windscreen visibility good. Windscreen wipers operating effectively. Indicators operational. Hooter working. Tyres safe with sufficient tread and pressure visibly sufficient. No missing wheel nuts. Headlights, taillights operational. Grease nipples and grease on all joints. No visible oil leaks.	

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Subject	Requirement	Yes/No
	Hydraulic pipes visibly sound with no leaks. No undue corrosion on battery terminals. Boom visibly in good condition with no apparent damage. Cable and sheaves greased with no visible damage, split wires or corrosion. Brakes working properly. Crane hook - throat pop marked, safety latch fitted and functional. SWL/MML displayed. By-pass valves operational. Deflection chart displayed and visible to operator or driver. Outriggers functional used.	
*Gantry crane	Only operated by trained authorised persons. Correct slinging techniques used. Recognised displayed on chart signals used. Log book kept up to date. Prescribed inspections conducted on crane and lifting tackle. "Crane overhead" signage, where applicable. Crane hook - throat pop marked, safety latch fitted and functional. SWL/MML displayed and load limiting switches fitted and operational.	

#### 14. Builder's hoist

Subject	Requirement	Yes/No
Builder's hoist (See Section 1 for designation and register)	<b>"Hoist in operation"</b> - sign displayed. General construction strong and free from latent defects. Tower: <ul style="list-style-type: none"> <li>Adequately secured and braced.</li> <li>At least 900 mm available for over travel.</li> <li>Barricaded at least 2 100 mm high at ground level and floors.</li> <li>Landing place provided with gate at least 1 800 high.</li> </ul> Platform: <ul style="list-style-type: none"> <li>No persons conveyed on platform.</li> <li>Steel wire ropes with breaking strain of six times maximum weight.</li> <li>Signal systems used.</li> <li>Goods prevented from moving/falling off.</li> <li>Effective brake capable of holding maximum weight.</li> </ul>	

#### 15. Transport and materials handling equipment

Subject	Requirement	Yes/No
*Site vehicles	All site vehicles, dumpers, bobcats, loaders etcetera checked daily before used by driver or operator. Inventory of vehicles used/operated on site. Inspection by means of a checklist and results recorded. No persons riding on equipment not designed for passengers. Site speed limit posted and not exceeded. Drivers and operators trained and licensed.	

Subject	Requirement	Yes/No
	Licenses available on site. No unauthorised persons allowed to drive or operate equipment.	
Conveyors	Conveyor belt nip points and drive guarded. Emergency stop and lever brake fitted, clearly marked and accessible.	

## 16. Site plant and machinery

Subject	Requirement	Yes/No
Brick cutting machine	Operator trained and only authorised persons use the machine. Emergency stop switch clearly marked and accessible. Area around the machine dry and slip or trip free as well as clear of off cuts. All moving drive parts guarded. Electrical supply cable protected. Operator using correct PPE i.e. eye, face, hearing, foot, hands and body.	
*Electric arc welder	Welder trained. Only authorised and trained persons use welder. Adequately earthed. Electrode holder in good condition and safe. Cables, clamps, lugs and connectors in good condition. Area in which welding machine is used is dry and protected from wet. Welder using correct PPE i.e. eye, face, foot, body and respiratory. Screens and warning signs placed.	
*Woodworking machines	Operator's trained and only authorised persons use machines. Provided with guards and guards used. Operators using correct PPE i.e. eye, face, foot and hearing.	
*Compressors	Relief valves set, locked and sealed. Maximum safe working pressure (MSWP) indicated on face of pressure gauge face and not on glass cover. All drives adequately guarded. Receiver and lines drained daily. Hoses good condition and clamped, not wired.	
Concrete mixer and bulk mixing plant	Top platform provided with guardrails. Dust abatement methods in use. Operators using correct PPE i.e. eye, hands and respiratory. All moving drive parts guarded. Emergency stops identified, indicated and accessible. Area kept clean, dry and free from tripping and slipping hazards. Banksman identified and crane signals displayed and used.	
*Gas welding and flame cutting equipment	Only authorised and trained persons use the equipment. Torches and gauges in good condition. Flashback arrestors fitted at cylinders and gauges. Hoses in good condition, correct type and all connections with clamps. Cylinders stored, used and transported in upright position, secured in trolley or cradle. Fire prevention control methods applied. Hot work permits.	

## 17. Plant and storage yard or site workshop specifics

Subject	Requirement	Yes/No
OHSACT, Section 8(2)(1) General Machinery Regulation 2(1) <b>Supervision of the use and maintenance of machinery</b>	Persons with specific knowledge and experience designated to supervise the use and maintenance of machinery. Critical items of machinery identified, numbered and placed on register or inventory. Inspection or maintenance schedules for abovementioned. Inspections or maintenance carried out to above schedules. Results recorded.	
General Machinery Regulation 9(2) <b>Notices regarding operation of machinery</b>	Schedule D notice posted in work areas.	
Pressure Equipment Regulations <b>Supervision of the use and maintenance of pressure equipment such as pressure vessels (PV)</b>	Persons with specific knowledge and experience designated to Supervise the use and maintenance of PVs. PVs identified, numbered and placed on register. Manufacturers plate intact. Inspection or maintenance schedules for abovementioned. Inspections or maintenance carried out to above schedules. Results recorded and test certificates available.	
<b>Lock-out procedure</b>	Lock-out procedure in operation.	
<b>Ergonomics</b>	Ergonomics survey conducted. Results on record. Survey results applied.	
<b>Demarcation and colour coding</b>	Demarcation principles applied. All services, pipes, electrical installation, stop-start controls, emergency controls etcetera colour coded to own published or SABS standard. Employees trained to identify colour coding.	
<b>Portable and bench grinders</b>	Area around grinder clear and trip/slip free. Bench grinders mounted securely and grinder generally in good condition. No excessive vibration. On and off switch or button clearly demarcated and accessible. Adequate guards in place. Tool rest – secure, square and maximum 2 mm gap. Stone or disk - correct type and size, mounted correctly and dressed. Use of eye protection enforced.	
<b>Ancillary lifting equipment</b>	Chain blocks, tirlors, jacks and mobile gantries etcetera identified and numbered on register. Chains in good condition and links no excessive wear. Lifting hooks – throat pop marked and safety latch fitted. SWL/MML marked or displayed.	
<b>Presses, guillotines and shears</b>	Only operated by trained and authorised persons. PPE used by operators Interlocks or lockouts fitted.	

## 18. Workplace environment, health and hygiene

Subject	Requirement	Yes/No
*Lighting	Adequate lighting in places where work is being executed for example stairwells and basements or after sunset. Light fittings placed and installed causing no irritating or blinding glare.	
*Ventilation	Adequate ventilation, extraction and exhausting in hazardous areas for example where chemicals and adhesives are stored, welding takes place and where petrol or diesel motors are running in confined spaces or basements.	
*Noise	Tasks identified where noise exceeds 85 dBa. All reasonable steps taken to reduce noise levels at the source. Hearing protection used where noise levels could not be reduced to below 85 dBa.	
*Heat stress	Measures in place to prevent heat exhaustion in heat stress problem areas e.g. steel decks, when the WBGT index reaches 30 (see Environmental Regulation 4). Cold drinking water readily available when extreme temperatures are experienced.	
*Ablution facilities	Sufficient toilets provided for men and women separately i.e. 1 per 30 employees (National Building Regulations prescribe chemical toilets for Construction sites). Toilet paper available. Sufficient showers provided for men and women separately. Facilities for washing hands provided. Soap available for washing hands. Means of drying hands available. Changing facilities or area provided for men and women separately. Ablution facilities hygienic and clean.	
*Eating and cooking facilities	Adequate storage facilities provided. Weather protected eating area provided, separate from changing area. Refuse bins with lids provided. Facilities clean and hygienic.	
*Pollution of environment	Measures in place to minimize dust generation. Accumulation of empty cement pockets, plastic wrapping or bags, packing materials etcetera prevented. Spillage or discarding of oil, chemicals and diesel into storm water and other drains prevented.	
*Hazardous chemical substances (See Section 1 for designation and register)	All substances identified and list available e.g. acids, flammables, poisons etc. Material Safety Data Sheets (MSDS) indicating hazardous properties and emergency procedures in case of incident on file and readily available. Substances stored safely.	

Name of person who have  
undertaken the assessment

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Signature

---

Date

---

Received by

---

Designation

---

Date

---

Tabled at health and safety  
committee

---

# City of Polokwane



## Annexure 2

### Measuring injury experience

Proudly prepared by

**Tlou Consulting (Pty) Ltd and EMPOWERisk  
(Pty) Ltd**





# Measuring injury experience

## 1. Background

Injury experience has traditionally been measured by the use of a disabling injury frequency rate, the so-called "DIFR". The DIFR is calculated by multiplying the number of disabling injuries by 1 million and dividing by the number of person-hours worked.

The DIFR has recently been replaced internationally with a disabling injury incidence rate (DIIR). The only difference between the two rates are that the 1 million in the calculation is replaced with 200 000 (200 000 purported to be the number of hours and average person works in a lifetime).

The use of the two rates above has proved to be somewhat problematical as they are open to manipulation and disabling injuries are often "hidden" by returning the injured employee to the workplace so as not to lose a shift and therefore having to register a disabling injury.

The construction industry recently decided to promote the use of a new frequency rate based on the number of compensation injury claims, as these are more difficult to hide or manipulate because the reporting of compensationable injuries is a legal requirement.

The industry is hoping that adoption of this new measurement of injury experience will enable the industry to monitor itself as far as work related injuries are concerned.

## 2. Compensation Incidence Frequency Rate (CIFR)

### 2.1 Formula

$$\frac{\text{No of compensation claims} \times 200\,000}{*220 \text{ person hours} \times \text{No of employees}}$$

### 2.2 Definitions

**No of compensation claims:** The number of claims lodged with the Commissioner or COID insurer for the period under review.

**200 000:** The fixed factor to align the rate with other rates used internationally.

**Person hours worked Include:** Hourly paid employees  
Sub-contractors (No of employees X \*220 each)  
Staff (No of employees X \*220 hours each)

**220 person-hours:** The \*average number of hours worked by one employee in one month in the construction industry.

**Note:** \* Overtime, absence on leave or sick leave, unrecorded after hours time worked by senior and middle management factored into this average.

**No of employees:** The actual or average number of employees employed for the period under review.

# City of Polokwane



## Annexure 3

### **Safety, Health and Environment: Example of risk management report**

Proudly prepared by

**Tlou Consulting (Pty) Ltd and EMPOWERisk  
(Pty) Ltd**



6. May 2018

# Safety, Health and Environment (SHE): Example of risk management report

Please note that this is an example only and all information is fictitious.

## XYZ Construction

### SHE risk management report for the period January 2014 to March 2014

#### 1. Introduction

We trust that this quarterly SHE Risk Management report will provide a clear picture of the company's performance as far as occupational health, safety and environment is concerned.

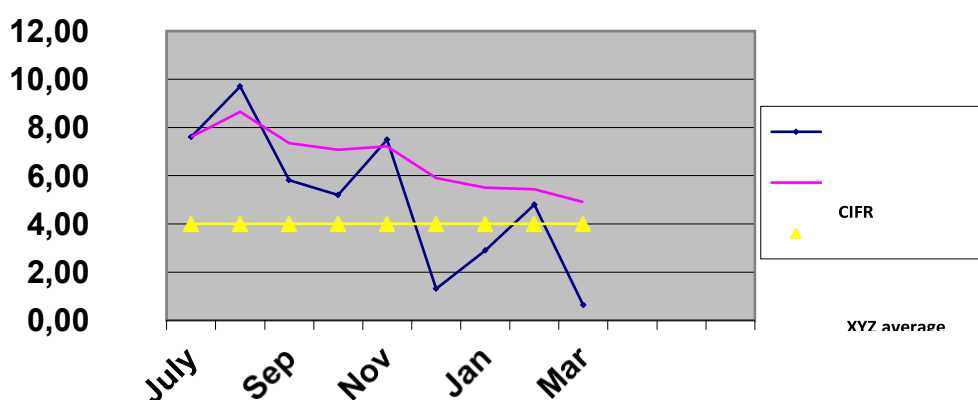
The first quarter of 2014 generally reflected an improvement in injury experience and indicates a decline in the number of injuries. Although Building was the only division where there was an increase in compensation claims, figures are still well down from the average 2013 figures. A sub-contractor experienced one fatality.

All divisions are eagerly awaiting the final implementation during May 2014 of the new electronic SHE Management system that will provide the tools to implement the SHE programme and make it available to all management and supervisory staff.

#### 2. Incident statistics

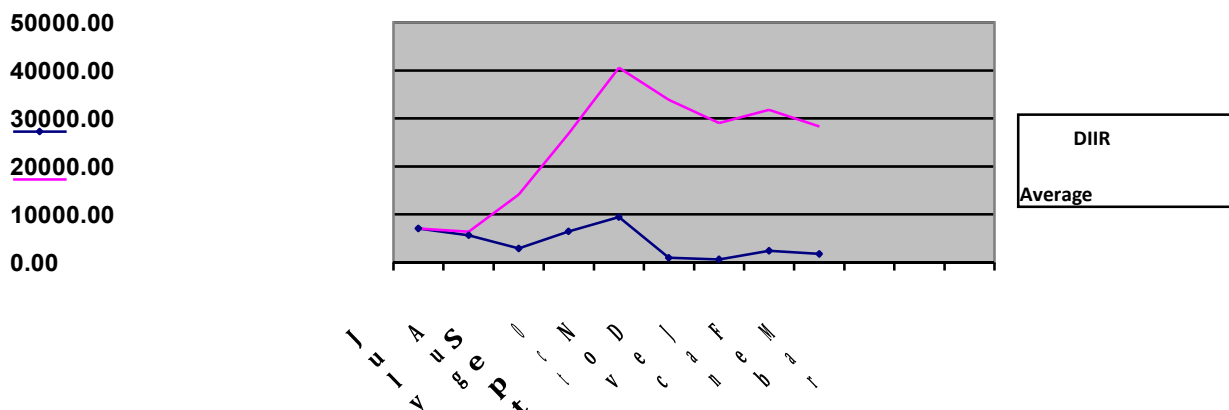
##### 2.1 Compensation Incident Frequency Rate (CIFR)

CIFR = 
$$\frac{\text{No of compensation claims} \times 200\,000}{220 \text{ person hours} \times \text{No of employees}}$$



## 2.2 Disabling Injury Incidence Rate (DIIR)

DIIR =  $\frac{\text{No disabling injuries} \times 200\,000}{\text{Person hours worked}}$



## 2.3. Other major incidents

Three other major incidents were experienced in the period under review:

- 2.3.1. A major trench collapsed at Job. 00123: XYZ Head Office, Braamfontein: No personnel injured, extensive damage to foundations: 3 days delay.
- 2.3.2. A concrete dumper ran away when its brakes failed. It smashed into the glass façade of the building on Job 00332: McDonalds, Randburg. The driver jumped off and was not injured. Cost of damage to façade: R45 000.
- 2.3.3. A storage hut on Job 00567: BP Petrol Station, Swartuggens was demolished by fire when the night watchman made a fire inside the storage hut which contained concrete vibrators and leveling machines. Cost of replacing the hut and machines: R30 000.

## 3. Risk areas

The following items of concern need priority consideration by management:

- 3.1. New employees must undergo pre-employment medical examinations to:
  - protect XYZ from possible claims at a later stage
  - ensure that only capable persons are employed
  - prevent injuries and illness in the workplace
  - enhance XYZ image
- 3.2. Vehicle drivers and plant operators must be instructed to inspect their vehicles daily before start-up using the prescribed checklists to ensure that these are safe to operate and in good condition.

#### 4. Risk assessments

Three SHE risk assessments were conducted in February and March:

Job 00432:	Gillooly's Mall	Compliance: 56%
Job 00786:	Cullinan Head Office	Compliance: 83%
Job 00589:	Cleveland Station	Compliance: 76%

#### 5. Training

One hundred and forty two employees, representing 7% of employees, attended nine training courses. \*Our objective is to train 5,5% of employees on a quarterly basis.

Month	No. of Employees Trained	Course	Source
January	26	Induction	Internal
	15	OH&S Reps	Consultant
	3	Crane Drivers	External
February	23	Induction	Internal
	17	OH&S Reps	Consultant
March	43	Induction	Internal
	9	OH&S Reps	Consultant
	3	Bomag Rollers	Supplier
	3	First Aiders	St. John's

#### 6. Legal matters

- 6.1. An inspector of the Department of Labour issued an improvement notice on Job 00987: Giloolley's Mall. The notice requires that all scaffolding comply with the SABS standards for the Erection and Maintenance of Access Scaffolding (SANS 085). This is currently being attended to and the inspector will return on 15 April 2014 to ascertain if the notice has been complied with.

#### 7. Occupational health matters

##### 7.1 HIV Aids

The proposed clinic will soon be operational and we will then be able to send our employees who have tested positive for HIV/Aids to the clinic for counseling and eventual treatment when necessary.

The mobile clinic attended to and tested fifty employees on a voluntary basis at 3 sites this month. Eighteen of them tested positive.

## 7.2 Tuberculosis (TB)

The mobile clinic will be calling at Gillooly's Mall and Cleveland Station on 15 and 16 April 2014 respectively to screen employees for TB.

## 7.3 Noise

All suspected noise pollution areas have been identified and tested and the results are awaited. Employees working in areas testing over 85dBa will be issued with suitable hearing protectors.

## 8. Environmental measures

Inspectors from the Botswana Department of Environment visited Djwaneng and inspected the site and yard. They gave it a "clean bill of health" and advised that we should increase the dust control measures by spraying roads three times per day with water instead of the present twice per day.

## 9. Achievements and awards

- 9.1 The client at Djwaneng (Job 00786) awarded the XYZ site first position in the housekeeping competition conducted bi-monthly by the client's SHE managers. The project manager and his team are to be congratulated for this sterling effort.
- 9.2 Job 0987: Refurbishment of Pretoria Main Railway Station has just completed 1 million compensation claim free days. This was no easy achievement if we consider the conditions being worked under after the extensive fire that caused major damage.

## 7. SHE Risk Manager

2014-03-31

**Source:** SAFCEC Occupational Health and Safety Committee

# City of Polokwane



## Annexure 4

### Guide to risk assessments

Proudly prepared by

**Tlou Consulting (Pty) Ltd and EMPOWERisk  
(Pty) Ltd**





# Guide to risk assessments

## 1. Nine steps to effective risk assessments

- Step 1 : Identifying the current as well as emerging hazard, risks or exposures.  
 Step 2 : Aim to identify major hazards, don't waste time on the minor and detail except if such hazard has the potential to repeat itself on a frequent basis.  
 Step 3 : Involve as many people as possible in the ongoing risk assessment process especially those at risk.  
 Step 4 : Gather all the information and analyse it.  
 Step 5 : Look at what actually could or has occurred including non-routine operations.  
 Step 6 : Use a systematic approach to ensure all hazards are adequately addressed.  
 Step 7 : Assess the risks identified or the risk has occurred by taking into account the effectiveness of current as well as controls under consideration.  
 Step 8 : Ensure the process is practical, realistic, cost and business effective.  
 Step 9 : Always record the assessment in writing including i.e. assumptions, date and why a particular decision has been made.

## 2. How serious is it?

### Probability

- A Common  
 B Has Happened  
 C Could Happen  
 D Not Likely  
 E Practically impossible

### Consequences

- 1 Fatality or permanent disability.  
 2 Major injury.  
 3 Average Lost Time Injury.  
 4 Minor Injury.  
 5 Medical Treatment or less.

### Probability

	A	B	C	D	E
1	1	2	3	4	5
2	2	3	4	5	6
3	3	4	5	6	7
4	4	5	6	7	8
5	5	6	7	8	9

### Risk rating

- 1 - 3 = Serious  
 4 - 5 = High  
 6 - 7 = Moderate  
 8 - 9 = Acceptable

### Action

- Immediate (within 1 week).  
 Within 1 month.  
 > 4 weeks.  
 No action but will consider from time to time.

# City of Polokwane



## Annexure 5

### List of risk assessments

Proudly prepared by

**Tlou Consulting (Pty) Ltd and EMPOWERisk  
(Pty) Ltd**



## List of risk assessments

Aggregate/Sand Delivery  
 Arc welding  
 Brickwork  
 Bulk mixing plant  
 Cutting of pipes  
 Distribution boards – Electrical  
 Drivers – of vehicles  
 Electrical installation – Maintenance of  
 Excavation work  
 Excavator  
 Fire prevention and protection  
 Front end loader  
 Fuel supply  
 Gas welding-cutting operations  
 Hand and spray painting  
 Hand tools Kerb  
 laying  
 Landscaping  
 Laying of pipes  
 Levelling – of materials  
 Loading supervisor  
 Loading/unloading - of trucks  
 Machine operator  
 Making of steel items  
 Material delivery  
 Material handling  
 Placing concrete  
 Plastering  
 Portable ladders  
 Refuelling vehicles/plant  
 Sandblasting Scaffolding  
 Site establishment  
 Termite proofing  
 Tile stacking Traffic  
 control  
 Trenches – Digging of  
 Use of portable electrical tools  
 Work in fall risk positions  
 Working close to existing services i.e.  
 electrical, waste water etc  
 Working close to traffic  
 Working in inclement weather

**Baseline risk assessment undertaken in terms of Construction Regulation 5(1) to identify the operational risks to be addressed by the project specific health and safety specification**



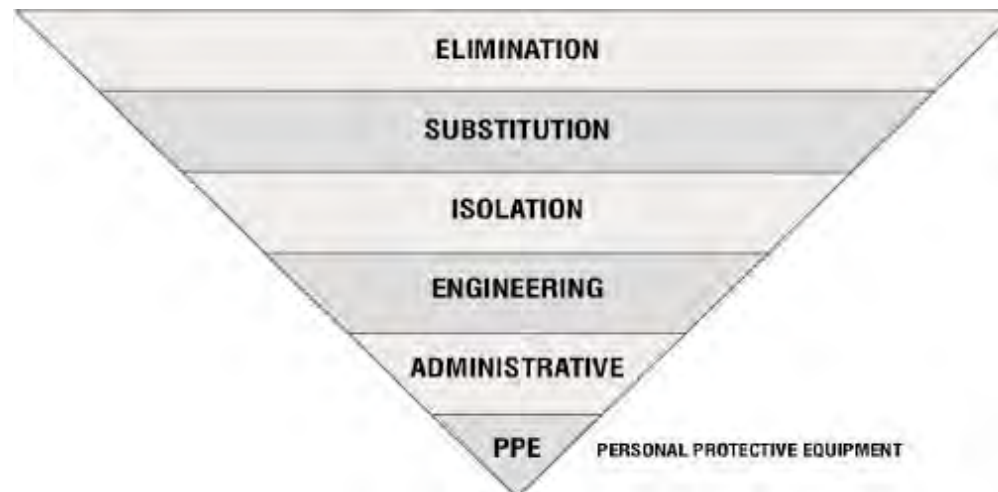
**Client name:** City of Polokwane

**Project name:** Ga-Maja Sports Complex

**Risk assessor:** Bertie Viljoen

**Assessment date:** 18 May 2018

### **Hierarchy of controls**



## Definitions

Elimination	The most satisfactory method of dealing with hazards is to get rid of it. Once the hazard has been eliminated, the potential for harm has gone.
Substitution	This involves substituting a dangerous process or substance with one that is not as dangerous.
Isolation	Separate or isolate the hazard from the people
Engineering	Introduce or substitute an engineered device to eliminate or reduce the risk.
Administrative	<p>Administrative solutions usually involve modification of the likelihood of an accident happening. Do this by reducing the number of people exposed to the hazard, and by ensuring that those who must remain exposed know about the hazard and how best to manage it.</p> <p>Administrative solutions also include danger signs, and written systems of work, such as those for working in confined spaces and lock-out procedures.</p>
PPE	Provision of personal protective equipment should only be considered when all other control methods are impractical. They provide a means to increase control, and offer a last line of defence when used with another method higher up the hierarchy.

## Risk rating methodology

RISK RATING					Hazard effect or Consequence	Timeline	Budget	Investment return - NPV loss	Quality	Safety/health	Environment	Legal & Regulatory	Reputation/Social Community
15 Significant	19 Significant	22 High	24 High	25 High	5 Catastrophic	May result in overall project timeline overrun of 50% or more	Budget timeline overrun of 50% or more	R5b or more	Significant quality issues that requires sponsorship with significant resource & cost implications for rework	Multiple fatalities/impact on health ultimately fatal	Extreme environmental harm - L3 incident irreversible	Legal non compliance with risk of shutdown of operations with significant cost impacts	International impact - international public attention
10 Medium	14 Significant	18 Significant	21 High	23 High	4 Major	May result in overall project timeline overrun of between 20% & less than 50%	May result in overall project budget overrun of between 20% & less than 50%	R500m to R5b	Significant quality issues that requires senior management interaction	Single fatality or loss of quality life/irreversible impact on health	Major environmental harm - L2 incident remedial post LOM	Serious legal concerns & significant impact on operations	National impact - national public concern
6 Medium	9 Medium	13 Significant	17 Significant	20 Significant	3 Moderate	May result in overall project timeline overrun of between 5% & less than 20%	May result in overall project budget overrun of between 5% & less than 20%	R50m to less than R500m	Some quality issues that requires immediate management action	Loss time injury/Reversible impact on health	Serious environmental harm - L2 incident remedial within LOM	Some legal concerns with manageable level of impact	Considerable impact - regional public concern
3 Low	5 Low	8 Medium	12 Medium	16 Significant	2 Minor	May result in overall project timeline overrun of less than 5%	May result in overall project budget overrun of less than 5%	R5m to less than R50m	Minimal quality issues that can be addressed in a short timeframe with minimal interactions	Medical treatment case/Exposure to major health risk	Material environmental harm - L2 incident remedial short term	Minor legal concerns with minor impact	Limited impact - local public concern
1 Low	2 Low	4 Low	7 Medium	11 Medium	1 Negligible	No impact on overall project timeline	No impact on the budget of the project	Less than R5m	No impact on quality	First aid case/Exposure to minor health risk	Minimal environmental harm - L1 incident	No legal impact	Slight impact - public awareness may exist but no public concern
1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost certain	Likelihood		RISK MATRIX						
The unwanted event has never occurred, has a probability of less than 1% of occurring	The unwanted event has a probability of between 1% & less than 30% of occurring	The unwanted event has a probability of between 30% & less than 60% of occurring	The unwanted event has a probability of between 60% & less than 90% of occurring	The unwanted event has occurred frequently; has a 90% & higher probability of recurring	Probability of the event occurring								

## 10. Key operational activities/risks that will form part of the project

Description of risk	Risk rating	Potential risk impact	Risk mitigation
First-aid	High 21	Inadequate first-aid arrangements could impact negatively of the ability to respond to first-aid injuries or to stabilise injured employees or other persons that may require advanced health care. This could negatively impact of the injured person's prognosis, recovery and medical costs.	<ol style="list-style-type: none"> <li>1. The principal contractor to provide first-aid equipment and have qualified first-aiders on site as required by General Safety Regulation 3 of the OHSACT.</li> <li>2. The contingency plan of the principal contractor to include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or getting emergency medical support to person(s) who may require it.</li> <li>3. The principal contractor to have firm arrangements with his contractors in place regarding the responsibility of these contractor's first-aid arrangements as well as treatment of injured and/or ill employees.</li> </ol>
Security	High 22	Inadequate security arrangements could result in unauthorised access by members of the public that could pose a risk to employees working on this site or could also result in the illegal removal of equipment and/or material from the site or injuries to these members of the public.	<ol style="list-style-type: none"> <li>1. The principal contractor to establish site access rules and implement and maintain these throughout the construction period. Access control must, amongst other, include the rule that non-employees will not be allowed on site unaccompanied.</li> <li>2. The principal contractor to develop a set of project applicable security rules and procedures and maintain these throughout the construction period.</li> </ol>
Accommodation of traffic	High 24	Inadequate traffic accommodation pose a potential risk to employees as well as road users and could not only result in injuries and subsequent medical and other costs to employees, but also injuries to road users and damages to vehicles with subsequent claims against the principal contractor and the client.	<ol style="list-style-type: none"> <li>1. Where construction work is undertaken in, next to or close to a public road, the use of appropriate as well as a sufficient number of road signs to be of paramount importance to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/risks/vehicles.</li> <li>2. The principal contractor to ensure that appropriate as well as a sufficient number of road signs are posted to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/vehicles. These signs shall be</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>repeated and utilised, where appropriate, as actual construction work is approached.</p> <p>3. The following signage to be provided as a minimum where construction work is undertaken in, next to or close to a public road:</p> <ul style="list-style-type: none"> <li>• “Construction work ahead” sign at least 45 meters before the start of the construction work;</li> <li>• “Lane narrows” sign 30 meters before the start of the construction work;</li> <li>• “Keep right/left” sign 15 meters before the start of the construction work and again where the tapering begins; and</li> <li>• Delineators and cones every 5 meters for the entire stretch of construction work.</li> </ul> <p>4. Where construction work includes excavations in or next to a public road, warning lights or visible boundary indicators to be provided after dark or when visibility is poor.</p> <p>5. The maintenance of all signage and especially those that is suitable after dark to be duly managed.</p> <p>6. Where appropriate duly trained flag persons to be deployed a good distance ahead of areas where traffic is deviated or lanes closed off. These flag persons to be managed assertively to ensure that they add optimal value and should they not do so they should be retrained and if necessary replaced.</p> <p>7. In high risk areas where the posting and maintenance of applicable road signs and the deployment of flag persons not mitigate the traffic risk to an acceptable level, additional traffic calming measures such as liaison with local law enforcement agencies, speed humps etcetera to be considered. In the event where speed humps are opted for these speed humps to be constructed as per the engineer’s specifications and in a manner where they mitigate and not actually aggravate the risk by creating sudden emergency risks,</p>



Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>i.e. cause damage to vehicles or prompt road users to drive on the wrong side of the road to avoid them.</p> <p>8. The community liaison officer (CLO) to be sensitised on the optimal management of traffic and the risks involved and then be instructed to increase community awareness through talking to all stakeholders including the distribution of suitable information brochures.</p>
Fall protection	Significant 20	Inadequate fall protection arrangements could result in employees and other persons falling from elevated working areas and result in serious injuries or even fatalities.	<ol style="list-style-type: none"> <li>1. A pre-emptive risk assessment to be carried out for any work undertaken from a fall risk position and will be classified as "work in elevated positions".</li> <li>2. 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 suitable fall arrest equipment to prevent the person falling from the platform, ladder or other device utilised. This fall arrest equipment 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.</li> <li>3. Where the requirement in item 2 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.</li> <li>4. Where the requirements in item 3 are not practicable, a suitable catch net, which is able to sustain the weight of at least the average person working in the elevated position, will be erected.</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ol style="list-style-type: none"> <li>5. Employees working in elevated positions will be trained to do this safely and without risk to their or other person's health and safety.</li> <li>6. 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.</li> <li>7. Updated records confirming the physical and psychological fitness of employees working at elevated positions will be kept on the health and safety file at all times.</li> </ol>
Structures	Medium 13	Unsafe or sub-standard structures could collapse on employees and/or other persons with subsequent injuries to employees/persons or even fatalities and also impact negatively on project costs, and result in liability claims and reputation risks for all stakeholders.	<ol style="list-style-type: none"> <li>1. Only skilled employees to be allowed to erect structures and that the skills of these employees are being verified at regular intervals.</li> <li>2. Steps to be taken to ensure that no structure becomes unstable or collapses due to construction work being performed on it or in the vicinity of it.</li> <li>3. No structure to be overloaded to the extent where it becomes unsafe.</li> <li>4. The following information to be requested from the designer and also duly considered: <ul style="list-style-type: none"> <li>• Information on known or anticipated hazards relating to the construction work and the relevant information required for the safe execution of the construction work.</li> <li>• A geo-scientific report (where applicable).</li> <li>• The loading the structure is designed to bear.</li> <li>• The methods and sequence of the construction process.</li> <li>• Any other applicable information.</li> </ul> </li> <li>5. All drawings pertaining to the design to be on site, utilised and available for inspection.</li> </ol>
Access scaffolding	Significant 20	Unsafe scaffolding structures could collapse or employees may fall from unprotected working platforms and result in injuries or even fatalities. Loose items	<ol style="list-style-type: none"> <li>1. Access scaffolding to be erected, used and maintained safely in accordance with Construction Regulation 16 and SA Bureau of Standards Code of Practice, SANS</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
		falling from scaffolding structures could also cause injuries to employees or persons below as well as asset damages with claims.	10085 entitled, "The Design, Erection, Use and Inspection of Access Scaffolding". 2. Detailed consideration to 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 and safely. 3. Scaffolding to be erected, altered, maintained or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous and direct supervision
Lifting equipment	High 21	The use of unsafe lifting equipment could result in loads being lifted to fail and fall with subsequent injuries or even fatalities as well as asset damages that will result in claims and reputation risks.	Lifting equipment to 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 OHSACT:  The Driven Machinery Regulation requires that: a. Lifting equipment to be 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; b. 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; c. 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; d. Lifting equipment fitted with a load limiting device that automatically arrest the lift when the load reaches its

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>highest safe position or when the mass of the load is greater than the MML;</p> <p>e. 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:</p> <ol style="list-style-type: none"> <li>1. chains – 4 (four)</li> <li>2. steel wire ropes - 5 (five)</li> <li>3. fibre ropes- 10 (ten)</li> </ol> <p>f. Every hook or load attaching device must be designed as such or fitted with a device that will prevent the load from slipping off or disconnecting;</p> <p>g. 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;</p> <p>h. 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</p> <p>i. 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.</p>
Lifting tackle	High 21	The use of unsafe lifting tackle could result in loads being lifted to fail and fall with subsequent injuries or even fatalities as well as asset damages that will result in claims and reputation risks.	<p>The following requirements to adhered to when lifting tackle is utilised:</p> <ol style="list-style-type: none"> <li>a. Manufactured of sound material, well-constructed and free from latent defects;</li> <li>b. Clearly and conspicuously marked with an identity number;</li> <li>c. Maximum mass load factor of safety:</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>• Natural fibre ropes - 10(ten)</li> <li>• Man-made fibre ropes and woven webbing - 06(six)</li> <li>• Steel wire ropes – single rope - 06(six)</li> <li>• Steel wire ropes – combination slings - 08(eight)</li> <li>• Mild Steel chains - 05(five)</li> <li>• High tensile/alloy steel chains - 04(four)</li> </ul> <p>d. 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.</p>
Construction vehicle and mobile plant operators	High 22	The use of vehicles and/or plant operators that are not competent could result in incidents with subsequent injuries or even fatalities as well as asset damage with subsequent costs/claims and reputation risks.	<p>The following requirements to apply to construction vehicle and mobile plant operators:</p> <ol style="list-style-type: none"> <li>Only certified and/or competent employees may be allowed to operate any construction vehicle and mobile plant.</li> <li>Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating.</li> <li>Only employees duly authorised to do so may operate any construction vehicle and mobile plant.</li> <li>Only employees physically and psychologically fit, i.e. in possession of a medical certificate of fitness, may be allowed to operate any construction vehicle and mobile plant.</li> </ol>
Construction vehicles and mobile plant	High 22	The use of unsafe construction vehicles and plant could result in incidents with subsequent injuries or even fatalities as well as asset damage with subsequent costs and reputation risks.	<p>Construction vehicles and mobile plant to be:</p> <ol style="list-style-type: none"> <li>1. Of acceptable design and construction;</li> <li>2. Maintained in good working order;</li> <li>3. Used in accordance with their design and intention for which they were designed;</li> <li>4. Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>persons to be allowed to drive construction vehicles and mobile plant;</p> <ol style="list-style-type: none"> <li>5. Provided with safe and suitable means of access;</li> <li>6. Fitted with adequate signalling devices to make movement safe including reversing;</li> <li>7. Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same;</li> <li>8. Provided with roll-over protection;</li> <li>9. Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book and any defects addressed as matter of urgency;</li> <li>10. Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and</li> <li>11. Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.</li> </ol> <p>No loose tools, material etcetera is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported.</p> <p>No person may ride on construction vehicles and mobile plant except for in a safe place designed and provided for this purpose.</p> <p>The construction site must be organised 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.</p> <p>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 adequate</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant.</p> <p>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.</p> <p>All construction vehicles and mobile plant daily inspection records must be kept in the occupational health and safety file.</p>
Electrical installations	Significant 20	Unsafe electrical installations could result in employees and other persons being electrocuted with subsequent injuries or even fatalities as well as asset damage due to fire with subsequent costs and reputation risks.	<p>Any electrical work undertaken as part of the project, including the installation of temporary electricity for construction use shall be in accordance with Construction Regulation 24 and the Electrical Installation Regulations.</p> <p>The principal contractor to ensure that:</p> <ol style="list-style-type: none"> <li>Existing services are to be located and clearly marked before construction commences and during the progress thereof;</li> <li>Where the abovementioned is not possible, employees with jackhammers etc. will be protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etcetera;</li> <li>Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;</li> <li>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;</li> <li>Electrical machinery used on a construction site must be inspected daily before start-up by the competent</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			driver/operator or any other competent person and a record of the inspections kept on the occupational health and safety file; and 6. A competent person appointed in writing must control all temporary electrical installations.
Electrical and mechanical lockout	Significant 20	The lack of suitable lock-out procedures may result in employees and other persons being electrocuted with subsequent injuries or even fatalities with resulting costs and reputation risks.	An electrical and mechanical lockout procedure to be developed by the principal contractor and submitted to the Client for approval before construction commences. All contractors on site must be informed of and adhere to this lockout procedure.
Use and storage of flammables	High 22	The unsafe use and/or storage of flammables could result in fires or explosions with subsequent injuries or even fatalities as well as asset damage due to fire with subsequent costs and reputation risks.	The principal contractor to ensure that: <ul style="list-style-type: none"> <li>a. 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;</li> <li>b. Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with consistent access control measures in place and sufficient firefighting equipment installed and fire prevention methods practiced for example proper housekeeping;</li> <li>c. Only one day's quantity of flammable is to be kept in the workplace;</li> <li>d. Containers (including empty containers) to be kept closed to prevent fumes/vapors from escaping and accumulating in low lying areas; and</li> <li>e. Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.</li> </ul>
Hazardous chemical substances	High 21	The unsafe use of hazardous chemical substances could result in fires with subsequent injuries or even fatalities as well as asset damage due to fire with subsequent costs/claims. Spilled chemical substances may also impact	The principal contractor to ensure that: <ul style="list-style-type: none"> <li>a. Employees receive the necessary information and training to be able to use, handle and store hazardous chemical substances safely;</li> </ul>



Description of risk	Risk rating	Potential risk impact	Risk mitigation
		negatively on the health of employees and other persons or negative implications for the environment including legal and claim exposures.	<ul style="list-style-type: none"> <li>b. The risk assessments required in terms of Construction Regulation 9 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;</li> <li>c. Suppliers provide the necessary information in the form of material safety data sheets regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances;</li> <li>d. 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;</li> <li>e. 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;</li> <li>f. No person eats or drinks in a hazardous chemical substances workplace; and</li> <li>g. Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.</li> </ul>
Fire prevention and protection	High 23	Inadequate fire prevention and protection measures may impact negatively on the ability to fight fires that may cause injuries or even result in fatalities as well as asset damages with subsequent costs/claims.	<p>The principal contractor to ensure that:</p> <ul style="list-style-type: none"> <li>a. The risk of fire is avoided;</li> <li>b. Sufficient and suitable storage of flammables is provided;</li> <li>c. All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire;</li> <li>d. A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>e. Employees are informed regarding emergency evacuation procedures and escape routes;</li> <li>f. Emergency escape routes are kept clear at all times and clearly marked;</li> <li>g. Evacuation assembly points are demarcated and made known to employees;</li> <li>h. Evacuation is regularly practiced to ensure that all persons are evacuated timeously and;</li> <li>i. Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors and disabled persons have been left behind; and</li> <li>j. A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.</li> </ul>
Housekeeping	Significant 19	Poor housekeeping may impact negatively on productivity, result in employees/persons tripping and falling or even cause a fire with subsequent asset damage and cost/claims as well as reputation exposures.	<p>The principal contractor to ensure that:</p> <ul style="list-style-type: none"> <li>a. Housekeeping is continuously implemented and maintained;</li> <li>b. Materials and equipment is properly stored;</li> <li>c. Scrap, waste and debris is removed off site regularly;</li> <li>d. Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;</li> <li>e. An unimpeded work space is maintained for every employee;</li> <li>f. Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done; and</li> <li>g. 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.</li> </ul>
Stacking and storage	Significant 20	Unsafe stacking and storage practices may result in stacked items collapsing with subsequent injuries or even fatalities as well as asset damage with associated losses and costs.	<p>The principal contractor to ensure that:</p> <ul style="list-style-type: none"> <li>a. A competent person is appointed in writing to supervise all stacking and storage on a construction site;</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>b. Adequate storage areas are provided and demarcated;</li> <li>c. The storage areas are kept neat and under control;</li> <li>d. The base of any stack is level and capable of sustaining the weight exerted on it by the stack;</li> <li>e. The items in the lower layers can support the weight exerted by the top layers;</li> <li>f. Cartons and other containers that may become unstable due to wet conditions are kept dry;</li> <li>g. Pallets and containers are in good condition and no material is allowed to spill out;</li> <li>h. 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);</li> <li>i. The articles that make up a single tier are consistently of the same size, shape and mass;</li> <li>j. Structures for supporting stacks are structurally sound and able to support the mass of the stack;</li> <li>k. No articles are removed from the bottom of the stack first but from the top tier first;</li> <li>l. Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her;</li> <li>m. Stacks that are in danger of collapsing are broken down and restacked;</li> <li>n. Stability of stacks are not threatened by vehicles or other moving plant and machinery;</li> <li>o. Stacks are built in a header and stretcher fashion and that corners are securely bonded; and</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			p. Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.
Eating, changing, washing and toilet facilities	Significant 18	Inadequate provision of welfare facilities may have negative implications on the health of employees and other persons as well as the environment with associated claims and costs.	<p><b>Toilets</b></p> <ol style="list-style-type: none"> <li>1. The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 30.</li> <li>2. 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.</li> </ol> <p><b>Showers</b></p> <p>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.</p> <p><b>Change rooms</b></p> <p>Some form of screened off changing facility must be provided separately for each sex.</p> <p><b>Eating facility</b></p> <p>Some form of eating facility sheltered from the sun, wind and rain must be provided.</p> <p><b>Living accommodation</b></p> <p>Where the site is in a remote location and transport to home is not readily available, reasonable and suitable living accommodation must be provided after obtaining of the necessary permission from authorities and adhering to requirements such as Bylaws of the local municipality.</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
Personal and other protective equipment	High 21	Inadequate provision and/or use of unsuitable PPE could cause injuries or even fatalities with associated claims and costs including legal and reputation exposures.	<p>The principal contractor to proactively identify the hazards in the workplace and deal with them on an ongoing basis. He/she to 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.</p> <p>Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply re-engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.</p> <p>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.</p> <p>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 in a consistent and correct manner.</p> <p>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.</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>The principal contractor may <b>not charge any fee</b> for protective equipment prescribed by him or her <b>but may charge for equipment under the following conditions</b>, following a disciplinary hearing:</p> <ul style="list-style-type: none"> <li>• Where the employee requests additional issue in excess of what is prescribed;</li> <li>• Where the employee has blatantly abused or neglected the equipment leading to early failure; and</li> <li>• Where the employee has lost the equipment.</li> </ul>
Portable electrical tools and equipment	Significant 20	The use of unsafe and/or unsuitable portable electrical tools and equipment could result in employees and other persons being electrocuted with subsequent injuries or even fatalities as well as asset damage due to fire with subsequent claims and costs.	<p>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, etcetera must be inspected regularly but at least on a weekly basis and maintained to the same standards as portable electrical tools and appliances.</p> <p>The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:</p> <ul style="list-style-type: none"> <li>• Regular inspections by a competent person appointed in writing;</li> <li>• Inspection results must be recorded in a register;</li> <li>• Only competent authorised persons are allowed to use portable electrical tools and equipment; and</li> <li>• The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.</li> </ul> <p>This equipment -</p> <ul style="list-style-type: none"> <li>• Must be maintained in good condition at all times to prevent an electrical shock to the user;</li> <li>• 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</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>All equipment must be fitted with a switch to allow for safe and easy starting and stopping.</li> </ul>
Public health and safety	High 24	The disregard of the public's health and safety could result in injuries or even fatalities with associated claims and reputation risks	<p>The principal contractor will 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 minimise those dangers. This includes among others:</p> <ul style="list-style-type: none"> <li>a. Non- employees entering the site for whatever reason;</li> <li>b. The surrounding community; and</li> <li>c. Passers by the site.</li> </ul> <p>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.</p> <p>All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these.</p>
Excavations	High 22	Excavations excavated in an unsafe manner could collapse with subsequent injuries and fatalities or even damages to adjacent structures/services with resultant claims and costs. Excavations that are not suitably barricaded could result in employees, other persons, animals or even vehicles falling into them resulting in damages, injuries or even fatalities.	<p>All excavation work to comply with the following:</p> <ul style="list-style-type: none"> <li>a. 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.</li> <li>b. Before excavation work begins the stability of the ground must be evaluated.</li> <li>c. 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.</li> <li>d. No person may be required or permitted to work in an excavation that has not been adequately shored or braced.</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>e. 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 <b>but only after</b> written permission has been obtained from the appointed competent person.</p> <p>f. Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.</p> <p>g. Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained, before excavation proceeds, whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavation supervisor.</p> <p>h. 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. Best practice requires a one meter clearance so as to reduce the pressure on the side walls as well as risk of material falling onto persons inside the excavation.</p> <p>i. Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation to be suitably protected.</p> <p>j. Every excavation must be provided with means of access that must be within 6 metres of any employee within the excavation at any time. Should ladders be utilised for this purpose they should be duly secured.</p> <p>k. 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.</p>



Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>l. Every excavation, including the shoring and bracing or any other method to prevent a possible collapse, must be inspected by the appointed competent person as follows:</p> <ul style="list-style-type: none"> <li>• Daily before work commences</li> <li>• After an unexpected collapse of the excavation or part thereof</li> <li>• After substantial damage to any support</li> <li>• After rain</li> </ul> <p>m. The results of any inspections must be recorded in a register kept on site in the health and safety file.</p> <p>n. 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, on all sides, to at least one meter high and as close to the excavation perimeter as practicable. All such excavations must also be provided with warning lights or visible boundary indicators after dark or when visibility is poor.</p>
Welding and flame cutting	Medium 13	The unsafe use of welding and flame cutting equipment could result in employees and other persons suffering from burns or even result in fires that could cause injuries and fatalities as well as damage to property with subsequent claims and costs.	<ol style="list-style-type: none"> <li>1. A competent person to be appointed to supervise welding, flame cutting or similar operations on site.</li> <li>2. The following rules to govern all welding and flame cutting or similar operations:               <ol style="list-style-type: none"> <li>a. The welder will be trained regarding the safe use/operation of the equipment.</li> <li>b. The welder and his assistant will be provided with effective and appropriate personal protective equipment and/or clothing.</li> <li>c. Cables and electrode holders will be effectively insulated.</li> <li>d. The workplace will be effectively screened off to prevent bystanders from being affected by the welding rays or they will be provided with personal protective equipment.</li> </ol> </li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>e. Special precautions will be taken where welding is undertaken in confined spaces e.g. proper and sufficient ventilation will be provided.</li> <li>f. 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.</li> <li>g. 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.</li> <li>h. 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- <ul style="list-style-type: none"> <li>• is completely closed, unless the rise in internal pressure cannot render it dangerous; or</li> <li>• contains any substance which, under the action of heat may explode or react to form dangerous or poisonous substances.</li> </ul> </li> <li>i. 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.</li> <li>j. Gas welding hoses may only be joined with approved connectors and clamps.</li> <li>k. No oil or grease may be applied to oxygen valves and fittings.</li> <li>l. It is a sound practice to store pressure vessels and/or welding cylinders vertically and to secure them by means of a chain.</li> <li>m. Acetylene cylinders may never be inclined in excess of 45°.</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>n. Proper and adequate fire prevention measures will be instituted and maintained for as long as the welding continues.</li> <li>o. Where explosive and/or flammable vapours are present welding will only be done under “hot work” permits.</li> </ul>
Transportation of employees	High 22	The unsafe transportation of employees could result in injuries and/or fatalities with subsequent costs and claims.	<ol style="list-style-type: none"> <li>1. Any vehicle used to transport employees must have seats firmly secured and adequate for the number of employees to be carried.</li> <li>2. Regulation 247 of the National Road Traffic Act, Number 93 of 1996 (NRTA) stipulates that the principal contractor shall not allow employees to be transported in a vehicle unless the portion of the vehicle in which the employees are being conveyed is enclosed to a height of – <ul style="list-style-type: none"> <li>a. at least 350 mm above the surface on which employees are seated; or</li> <li>b. at least 900 mm above the surface on which employees are standing,</li> </ul> in a manner and with a material of sufficient strength to prevent employees from falling from such vehicle when it is in motion. </li> <li>3. Regulation 247 of the NRTA also stipulates that the principal contractor shall also not allow any employees to be conveyed in the goods compartment of a vehicle together with any tools or goods, except their personal effects, unless that portion in which the employees are being conveyed is separated by means of a partition, from the portion in which such goods are being conveyed.</li> </ol>
Working in inclement weather	High 21	Inclement weather conditions encountered during construction work could result in injuries or even fatalities	The principal contractor to implement an early warning system to identify inclement weather and to prevent such weather from posing negative implications on the safety of employees and other persons visiting.

Description of risk	Risk rating	Potential risk impact	Risk mitigation
		and/or even damages to assets with subsequent claims and costs.	<p>The early warning system to, as a minimum, provide for the following:</p> <p><b>1. Construction work done during electrical storms</b></p> <ul style="list-style-type: none"> <li>a. The principal contractor to ensure that all employees are removed from heights and all employees are as safe as possible, in inclement weather conditions.</li> <li>b. No work to be allowed on the construction site during electric storms where employees cannot be protected from it. Protection involves: <ul style="list-style-type: none"> <li>• eating area fitted with a lightning mast</li> <li>• workshops</li> <li>• inside buildings</li> </ul> </li> <li>c. No work to be allowed in electrical storms on top of open structural steel, even when earthed.</li> <li>d. No work to be allowed on height where the lightning is within a 10 kilometre radius.</li> <li>e. After inclement weather on-site risk assessments to be reviewed to include wet conditions.</li> </ul> <p><b>2. Lifting equipment operations during inclement weather</b></p> <ul style="list-style-type: none"> <li>a. Lifting operations will stop during lightning within a 10 kilometre radius and wind above 28 km/h, and the lifting equipment operator will not be allowed to leave the lifting equipment with the booms extended.</li> <li>b. Lifting operations will stop during rain, rigging and hand lifts.</li> <li>c. Booms on all lifting equipment will be retracted.</li> <li>d. All rigging operations will stop and employees will be removed from site.</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation																				
			<p><b>11. Construction work done during rain</b></p> <p>a. During rainy conditions all work on steel structures to stop.</p> <p>b. No electrical tools to be used during rainy weather in open areas.</p> <p>c. If necessary work only to be done in water proof areas where there is a zero risk for electrocution.</p> <p>d. Areas to be cleared for work during rain:</p> <ul style="list-style-type: none"><li>workshops</li><li>offices</li><li>work on ground level with the provision that the area is maintained in a safe dry condition</li></ul> <p><b>12. Scaffolding activities during inclement weather conditions</b></p> <p>During inclement weather only limited scaffolding actions to be permitted i.e. erecting and dismantling activities.</p> <p>Guidelines for safe choices:</p> <table><tr><th>Weather type</th><th>Building and of</th></tr><tr><td>dismantling scaffolding</td><td></td></tr><tr><td>Lightning</td><td>Stop all activities</td></tr><tr><td>Light rain</td><td>Stop all activities</td></tr><tr><td>Heavy rain</td><td>Stop all activities</td></tr><tr><td>Wind &lt;28 km/h</td><td>Full use</td></tr><tr><td>Wind &gt;40 km/h</td><td>Stop all activities</td></tr><tr><td>Light mist</td><td>Full use</td></tr><tr><td>Heavy mist</td><td>Full use</td></tr><tr><td>Hail</td><td>Stop all activities</td></tr></table>	Weather type	Building and of	dismantling scaffolding		Lightning	Stop all activities	Light rain	Stop all activities	Heavy rain	Stop all activities	Wind <28 km/h	Full use	Wind >40 km/h	Stop all activities	Light mist	Full use	Heavy mist	Full use	Hail	Stop all activities
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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>All scaffold users to:</p> <ul style="list-style-type: none"> <li>a. Ensure that scaffolding is inspected immediately after inclement weather conditions.</li> <li>b. Ensure that the risks associated with working at heights during inclement weather are identified and reasonably mitigated.</li> <li>c. Be cautious of slip/trip hazards when performing activities during inclement weather.</li> <li>d. Take note of the weather when completing the daily safe task instructions on site, where applicable.</li> </ul> <p><b>5. Driving in inclement weather</b></p> <p>The principal contractor to ensure that the danger of driving in wet conditions is adequately covered in a risk assessment.</p> <p>The risk assessment to include, but not limited to:</p> <ul style="list-style-type: none"> <li>a. route planning</li> <li>b. speed reduction</li> <li>c. planning for emergency situations</li> <li>d. driving precautions for slippery surfaces</li> <li>e. visibility hazards</li> </ul>

**Risk areas arising from the activities outlined above that the principal contractor's operational risk assessments to be undertaken in terms of Construction Regulation 9(1) should cover**

- a. Aggregate/Sand Delivery
- b. Arc welding
- c. Brickwork
- d. Bulk mixing plant
- e. Cutting of pipes
- f. Distribution boards – Electrical
- g. Drivers – of vehicles
- h. Electrical installation – Maintenance of
- i. Excavation work
- j. Excavator
- k. Fire prevention and protection
- l. Front end loader
- m. Fuel supply
- n. Gas welding-cutting operations
- o. Hand and spray painting
- p. Hand tools
- q. Kerb laying
- r. Landscaping
- s. Laying of pipes
- t. Levelling – of materials
- u. Loading supervisor
- v. Loading/unloading - of trucks
- w. Machine operator
- x. Making of steel items
- y. Material delivery
- z. Material handling
- aa. Placing concrete
- bb. Plastering
- cc. Portable ladders
- dd. Refuelling vehicles/plant
- ee. Sandblasting
- ff. Scaffolding

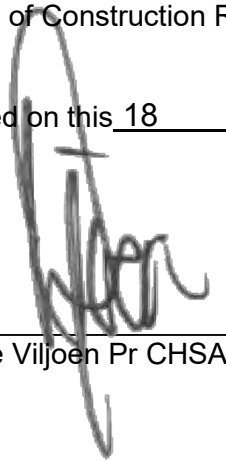
- gg. Site establishment
- hh. Termite proofing
- ii. Tile stacking
- jj. Traffic control
- kk. Trenches – Digging of
- ll. Use of portable electrical tools
- mm. Work in fall risk positions
- nn. Working close to existing services i.e. electrical, waste water etc
- oo. Working close to traffic
- pp. Working in inclement weather



### 13. Sign-off by Professional Construction Health and Safety Agent

This serves as confirmation that I, Bertie Viljoen, have developed this baseline risk assessment in terms of Construction Regulation 5(1)(a) and that the results were duly taken into consideration during the development of the project specific occupational health and safety specification developed in terms of Construction Regulation 5(1)(b).

Signed on this 18 day of May 2018

  
\_\_\_\_\_  
Bertie Viljoen Pr CHSA CHSA/033/2016



**POLOKWNAE MUNICIPALITY**

**PROJECT DESCRIPTION: GA-MAJA SPORTS COMPLEX**

**C4: SITE INFORMATION**

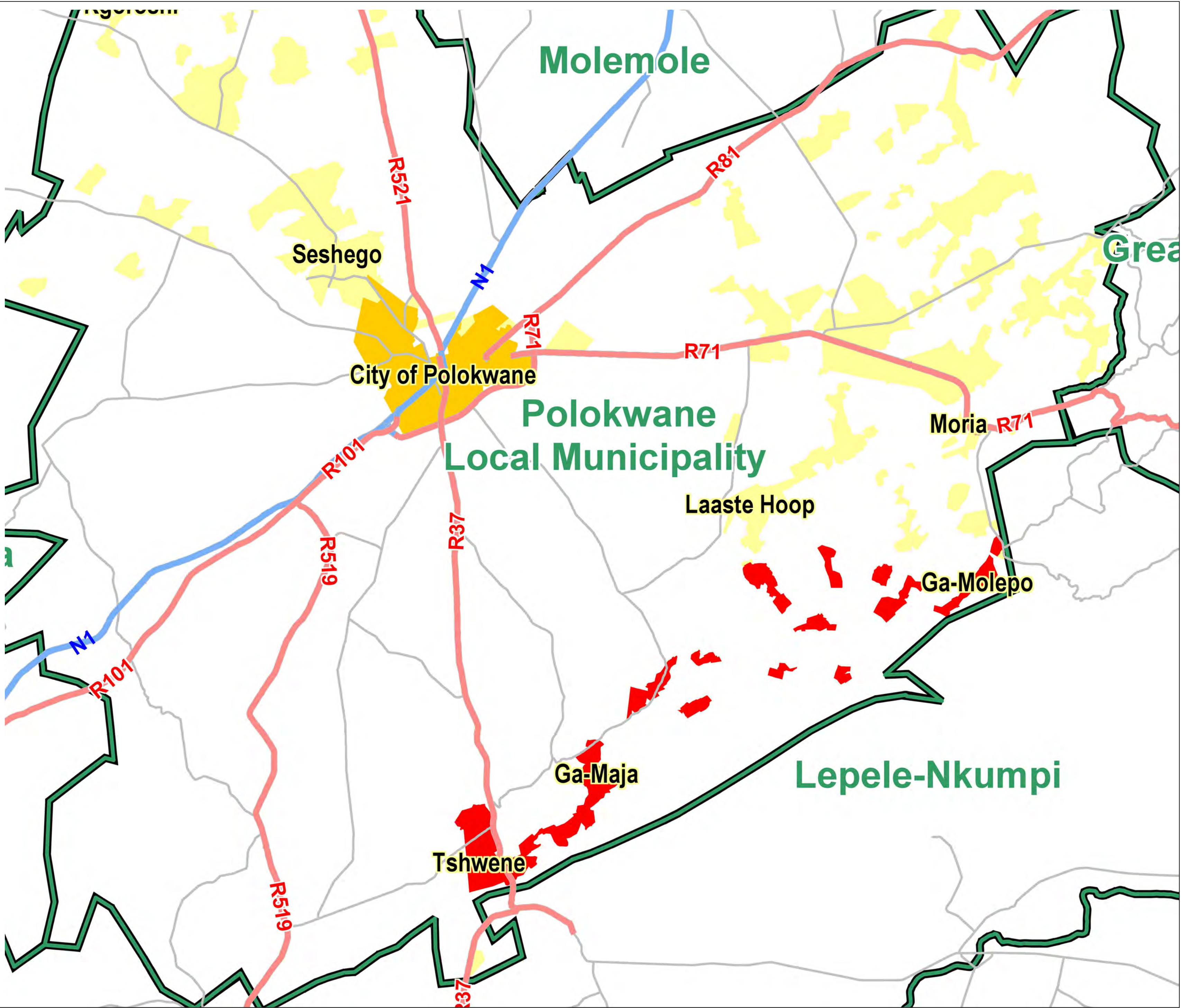
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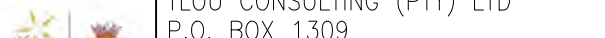


MAJA SPORTS COMPLEX:

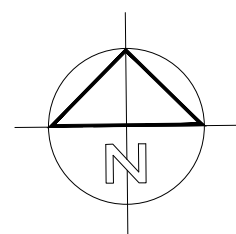
LOCALITY AND DRAWING LIST

DRAWING NUMBER	TITLE DESCRIPTION
P14296-001	LOCALITY AND DRAWING LIST
P14296-002	SITE DEVELOPMENT PLAN
P14296-003	BULK EARTHWORKS – Sheet 1 OF 2
P14296-004	BULK EARTHWORKS – Sheet 2 OF 2
P14296-010	CLUB HOUSE – FLOOR, ROOF & ELECTRICAL PLANS
P14296-011	CLUB HOUSE – ELEVATIONS, SECTIONS & DETAILS
P14296-015	CLUB HOUSE – FINISHING SCHEDULE
P14296-020	CLUB HOUSE – FOUNDATION TRENCHES LAYOUT & SOIL IMPROVEMENT
P14296-021	CLUB HOUSE – FOUNDATION LAYOUT, SECTIONS & DETAILS
P14296-022	CLUB HOUSE – SURFACE BED LAYOUT
P14296-030R	CLUB HOUSE – FOUNDATION REINFORCEMENT LAYOUT AND DETAILS
P14296-040	CLUB HOUSE – STEEL ROOF LAYOUT, SECTIONS & DETAILS
P14296-060	ABLUTIONS – LAYOUT AND DETAILS
P14296-070	GUARDHOUSE – LAYOUT AND DETAILS
P14296-080	COMBI COURTS – LAYOUT PLANS AND DETAILS
P14296-090	SERVICES – LAYOUT PLAN
P14296-091	WATER, SEWER, STORMWATER – TYPICAL DETAILS 1
P14296-092	WATER, SEWER, STORMWATER – TYPICAL DETAILS 2
P14296-093	ACCESS ROAD AND PARKING – TYPICAL DETAILS 1
P14296-094	ACCESS ROAD AND PARKING – TYPICAL DETAILS 2
P14296-100	CONCRETE PALISADE FENCING
P14296-101	NAMEBOARD



No.	AMENDMENTS	BY	APPROVED	DATE	PROJECT STATUS														"TENDER"		DESIGNED R MOODLEY		CLIENT: POLOKWANE MUNICIPALITY P.O. BOX 1309 BODENSTEIN STREETS P.O. BOX 111 POLOKWANE, 0700 TEL: 015 290 2300 Email: manthoap@polokwane.gov.za		CONSULTANT: TLOU CONSULTING (PTY) LTD P.O. BOX 1309 PRETORIA 0001 TEL: (012) 336-9800 FAX: (012) 460-2033	
A	ISSUED FOR TENDER	JLN	RM	MAR'18	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>											PROJECT ENGINEER:	DRAWN						
					SIGNATURE	DATE	JL. NNZERU	CLIENT:	CHECKED																	
					SIGNATURE	DATE	T TLOU	REMARKS:	DATE																	
															SCALE											
															NOT TO SCALE	PROJECT ENGINEER: R. MOODLEY		PROJECT MANAGER: M.L. PHIHLELA		CONTRACT No. PM36/2018		DRAWING No. P14296-001				





NTS. PROPOSED SITE AREA APROX. – 59 340SQM.  
5,934 Ha.

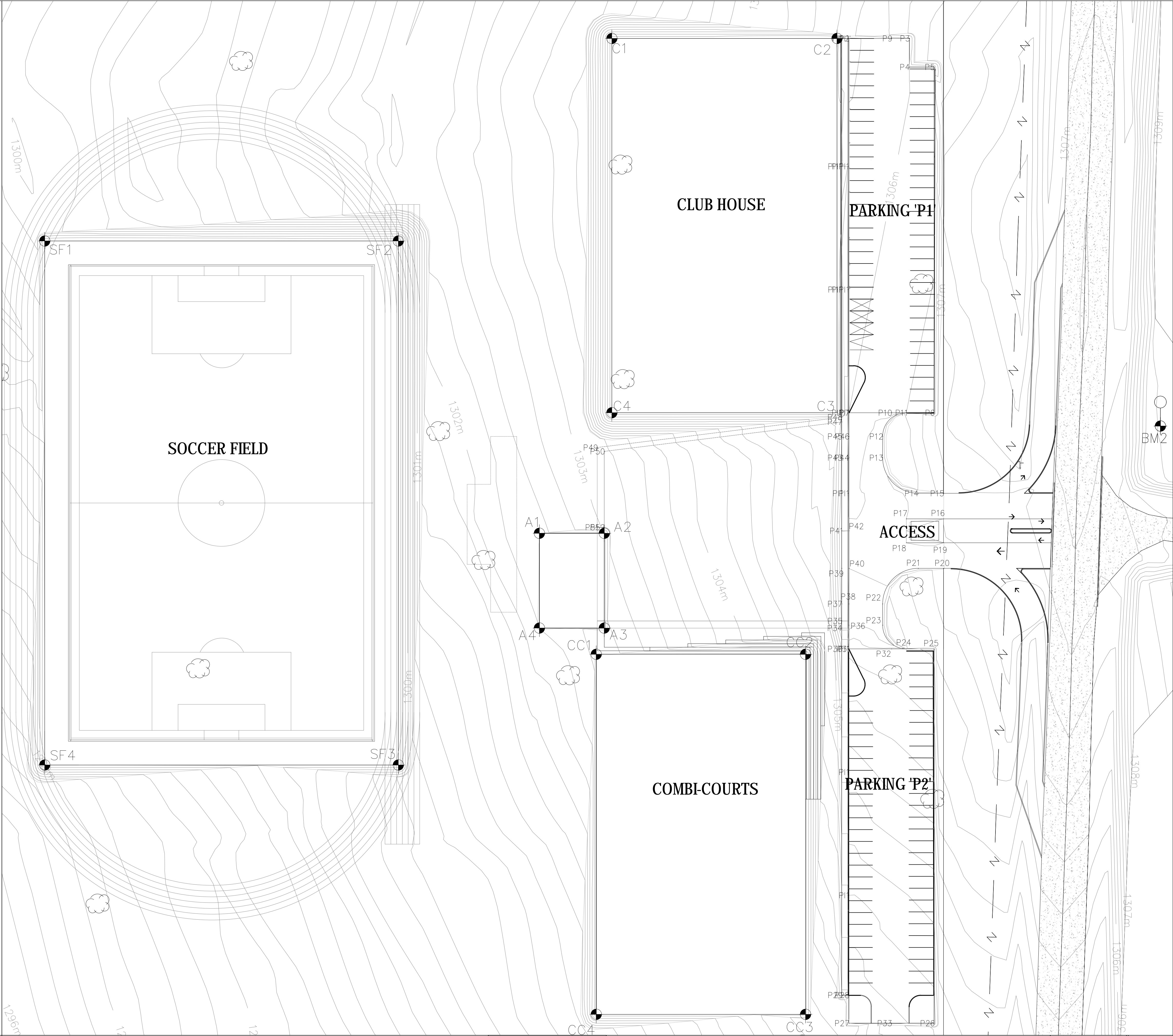
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A	ISSUED FOR TENDER	JUN	RM	MAR18

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<b>"TENDER"</b>		<b>DESIGNED BY</b>		<b>CLIENT</b>		<b>CONSULTANT</b>	
PROJECT ENGINEER		R. MOODLEY		POLOKWANE MUNICIPALITY C/O LADYDORIS MARE B/O BETHENET STREET PO. BOX 1149 PRETORIA		TLOU CONSULTING (PTY) LTD P.O. BOX 1149 PRETORIA	
MANAGER		DATE		DRAWING NO.		FOOT	
CLIENT		DRAWING		POLOKWANE 0700		TEL: (012) 258-8600	
ISSUANCE		T L TLOU		TEL: (012) 258-2300		FAX: (012) 490-3033	
REMARKS:		DATE		<b>MAJA SPORTS COMPLEX: PROPOSED SITE LAYOUT</b>			
		MARCH 2018		<b>PROJECT ENGINEER</b>		<b>DRAWING NO.</b>	
DRAWING NO.		SCALE		M. L. PHIPHLE		PM36-02	
1:500		R. MOODLEY		<b>PROJECT ENGINEER</b>		P14296-002	



SETTING OUT CO-ORDINATES - EARTHWORKS			
PARKING/WALKWAYS			
Code	Y	X	Elevation
P2	-55 093.632	2 672 889.246	1305.700
P3	-55 106.395	2 672 889.246	1305.955
P4	-55 106.395	2 672 895.281	1306.000
P5	-55 111.632	2 672 895.281	1306.100
P6	-55 111.632	2 672 968.247	1306.360
P7	-55 093.632	2 672 968.247	1306.000
P8	-55 092.132	2 672 968.247	1306.113
P9	-55 102.632	2 672 889.246	1305.880
P10	-55 102.632	2 672 968.247	1306.180
P11	-55 105.757	2 672 968.247	1306.250
P12	-55 100.757	2 672 973.247	1306.400
P13	-55 100.757	2 672 977.747	1306.450
P14	-55 108.257	2 672 985.247	1306.600
P15	-55 113.607	2 672 985.247	1306.600
P16	-55 113.607	2 672 990.647	1306.500
P17	-55 105.757	2 672 990.647	1306.500
P18	-55 105.757	2 672 995.689	1306.500
P19	-55 113.607	2 672 995.689	1306.500
P20	-55 113.607	2 673 001.089	1306.450
P21	-55 108.257	2 673 001.089	1306.400
P22	-55 100.757	2 673 008.589	1306.200
P23	-55 100.757	2 673 013.089	1306.150
P24	-55 105.757	2 673 018.089	1305.700
P25	-55 111.632	2 673 018.089	1305.800
P26	-55 111.632	2 673 097.089	1304.110
P27	-55 093.632	2 673 097.089	1303.750
P28	-55 093.632	2 673 091.158	1303.775
P29	-55 092.132	2 673 091.155	1303.975
P30	-55 092.132	2 673 018.089	1305.750
P31	-55 093.632	2 673 018.089	1305.550
P32	-55 102.632	2 673 018.089	1305.650
P33	-55 102.632	2 673 097.089	1303.930
P34	-55 092.132	2 673 013.688	1306.300
P35	-55 092.132	2 673 012.188	1306.300
P36	-55 093.632	2 673 013.089	1306.100
P37	-55 092.132	2 673 008.589	1306.350
P38	-55 093.632	2 673 008.589	1306.150
P39	-55 092.132	2 673 001.089	1306.450
P40	-55 093.632	2 673 001.089	1306.250
P41	-55 092.132	2 672 993.168	1306.500
P42	-55 093.632	2 672 993.168	1306.300
P43	-55 092.132	2 672 977.747	1306.300
P44	-55 093.632	2 672 977.747	1306.100
P45	-55 092.132	2 672 973.247	1306.122
P46	-55 093.632	2 672 973.247	1306.050
P47	-55 092.132	2 672 970.184	1305.957
P48	-55 092.132	2 672 969.176	1305.903
P49	-55 040.540	2 672 975.581	1303.155
P50	-55 042.040	2 672 976.403	1303.197
P51	-55 040.540	2 672 992.424	1302.963
P52	-55 042.040	2 672 992.424	1303.029
P53	-55 042.239	2 673 012.187	1302.727
P54	-55 042.239	2 673 013.687	1302.700



SETTING OUT CO-ORDINATES - EARTHWORKS			
ABLUTION BLOCK			
Code	Y	X	Elevation
A1	-55 028.340	2 672 993.686	1302.404
A2	-55 042.040	2 672 993.687	1302.404
A3	-55 042.039	2 673 013.687	1302.404
A4	-55 028.339	2 673 013.686	1302.404
CLUB HOUSE			
Code	Y	X	Elevation
C1	-55 043.632	2 672 889.248	1306.200
C2	-55 091.132	2 672 889.247	1306.200
C3	-55 091.132	2 672 968.247	1306.200
C4	-55 043.632	2 672 968.248	1306.200
COMBI-COURTS			
Code	Y	X	Elevation
CC1	-55 040.339	2 673 019.227	1302.675
CC2	-55 084.497	2 673 019.228	1302.675
CC3	-55 084.496	2 673 095.228	1302.675
CC4	-55 040.338	2 673 095.227	1302.675
SOCCERFIELD			
Code	Y	X	Elevation
SF1	-54923.978	2 672 931.997	1299.000
SF2	-54998.578	2 672 931.997	1299.000
SF3	-54998.578	2 673 042.597	1299.000
SF4	-54923.978	2 673 042.597	1299.000

No.	AMENDMENTS	BY	APPROVED	DATE
A	ISSUED FOR TENDER	JLN	RM	MAR'18

PROJECT STATUS

☐ CONCEPT DRAWING

☒ TENDER DRAWING

☐ APPROVED FOR CONSTRUCTION DRAWING

☐ AS BUILT DRAWING

TENDER

PROJECT ENGINEER

SIGNATURE

DATE

CLIENT

SIGNATURE

DATE

REMARKS

DATE

DRAWING NO.

DESIGNED

R. MOODLEY

DRAWN

J.L. NZERU

CHECKED

T. TLOU

DATE

MARCH 2018

PROJECT ENGINEER

R. MOODLEY

PROJECT MANAGER

M.L. PHILELA

CONTRACT NO.

PM36/2018

DRAWING NO.

P14296-003

CLIENT

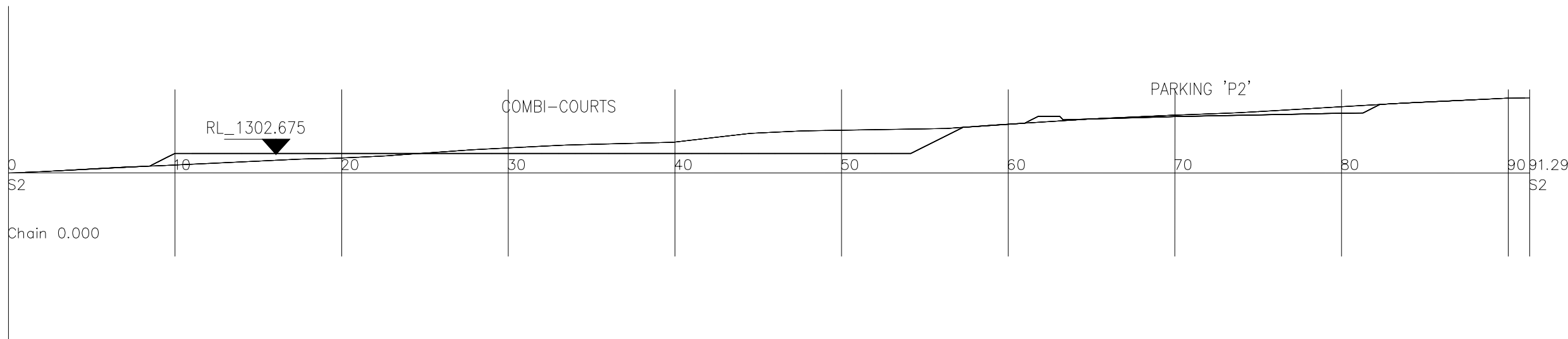
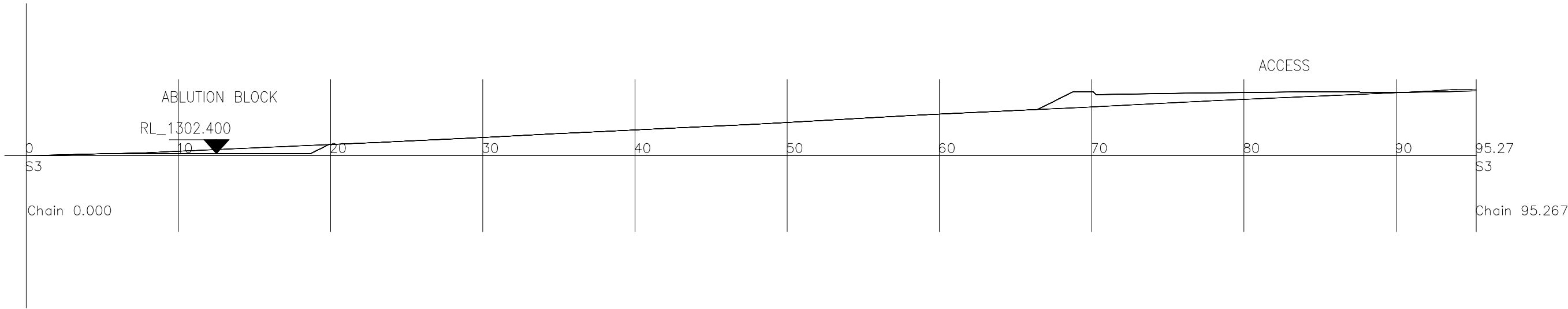
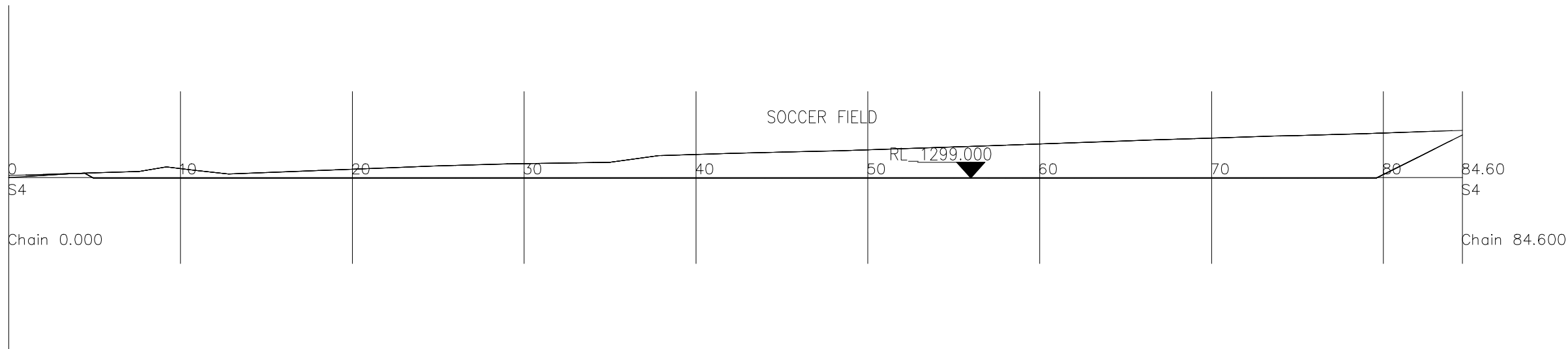
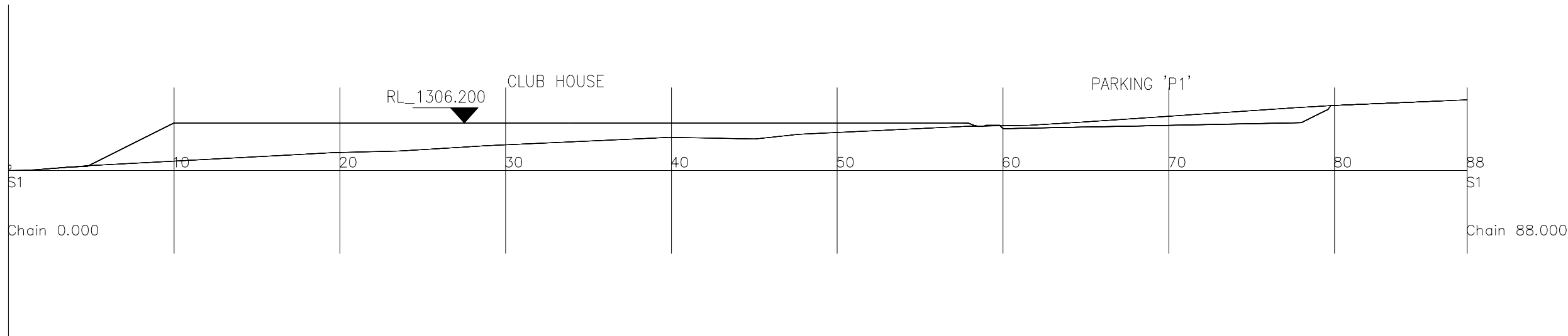
POLOKWANE MUNICIPALITY  
ONE LANDROS WARE &  
BODENSTEIN STREETS  
POLOKWANE 0700  
TEL: 015 290 2300  
Email: mantrhop@polokwane.gov.za

CONSULTANT

TLOU CONSULTING (PTY) LTD  
P.O. BOX 1309  
PRETORIA  
000  
TEL: (012) 336-9800  
FAX: (012) 460-2033

MAJA SPORTS COMPLEX:  
EARTHWORKS- SHEET 1 OF 2





#### EARTHWORKS GENERAL NOTES

- ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH SABS 1200 A – GENERAL, SABS 1200 C – SITE CLEARANCE AS WELL AS 1200 D – 1988 – EARTHWORKS.
- SITE CLEARANCE AND GRUBBING OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH SABS 1200 C.
- THE CONTRACTOR TO IDENTIFY AND EXPOSE, WHERE RELEVANT, ALL UNDERGROUND SERVICES ON SITE. HE SHOULD LIAISE WITH ALL RELEVANT AUTHORITIES FOR THE LOCATION AND PROTECTION OF THESE SERVICES.
- ALL UNSUITABLE MATERIALS I.E. ROOTS, CONCRETE PIPES, OLD FOUNDATIONS, ROCK, BUILDING RUBBLE, EXCESSIVE EARTHWORKS AND TRENCH SOIL SHALL BE DISPOSED OF TO A SUITABLE DUMPING SITE.
- ALL APPROVED MATERIAL TO BE STOCKPILED SEPARATELY, AND LATER BE REUSED AS PER ARCHITECTS/ENGINEERS INSTRUCTIONS.
- THE CONTRACTOR IS TO USE ONLY APPROVED FILL MATERIAL AS SPECIFIED BY THE ENGINEER.
- ALL EXPOSED REDUCED EXCAVATION BEDS AND AREAS TO RECEIVE FILL SHALL BE CLEARED, RIPPED, WETTED AND COMPACTED WITH 15 PASSES OF A 10 TON VIBRATORY ROLLER
- THE CONTRACTOR SHALL TIMOROUSLY SUBMIT FIELD AND LABORATORY TEST RESULTS OF RELATIVE COMPACTION DENSITIES, CBR INDICATOR TESTS OR ANY OTHER TEST RESULTS AS REQUIRED, TO THE ENGINEER.
- a) FIELD DENSITY TESTS SHOULD BE CARRIED OUT AT A RATE OF 1 TEST PER 150 SQ. METRE PER LAYER.  
b) THE POSITION OF TESTS AND LAYERS TESTED TO BE INDICATED ON A KEY PLAN AND SUBMITTED WITH THE RESULTS TO THE ENGINEER.  
c) TESTS TO BE DONE BY AN INDEPENDENT LABORATORY APPROVED BY THE ENGINEER.  
d) POSITIONS OF TESTS TO BE APPROVED BY THE ENGINEER.  
e) ONE OF THE DENSITY TESTS SHOULD BE A SAND REPLACEMENT TEST / 10 TROXLER TESTS AND EVENLY SPREAD OVER ALL LAYERS.
- THE CONTRACTOR SHOULD MAKE PROVISION FOR STORM WATER CONTROL DURING EXCAVATION ACTIVITIES.
- MAXIMUM CUT AND FILL SLOPES TO BE 30 DEGREES TO HORIZONTAL OR AS APPROVED BY THE ENGINEER ON SITE.
- AS BUILT SURVEY LEVELS TO BE HANDED TO THE ENGINEER AFTER COMPLETION OF EARTHWORKS.

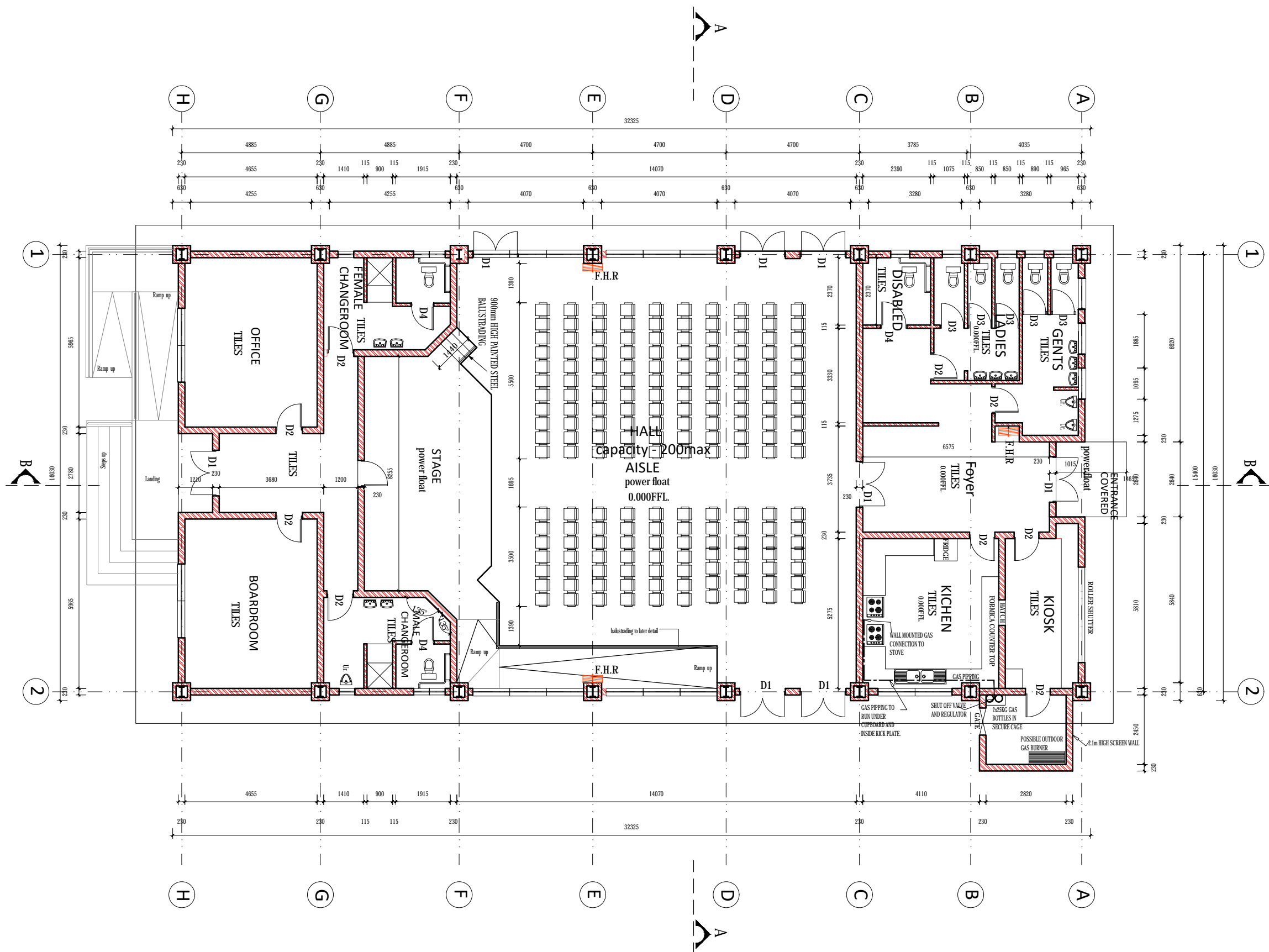
#### BULK EARTHWORKS CONSTRUCTION PROCEDURE

- EXCAVATE TO REDUCED. EXCAVATION SLOPE AS INDICATED.
- RIP THE EXPOSED GROUND SURFACE TO A DEPTH 150mm, WET TO PRE-COLLAPSE AND ALLOW TO DRY. COMPACT WITH A 10 TON VIBRATORY ROLLER (15 PASSES MINIMUM)
- LAYER WORKS FOR FIELDS, TRACK AND COURT TO BE DONE BY OTHERS

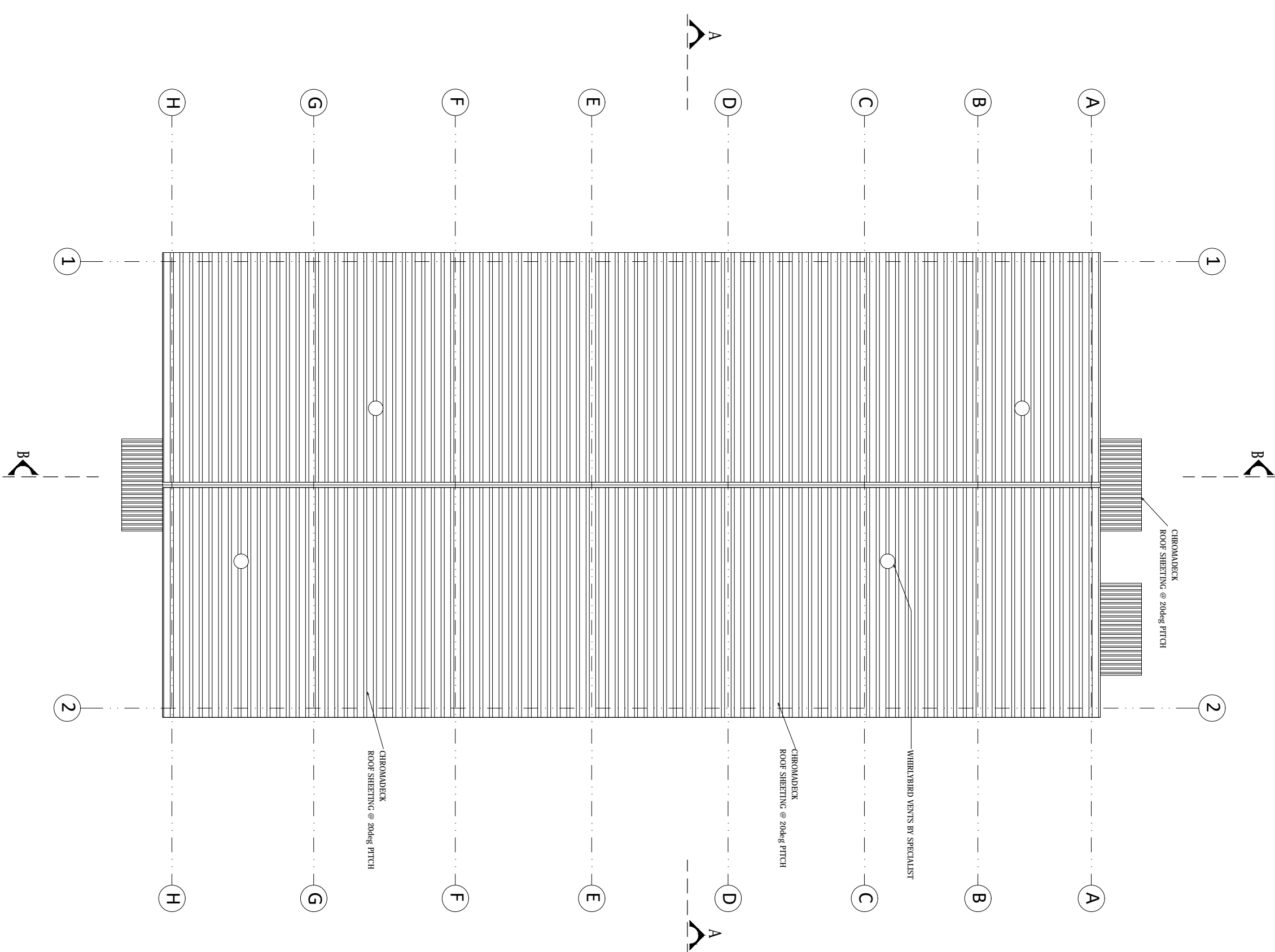
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A	ISSUED FOR TENDER	JLN	RM	MAR'18

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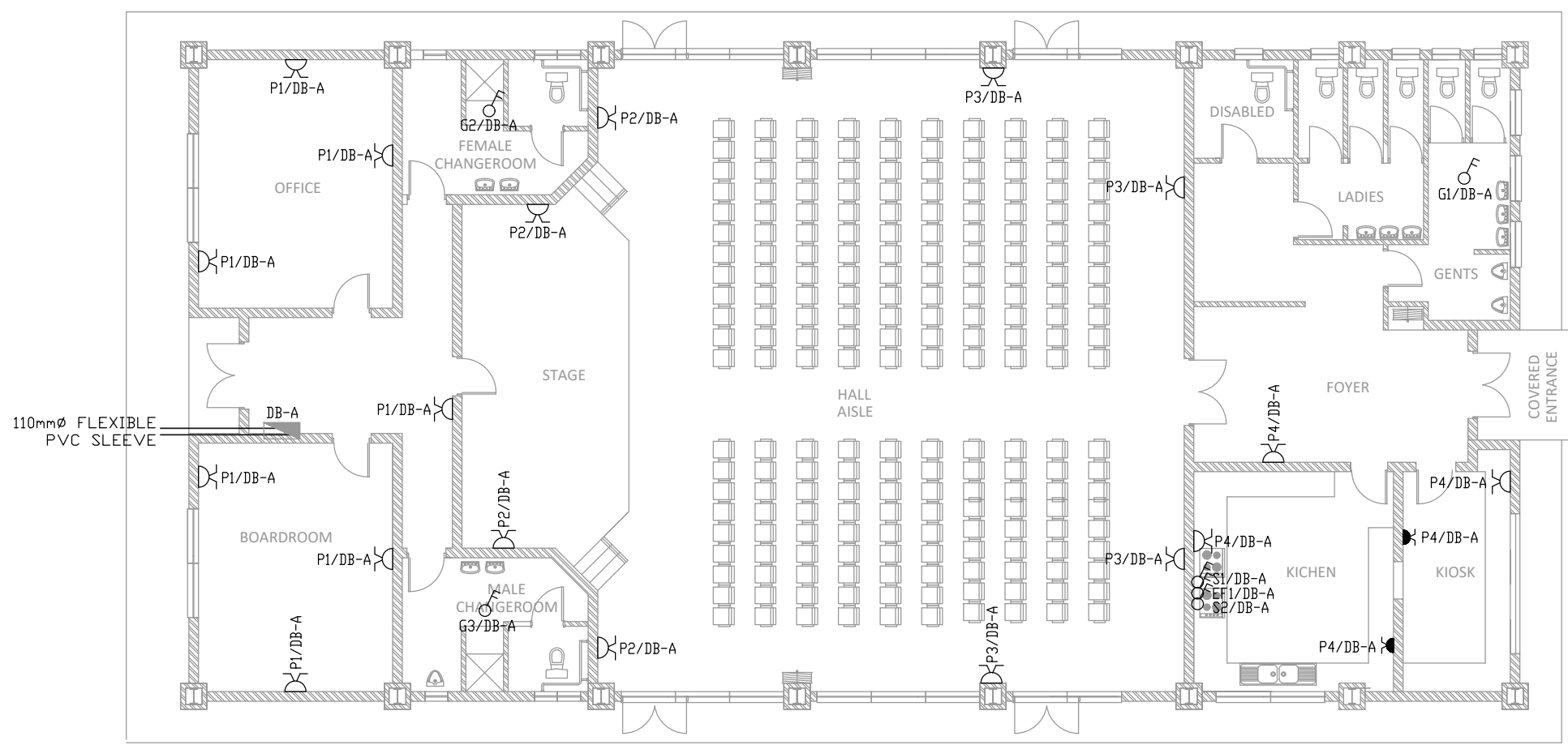
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PROJECT ENGINEER		R. MOODLEY		TLOU CONSULTING (PTY) LTD
SIGNATURE	DATE	J.L. NZERU		P.O. BOX 1309
CLIENT		CHECKED		PRETORIA
SIGNATURE	DATE	T. TLOU		0001 (012) 336-9800
REMARKS		DATE		FAX: (012) 460-2033
DRAWING NO.		PROJECT ENGINEER	PROJECT MANAGER	CONTRACT NO.
		AS SHOWN	R. MOODLEY	M.L. PHLELA
				PM36/2018
				P14296-004



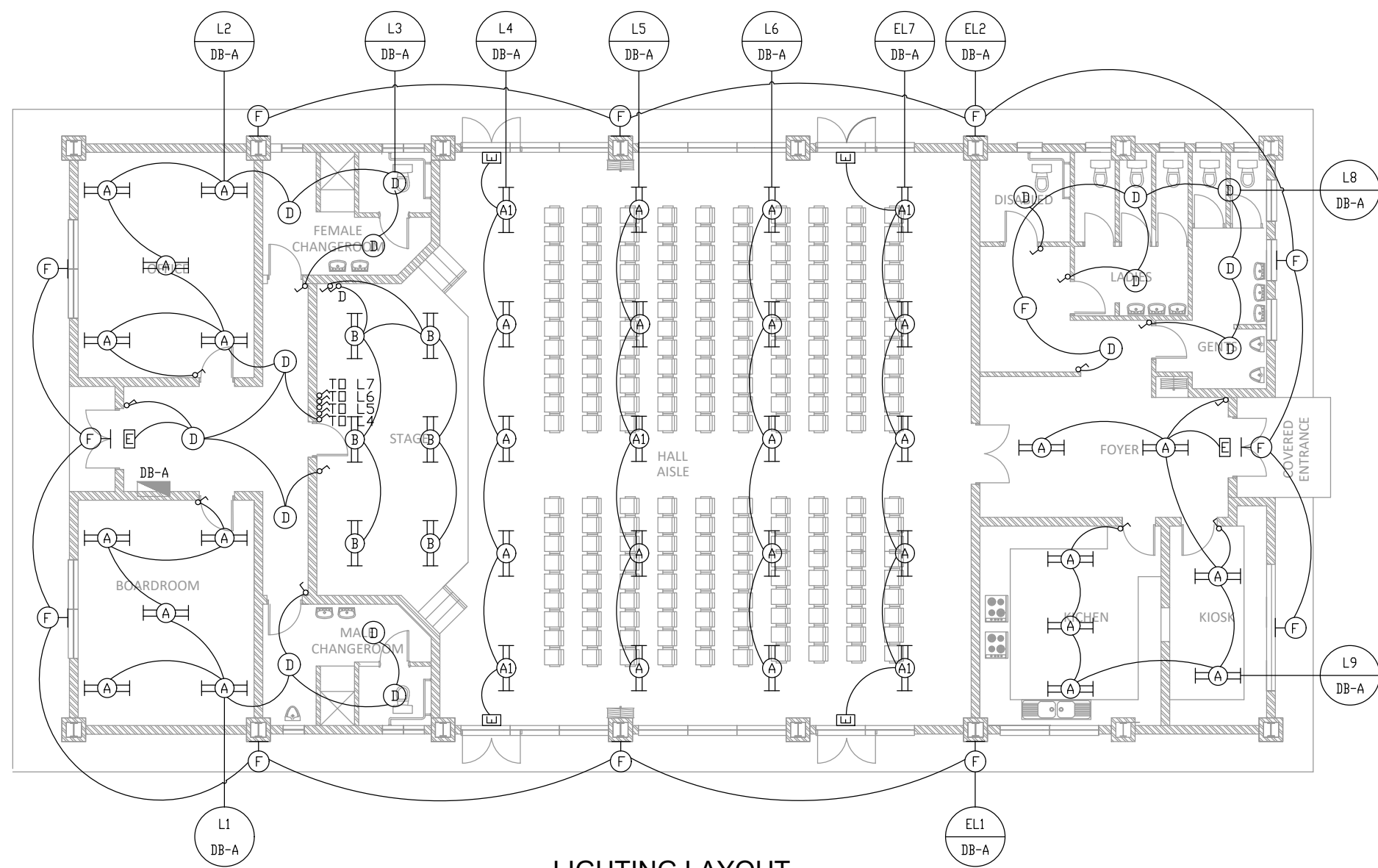
**FLOOR PLAN**  
SCALE 1:100  
TOTAL Plinth AREA - 500sqm.



**ROOF PLAN**  
SCALE 1:100



**SMALL POWER LAYOUT**  
SCALE 1:100



**LIGHTING LAYOUT**  
SCALE 1:100

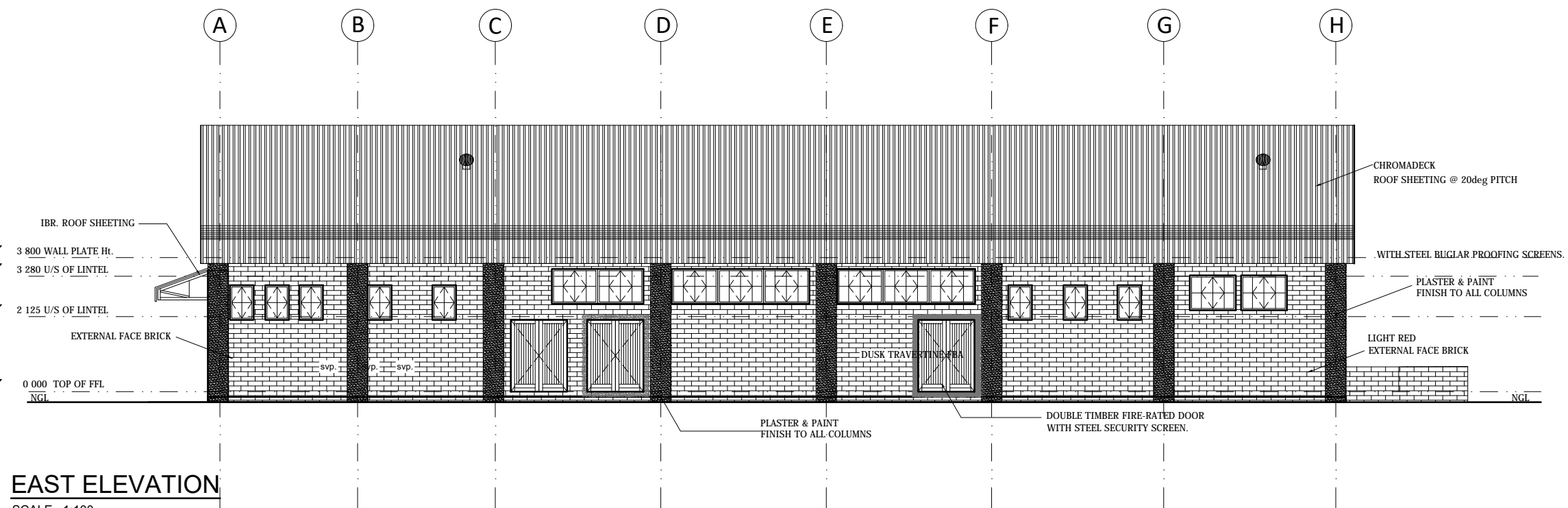
LEGEND	
SYMBOL	DESCRIPTION
	DISTRIBUTION BOARD
	16A NORMAL DOUBLE SWITCHED SOCKET OUTLET (HEIGHT : 300 AFF) (HEIGHT : 300 AFF)
	16A NORMAL DOUBLE SWITCHED SOCKET OUTLET (HEIGHT : 1400 AFF)
	DOUBLE POLE ISOLATOR
	2x28W IP65 SURFACE MOUNTED FLUORESCENT LUMINAIRE
	2x58W IP65 SURFACE MOUNTED FLUORESCENT LUMINAIRE
	2xPL18W RECESSED DOWNLIGHT
	8W DOUBLE SIDED EMERGENCY SIGNAGE LUMINAIRE
	2x18W TC-D IP65 BULKHEAD LUMINAIRE
	2x70W MH WALL MOUNTED UP/DOWN LIGHT LUMINAIRE
	16A,1 WAY,1 LEVER WEATHERPROOF LIGHT SWITCH
	16A, SINGLE LEVER LIGHT SWITCH WITH 600W DIMMER CONTROL
	16A,1 WAY,1 LEVER LIGHT SWITCH
	16A,2-WAY,1 LEVER LIGHT SWITCH

No.	AMENDMENTS	BY	APPROVER	DATE
A	ISSUED FOR TENDER	JUN	RM	MAR'18

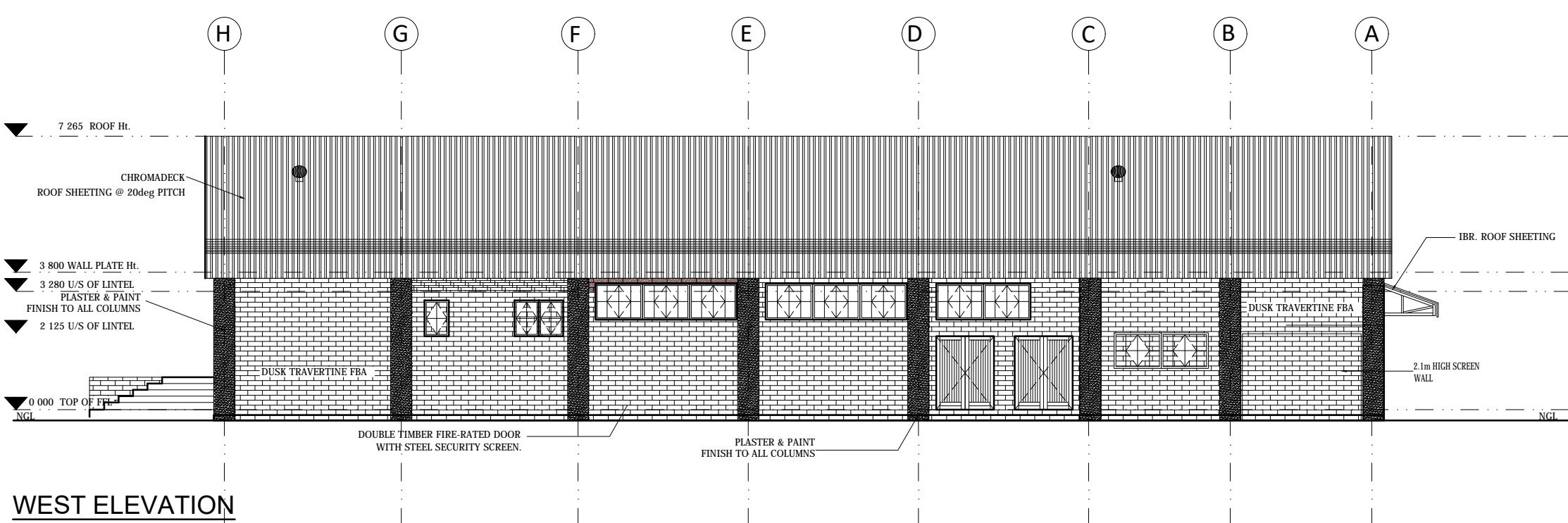
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	APPROVED FOR CONSTRUCTION DRAWING		AS BUILT DRAWING

"TENDER"		DESIGNED	R MOODLEY	CLIENT	POLOKWANE MUNICIPALITY CNR LANDROS MARÉ & BODENSTEN STREETS P.O. BOX 111 POLOKWANE 0700 TEL: 015 290 2300 Email: montloap@polokwane.gov.za	CONSULTANT	TLOU CONSULTING (PTY) LTD P.O. BOX 1309 PRETORIA 0001 TEL: (012) 336-9800 FAX: (012) 460-2033
PROJECT ENGINEER	DATE	DRAWN	JL. NNZERI	DATE		DATE	MARCH 2018
CHECKED	T.TLOU	CHECKED		DATE		DATE	
DRAWING NO.		SCALE	1:500	PROJECT ENGINEER	R. MOODLEY	CONTRACT NO.	PM36/2018
					M.L. PHILELA		P14296-010

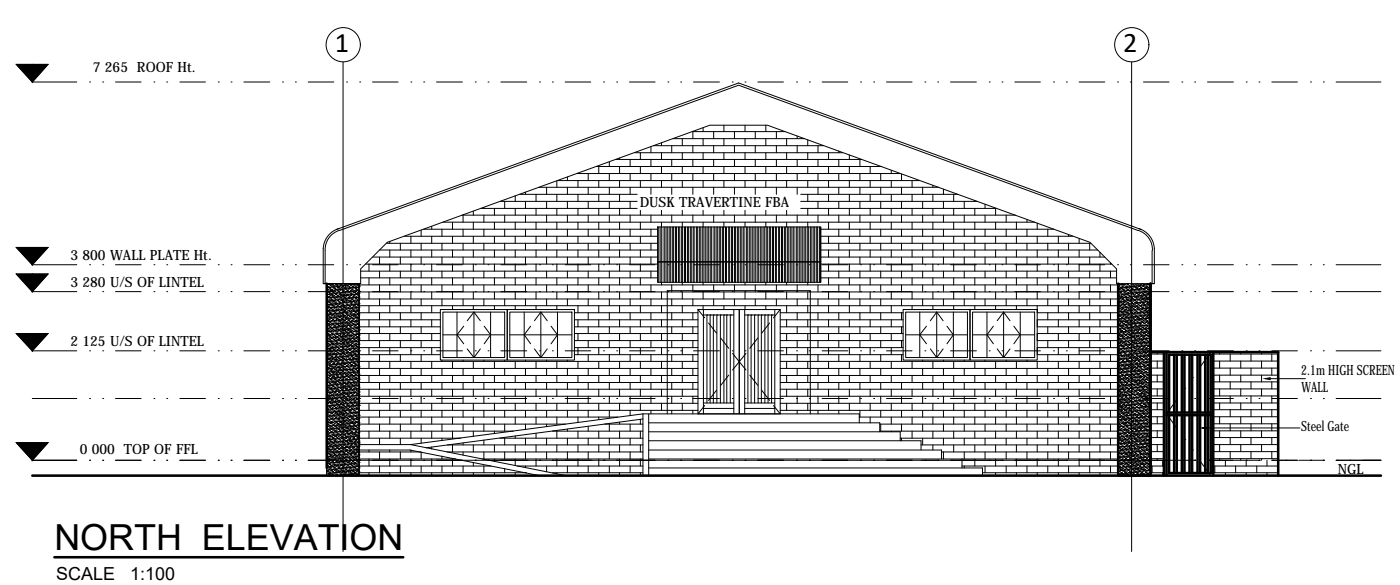




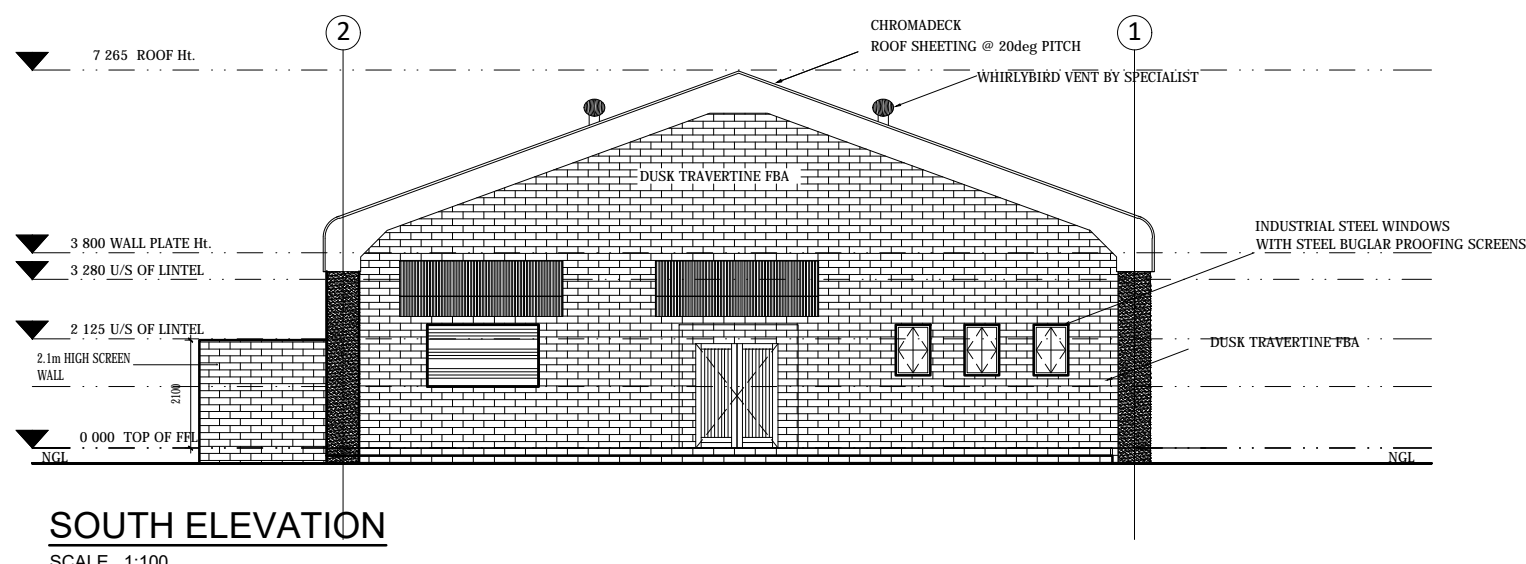
EAST ELEVATION  
SCALE 1:100



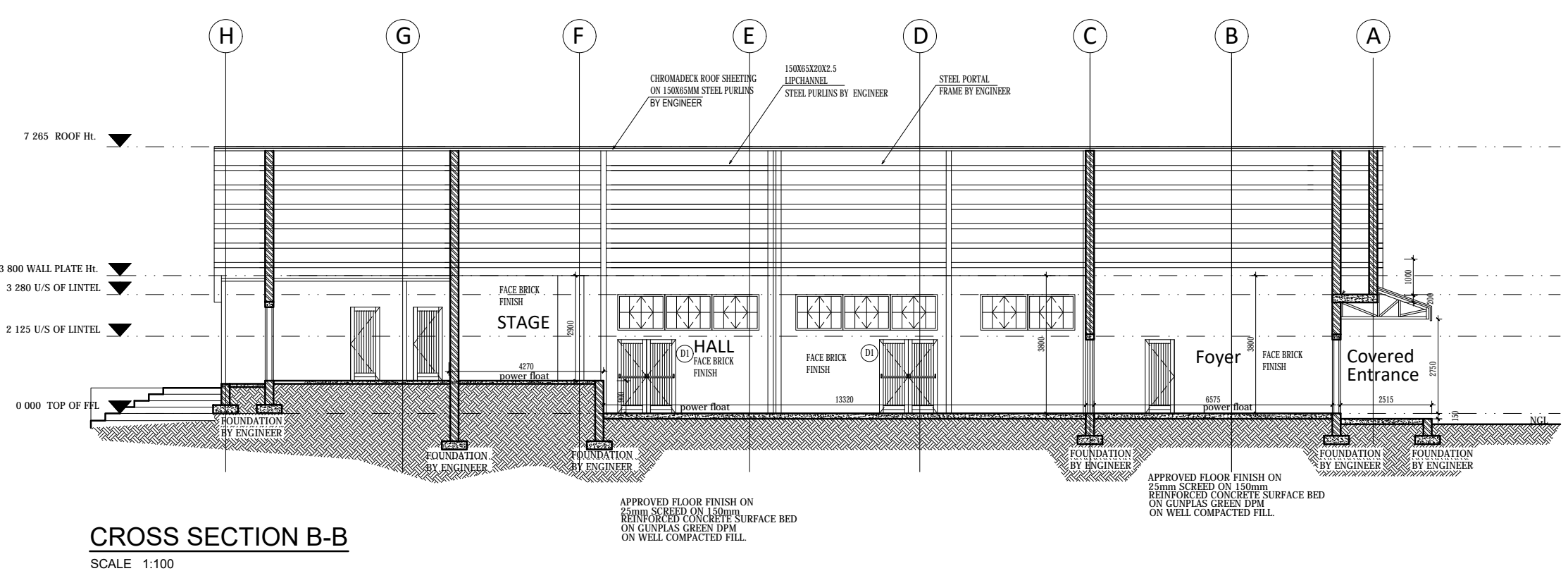
WEST ELEVATION  
SCALE 1:100



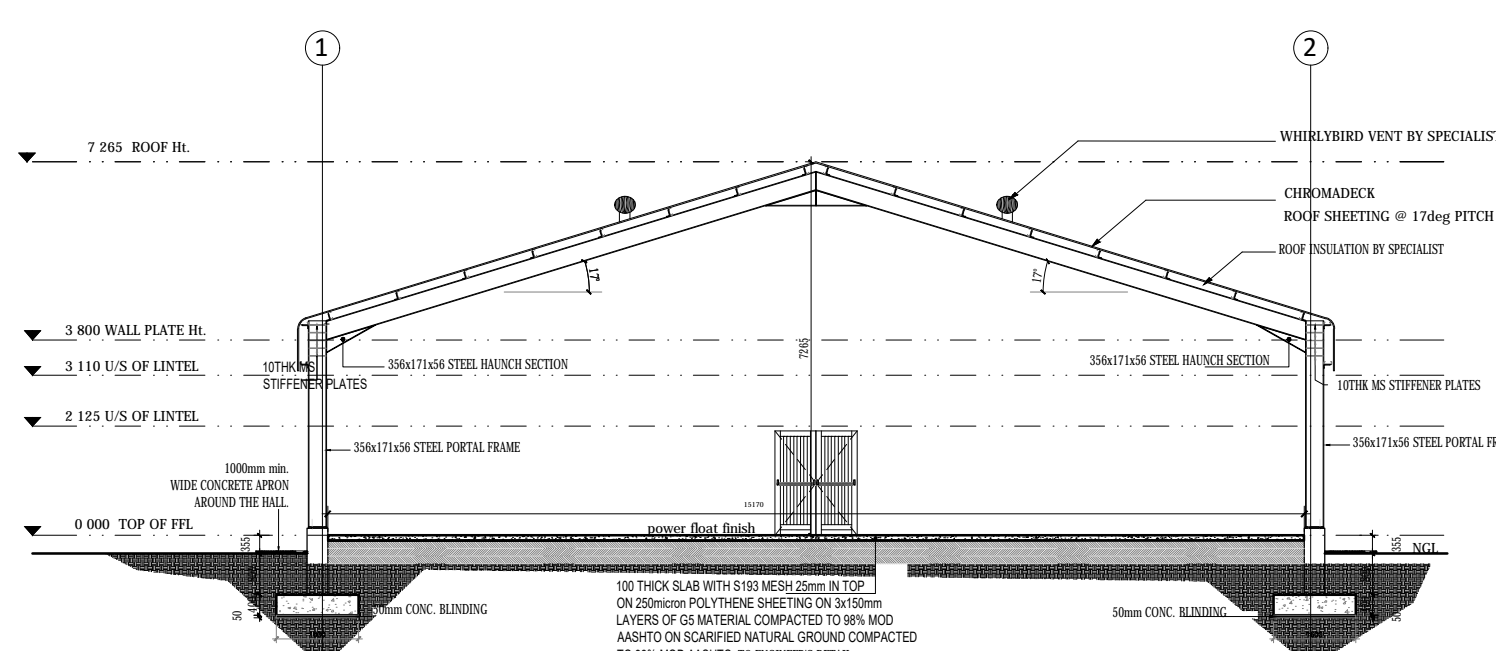
NORTH ELEVATION  
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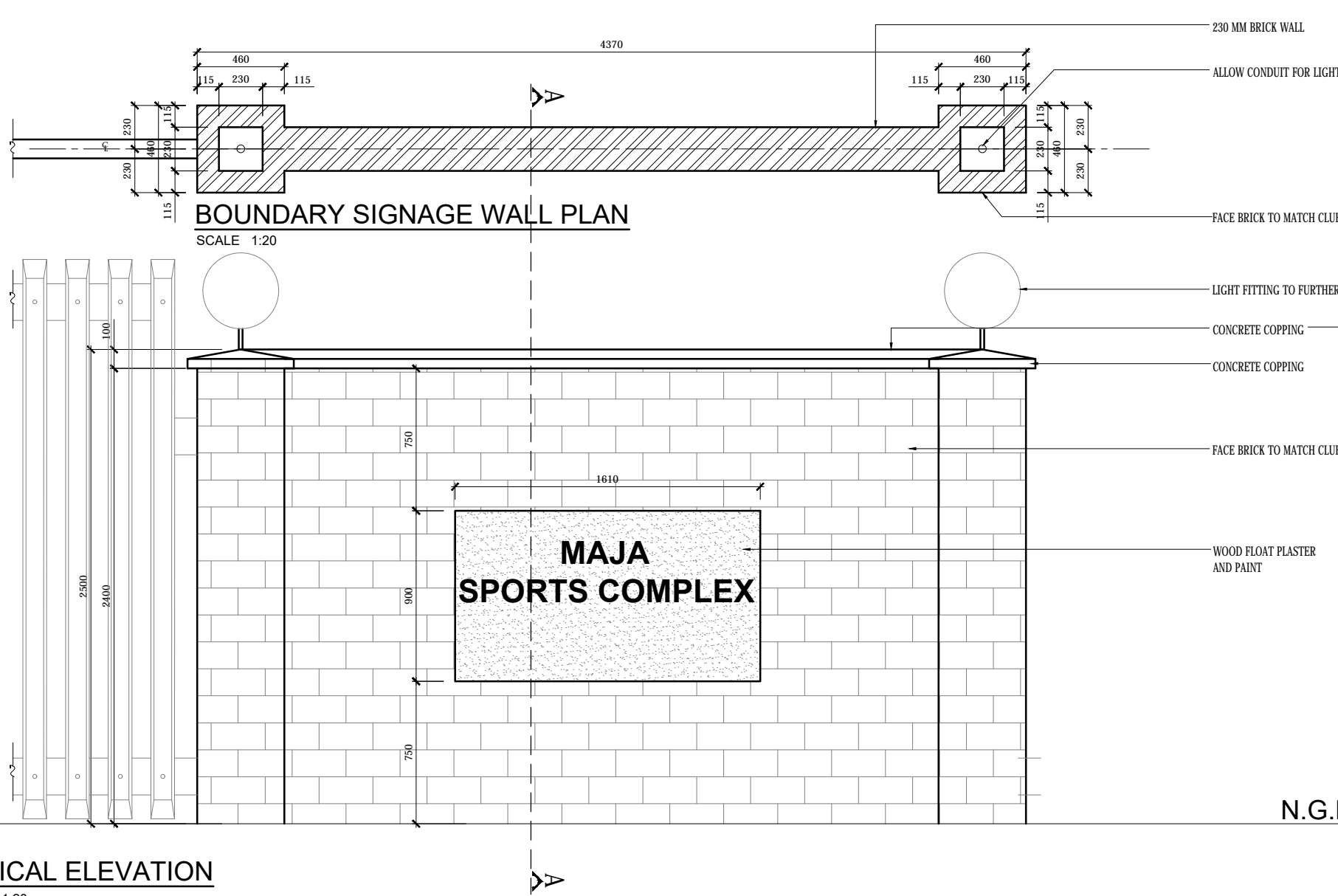
SOUTH ELEVATION  
SCALE 1:100



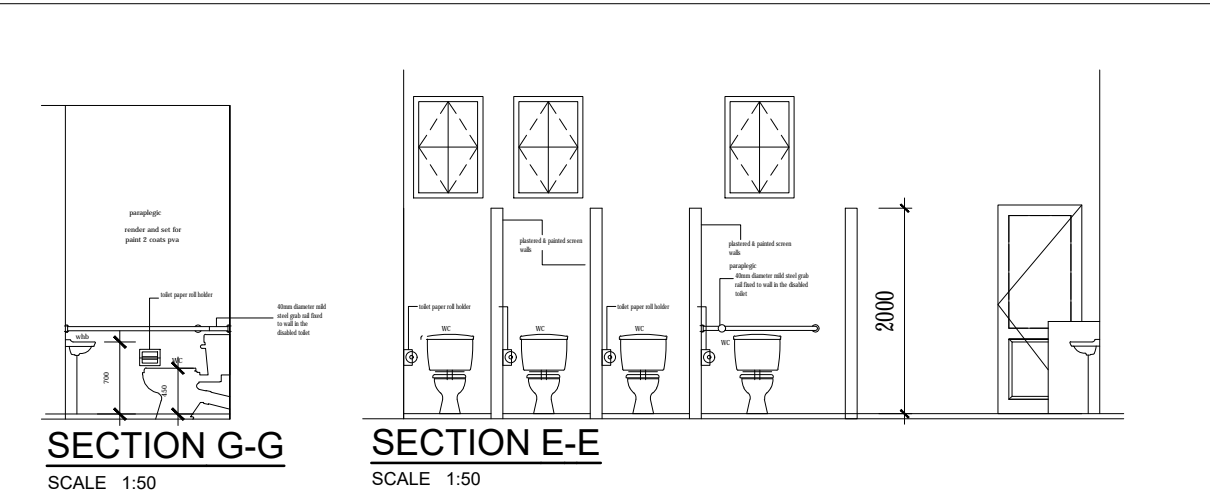
CROSS SECTION B-B  
SCALE 1:100



STEEL PORTAL SECTION A-A  
SCALE 1:100



TYPICAL ELEVATION  
SCALE 1:20



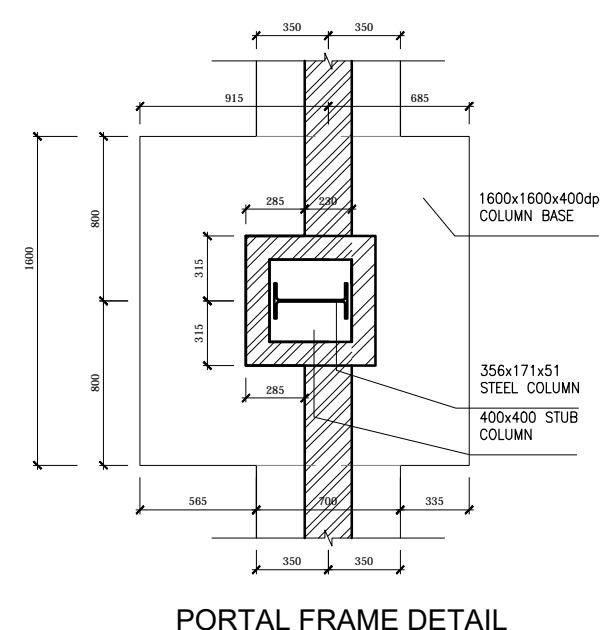
SECTION G-G  
SCALE 1:50  
SECTION E-E  
SCALE 1:50

DOOR SCHEDULE

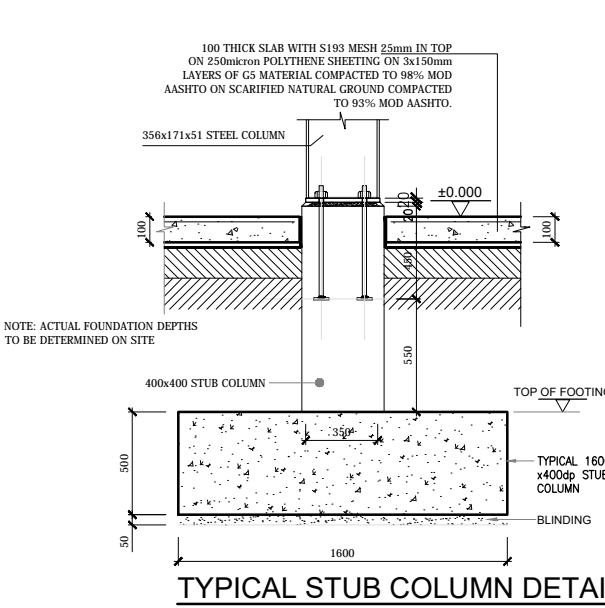
DOOR NO.	D1	D2	D3	D4
DOOR NO.	1	2	3	4
DESCRIPTION	STANDARD SOLID WOOD EXTERIOR DOUBLE DOOR	STANDARD FLUSH PANEL YELLOW OAK DOOR	STANDARD STEEL FRAMED DOOR	STANDARD DOOR FOR GARAGE TRUCK
TYPE	STANDARD	STANDARD	STANDARD	STANDARD
TO	TO KITCHEN	TO KITCHEN	TO KITCHEN	TO KITCHEN
FROM	TO KITCHEN	TO KITCHEN	TO KITCHEN	TO KITCHEN
LOCATION	TO KITCHEN	TO KITCHEN	TO KITCHEN	TO KITCHEN
DOOR NO.	1	2	3	4

WINDOW SCHEDULE

WINDOW NO.	W1	W2
WINDOW NO.	1	2
DESCRIPTION	STANDARD WINDOW WITH STEEL FRAME	STANDARD WINDOW WITH STEEL FRAME
TYPE	STANDARD	STANDARD
TO	TO KITCHEN	TO KITCHEN
FROM	TO KITCHEN	TO KITCHEN
LOCATION	TO KITCHEN	TO KITCHEN
WINDOW NO.	1	2



PORTAL FRAME DETAIL  
SCALE 1:20



TYPICAL STUB COLUMN DETAIL  
SCALE 1:20

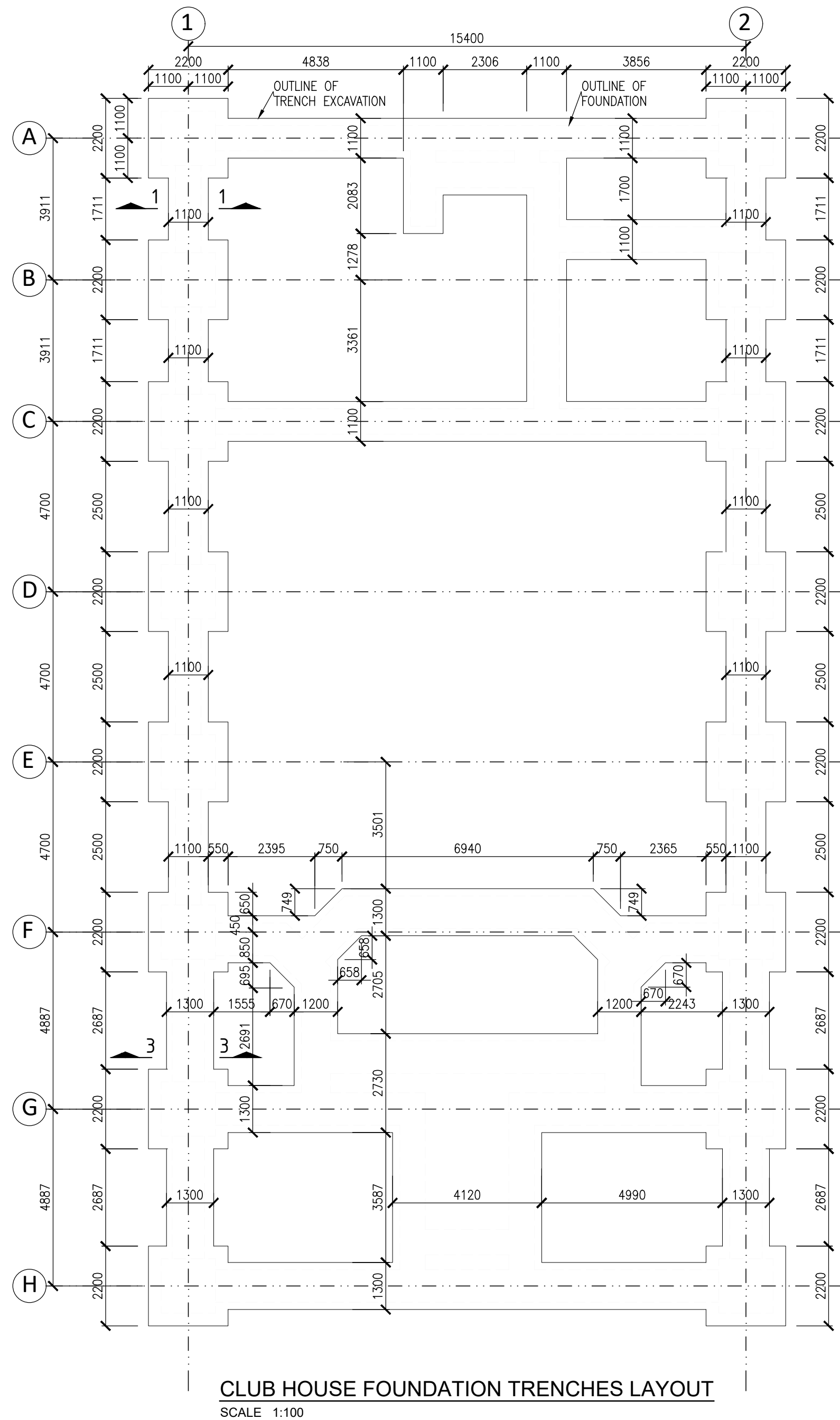
No.	AMENDMENTS	BY	APPROVER	DATE
A	ISSUED FOR TENDER	JUN	RM	MAR'18

PROJECT STATUS			
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"TENDER"	
PROJECT ENGINEER	R. MOODLEY
CLIENT	J.L. NINZERI
DESIGNER	T. TLOU
DATE	MARCH 2018
SCALE	1:500
PROJECT MANAGER	R. MOODLEY
CONTRACTOR	M.L. PHILELA
CLIENT	POLKOWANE MUNICIPALITY
CLIENT ADDRESS	100 LANDROPS WARE & BODENSTEN STREETS P.O. BOX 111 POLKOWANE 0700 TEL: 015 290 2300 Email: montloap@polkowane.gov.za
CONTRACTOR	TLOU CONSULTING (PTY) LTD P.O. BOX 1309 PRETORIA TEL: (012) 336-9800 FAX: (012) 460-2033
MAJA SPORTS COMPLEX: CLUB HOUSE - ELEVATIONS, SECTIONS & DETAILS	
DRAWING NO.	P14296-011

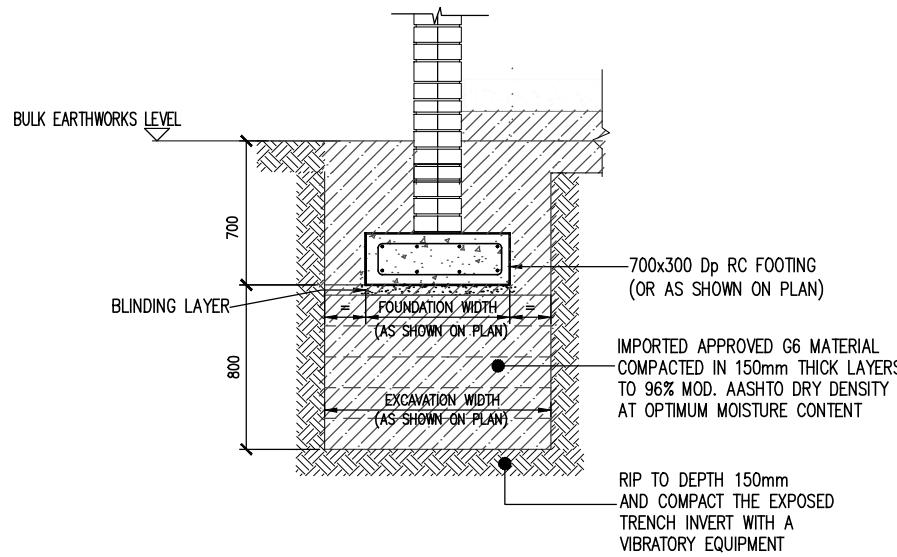


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CLUB HOUSE FOUNDATION TRENCHES LAYOUT  
SCALE 1:100

OPTION 2  
OVEREXCAVATION AND G6 MATERIAL FILL



TYPICAL SECTION THROUGH  
FOUNDATION EXCAVATION  
AND G6 MATERIAL FILL  
SCALE 1:25

FOUNDATIONS OVEREXCAVATION AND  
BACKFILLING CONSTRUCTION PROCEDURE

1. EXCAVATE FOUNDATION TRENCH TO A DEPTH OF 1500mm TO SPOIL. WIDTH AS SHOWN ON PLAN.
2. RIP, SCARIFY, AND COMPACT THE EXPOSED GROUND SURFACE TO A DEPTH OF 150mm WITH A VIBRATORY EQUIPMENT.
3. IN 150mm THICK LAYERS, (7 LAYERS TO TOP OF FOOTING) BACKFILL WITH IMPORTED G6 MATERIAL AND COMPACT TO 95% MOD AASHTO MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT  $\pm 1\%$ . EXCAVATE FOOTING TRENCH IN COMPACTED FILL, FIX REBAR FOR FOOTING AND POUR CONCRETE. CONTINUE BACKFILLING WITH G6 MATERIAL UP TO NEW GROUND LEVEL AND FOLLOW RECOMMENDED PROCEDURE FOR SURFACE BED PREPARATIONS.

GENERAL EARTHWORKS NOTES

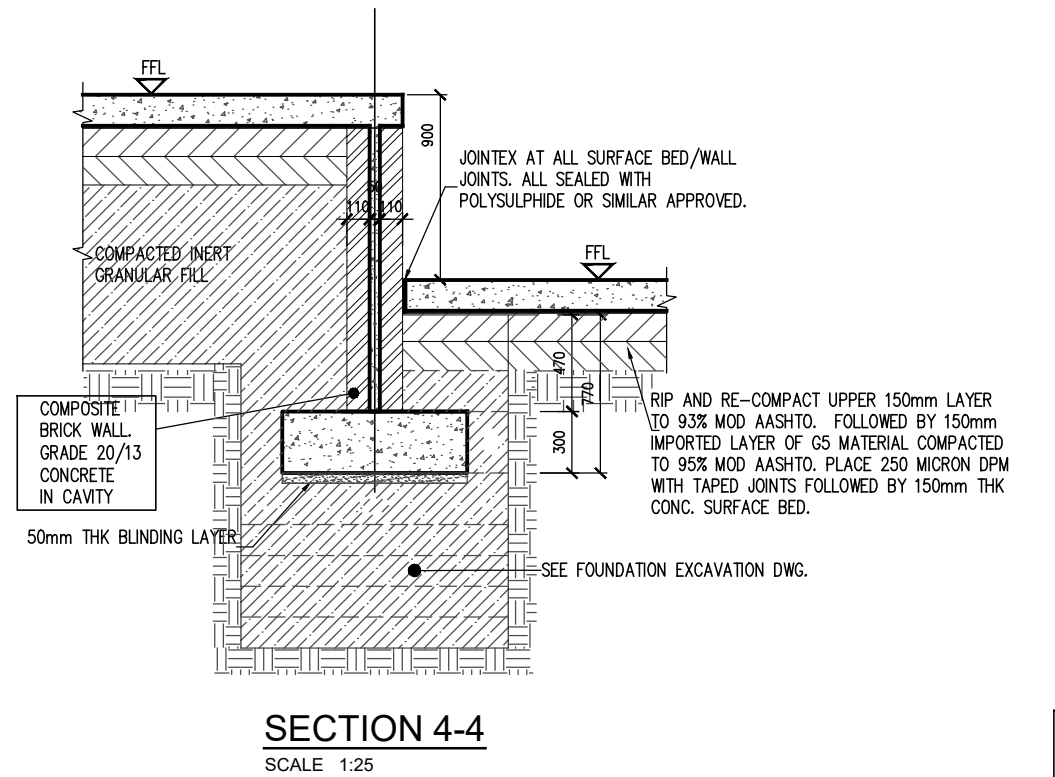
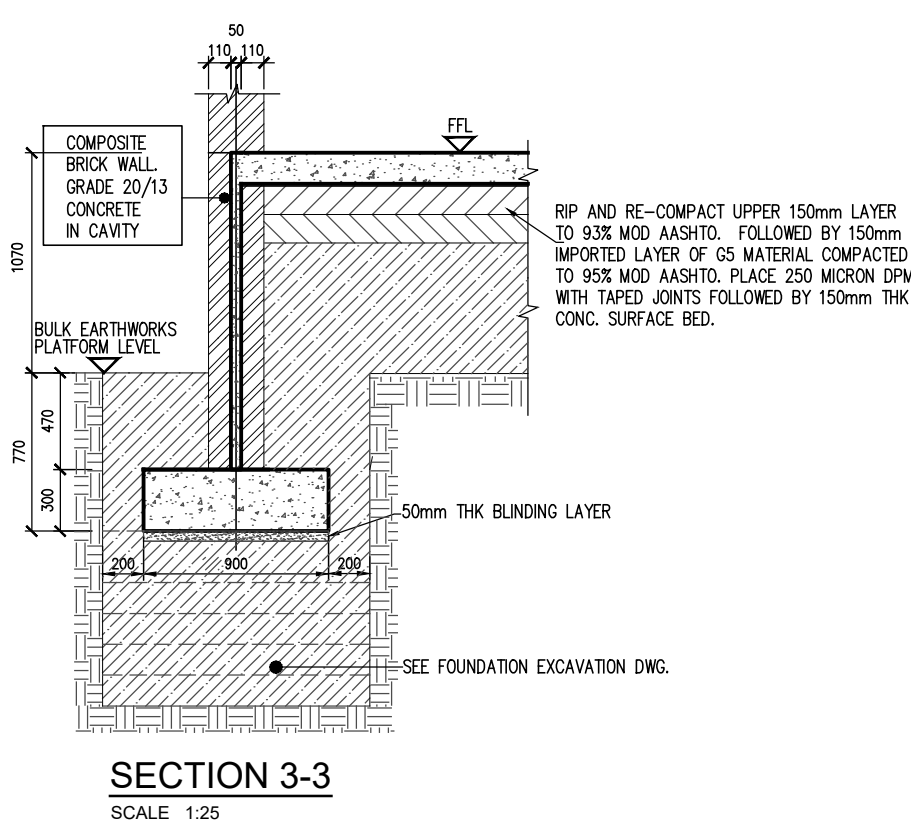
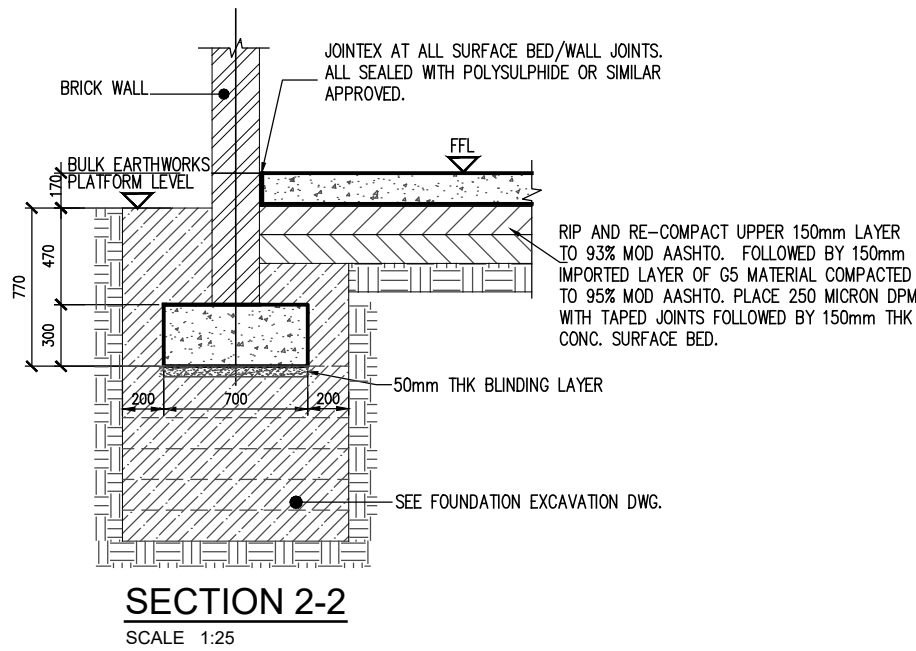
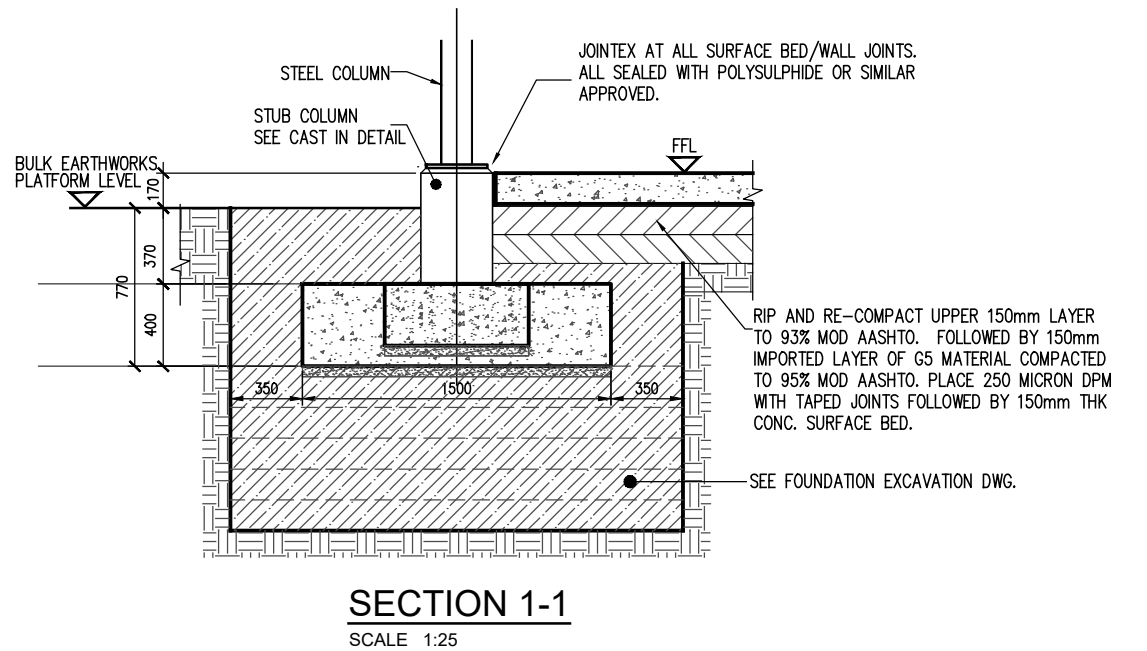
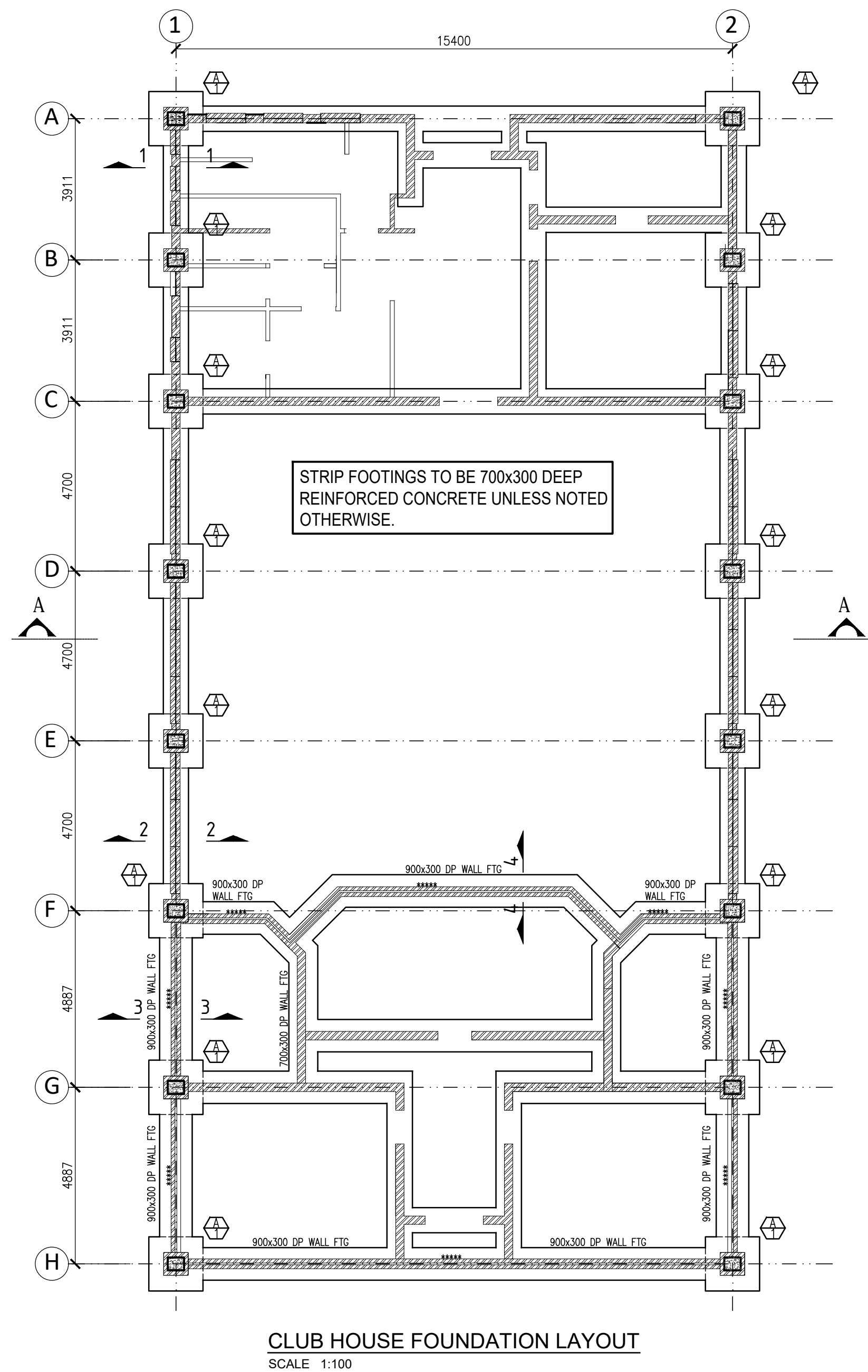
1. ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH SABS 1200 A – GENERAL, SABS 1200 C – SITE CLEARANCE AS WELL AS 1200 D – 1988 – EARTHWORKS.
2. SITE CLEARANCE AND GRUBBING OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH SABS 1200 C.
3. THE CONTRACTOR TO IDENTIFY AND EXPOSE, WHERE RELEVANT, ALL UNDERGROUND SERVICES ON SITE. HE SHOULD LIAISE WITH ALL RELEVANT AUTHORITIES FOR THE LOCATION AND PROTECTION OF THESE SERVICES.
4. ALL UNSUITABLE MATERIALS I.E. ROOTS, CONCRETE PIPES, OLD FOUNDATIONS, ROCK, BUILDING RUBBLE, EXCESSIVE EARTHWORKS AND TRENCH SOIL SHALL BE DISPOSED OF TO A SUITABLE DUMPING SITE.
5. ALL APPROVED MATERIAL TO BE STOCKPILED SEPARATELY, AND LATER BE REUSED AS PER ARCHITECTS/ENGINEERS INSTRUCTIONS.
6. THE CONTRACTOR IS TO USE ONLY APPROVED FILL MATERIAL AS SPECIFIED BY THE ENGINEER.
7. ALL EXPOSED REDUCED EXCAVATION BEDS AND AREAS TO RECEIVE FILL SHALL BE CLEARED, RIPPED AND COMPACTED WITH REQUIRED PASSES OF A VIBRATORY ROLLER.
8. THE CONTRACTOR SHALL SUBMIT FIELD AND LABORATORY TEST RESULTS OF RELATIVE COMPACTION DENSITIES, CBR INDICATOR TESTS OR ANY OTHER TEST RESULTS AS REQUIRED, TO THE ENGINEER.
9. a) FIELD DENSITY TESTS SHOULD BE CARRIED OUT AT A RATE OF 1 TEST PER 60 SQ. METRE PER LAYER. b) THE POSITION OF TESTS AND LAYERS TESTED TO BE INDICATED ON A KEY PLAN AND SUBMITTED WITH THE RESULTS TO THE ENGINEER. c) TESTS TO BE DONE BY AN INDEPENDENT LABORATORY APPROVED BY THE ENGINEER. d) POSITIONS OF TESTS TO BE APPROVED BY THE ENGINEER. e) ONE OF THE DENSITY TESTS SHOULD BE A SAND REPLACEMENT TEST / 10 TROXLER TESTS AND EVENLY SPREAD OVER ALL LAYERS.
10. THE CONTRACTOR SHOULD MAKE PROVISION FOR STORM WATER CONTROL DURING EXCAVATION ACTIVITIES.
11. CONTRACTOR TO ENSURE CUT SLOPES ARE SAFE FROM COLLAPSE
12. AS BUILT SURVEY LEVELS TO BE HANDED TO THE ENGINEER AFTER COMPLETION OF EARTHWORKS.

No.	AMENDMENTS	BY	APPROVER	DATE
A	ISSUED FOR TENDER	JUN	RM	MAR'18

PROJECT STATUS			
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CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION	AS BUILT DRAWING

"TENDER"		DESIGNED	CLIENT	CHECKED	DATE	DATE	DESCRIPTION
PROJECT ENGINEER		R. MOODLEY	POLOKWANE MUNICIPALITY CNR LANDROU MARÉ & BODENSTEN STREETS P.O. BOX 111 POLOKWANE 0700 TEL: 015 280 2300 Email: montloup@polokwane.gov.za	J.L. NNZERU		MARCH 2018	MAJA SPORTS COMPLEX: CLUB HOUSE - FOUNDATION TRENCHES & SOIL IMPROVEMENT
CLIENT				CHECKED	T. TLOU		
DESIGNER				DATE			
DRAWING NO.		SCALE	PROJECT ENGINEER	PROJECT ENGINEER	CONTRACTOR	DRAWING NO.	
		1:500	R. MOODLEY	M.L. PHILELA	PM36/2018	P14296-020	





**CONCRETE:**

C1. MATERIALS AND MIX PROPORTIONS:

1.1 THE GRADES FOR CONCRETE, UNLESS OTHERWISE INDICATED SHALL BE AS FOLLOWS:

COLUMNS CLASS 25/19mm

FOUNDATIONS CLASS 25/19mm

SURFACE BED SLABS CLASS 25/19mm

MASS CONCRETE CLASS 10/38mm

BLINDING LAYERS CLASS 10/19mm

STAIRS CLASS 25/19mm

1.2 WHEN READY MIXED CONCRETE IS USED, TEST CUBES ARE TO BE TAKEN ON SITE WHILST CASTING. SABS 12000

CLAUSE 7.3.3 (STATISTICAL ASSESSMENT) WILL NOT APPLY, BUT ACCEPTANCE CRITERIA WILL BE IN ACCORDANCE WITH SABS 12000

CLAUSE 7.3.1 AND 7.3.2 SAMPLING FREQUENCY MUST COMPLY WITH THE MINIMUM RATES GIVEN IN CLAUSE 7.1.2.2 OF SABS 12000.

1.3 CONCRETE, FORMWORK AND REINFORCEMENT TO BE IN ACCORDANCE WITH SABS 12000.

1.4 CEMENT FOR CONCRETE TO COMPLY WITH SABS 50197

1.5 CEMENT IS TO BE OF THE FOLLOWING (MINIMUM) STRENGTH CLASSES UNLESS OTHERWISE AGREED WITH THE ENGINEER:

(a) GENERAL CONCRETE: 32.5N

(b) SURFACE BEDS OR PAVING WITH SAWN CONTRACTION JOINTS: 42.5N

C2. CONCRETE COVER OVER REINFORCEMENT UNLESS SHOWN DIFFERENTLY:

SLABS AND BEAMS: 30mm

COLUMNS: 30mm MINIMUM COVER TO STIRRUPS

FOUNDATIONS: 50mm BOTTOM SIDES AND TOP

C3. CASTING OF CONCRETE IN EXCESS OF 3.5m HIGH IS NOT PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

**MASONRY:**

B1. ALL BRICKWORK TO BE OF SOLID HARD BURNED CLAY BRICKS WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 10.5MPa LAID ON A CLASS 2 MORTAR WITH A 28 DAYS COMPRESSIVE STRENGTH OF 7MPa AS SPECIFIED IN SABS 0164 PART 1 - 1987 (CODE OF PRACTICE FOR MASONRY). REFER TO DRAWINGS FOR DETAILS OF LOAD BEARING WALLS.

B2. BRICKWORK: MINIMUM DIAMETER OF BRICKWORK = 2.8mm YIELD STRENGTH = 485MPa LAP LENGTH = 400mm (MIN)

B3. BRICKWORK TO BE PLACED IN THE FIRST SIX LAYERS OF BRICKWORK ON STRIP FOOTINGS. THEREAFTER TO BE PLACED IN EVERY 4th LAYER IN ALL BRICK WALLS. PLACE BRICK FORCE IN THE FIRST FIVE LAYERS OF BRICKWORK OVER ALL WINDOW AND DOOR OPENINGS, ANCHORED AT LEAST 1000mm EITHER SIDE OF THE OPENING. BRICKWORK TO BE TIED INTO ALL CORNERS IN BRICKWORK.

B4. ALL DIMENSIONS AND DETAILS OF BRICKWORK ARE AS PER THE ARCHITECTS LAYOUTS.

B5. PLACE 10mm SOFTBOARD OR OTHERWISE APPROVED MATERIAL ON TOP OF ALL NON-LOADBEARING WALLS (U.O.N).

B6. TWO LAYERS OF 3 PLY MALTHOOD TO BE PLACED ON TOP OF STEEL TROWELLED MORTAR SURFACE ON TOP OF ALL LOADBEARING BRICKWORK (U.O.N).

B7. EXTENT OF LOADBEARING WALLS WILL BE INDICATED ON THE LAYOUT DRAWINGS.

B8. ALL BRICKWORK TO BE CONSTRUCTED WITH BURNED CLAY MASONRY UNITS IN ACCORDANCE WITH SABS 227.

B9. REFER TO THE ENGINEER'S DETAILS FOR JOINTS IN BRICKWORK AND CONNECTIONS TO STEEL AND CONCRETE, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS. A 10mm SOFT JOINT ("JOINTEX" OR SIMILAR APPROVED) WITH HOOP IRON CONNECTIONS EVERY 4th COURSE ON EACH BRICK 50N MUST BE PROVIDED BETWEEN THE CONCRETE OR STEEL BUILDING FRAME AND BRICK WALLS. HOOP IRON TIES SHOULD BE SHOT FIXED WITH 200 "HUIT" NAILS TO CONCRETE OR STEEL COLUMNS, THEN BENT 90 DEGREES AND BUILT INTO THE BRICKWORK WITH A 300mm HORIZONTAL LENGTH.

BASE SCHEDULE		
TYPE	BASE SIZE	No. OFF
1	1500x1500x400 DEEP COLUMN "A" OVER	16

KEY:-  
COLUMN TYPE OVER  
FOUNDATION UNDER

COLUMN SCHEDULE		
TYPE	COLUMN SIZE	No. OFF
A	450x350 STUB	16
B	300x165x40 SECTION (STEEL COLUMN)	16

KEY:-  
COLUMN TYPE OVER  
COLUMN TYPE UNDER

**STRUCTURAL STEEL NOTES:-**

1. ALL WORK IN ACCORDANCE WITH SABS 1200H

2. ALL WELDS 6mm CONTINUOUS FILLET WELDS.

3. STEEL GRADE S355JR

4. BOLT GRADE 8.8

5. ALL STEEL TO BE HOT DIPPED GALVANIZED TO ISO 1461 OR EN 10240.

6. 2 SETS OF FABRICATION DRAWINGS TO BE PROVIDED TO ENGINEER FOR APPROVAL BEFORE COMMENCING FABRICATION.

No.	AMENDMENTS	BY	APPROVER	DATE
A	ISSUED FOR TENDER	JUN	RM	MAR'18

PROJECT STATUS			
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CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION	AS BUILT DRAWING

"TENDER"		DESIGNED	CLIENT	CLIENT	CLIENT
PROJECT ENGINEER	R. MOODLEY	DESIGNED	POLKOWANE MUNICIPALITY	FOR LANDINGS MARK & BODENSTEIN STREETS	TLOU CONSULTING (PTY) LTD
CLIENT	J.L. NINZERU	CHECKED	P.O. BOX 111	POLKOWANE 0700	P.O. BOX 1309
DESIGNER	T. TLOU	DATE	TEL: 015 240 2300	PRETORIA	001
REVISIONS	MARCH 2018	DESCRIPTION	EMAIL: montloup@polkowane.gov.za	TEL: (012) 336-8800	PRETORIA
DRAWING NO.	SCALE	PROJECT ENGINEER	CONTRACT NO.	FAX: (012) 460-2033	001
	1:500	R. MOODLEY	ML. PHILELA	PM36/2018	P14296-021

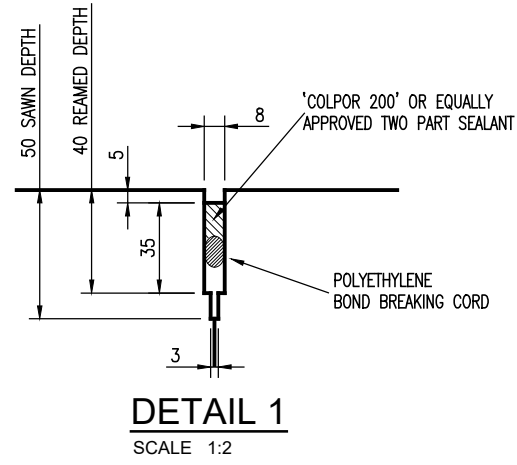
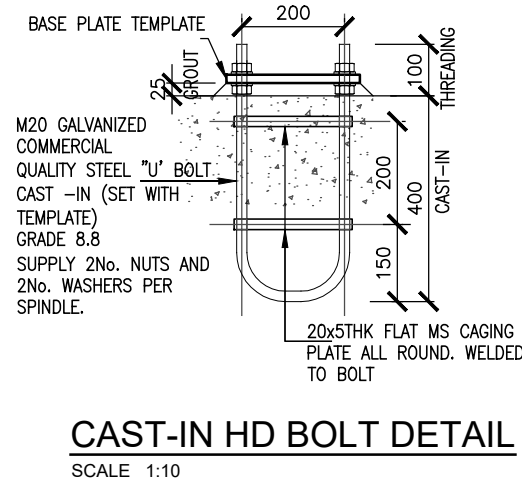
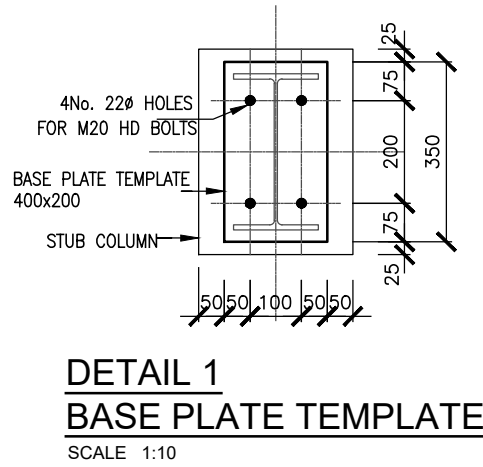
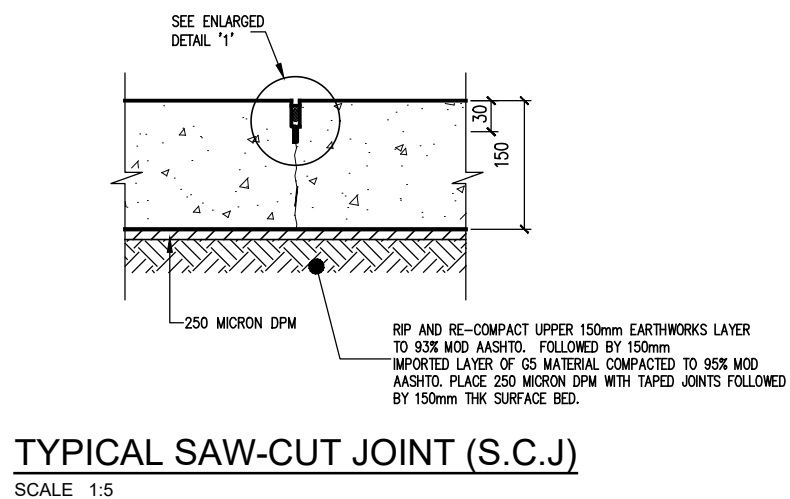
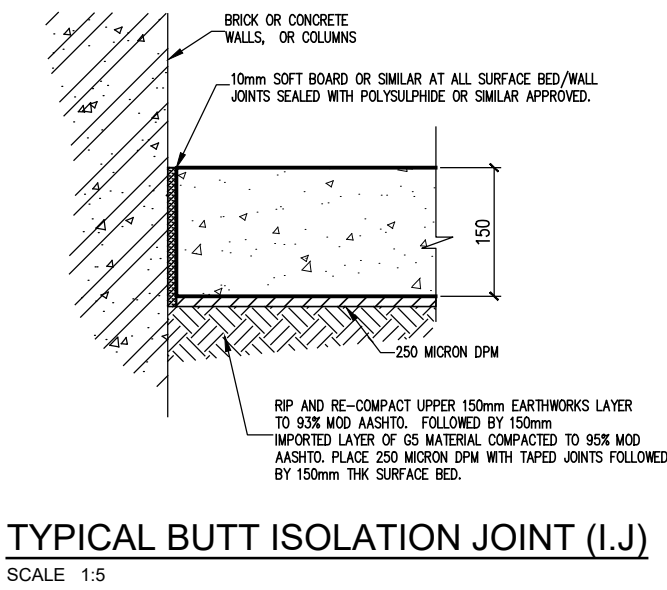
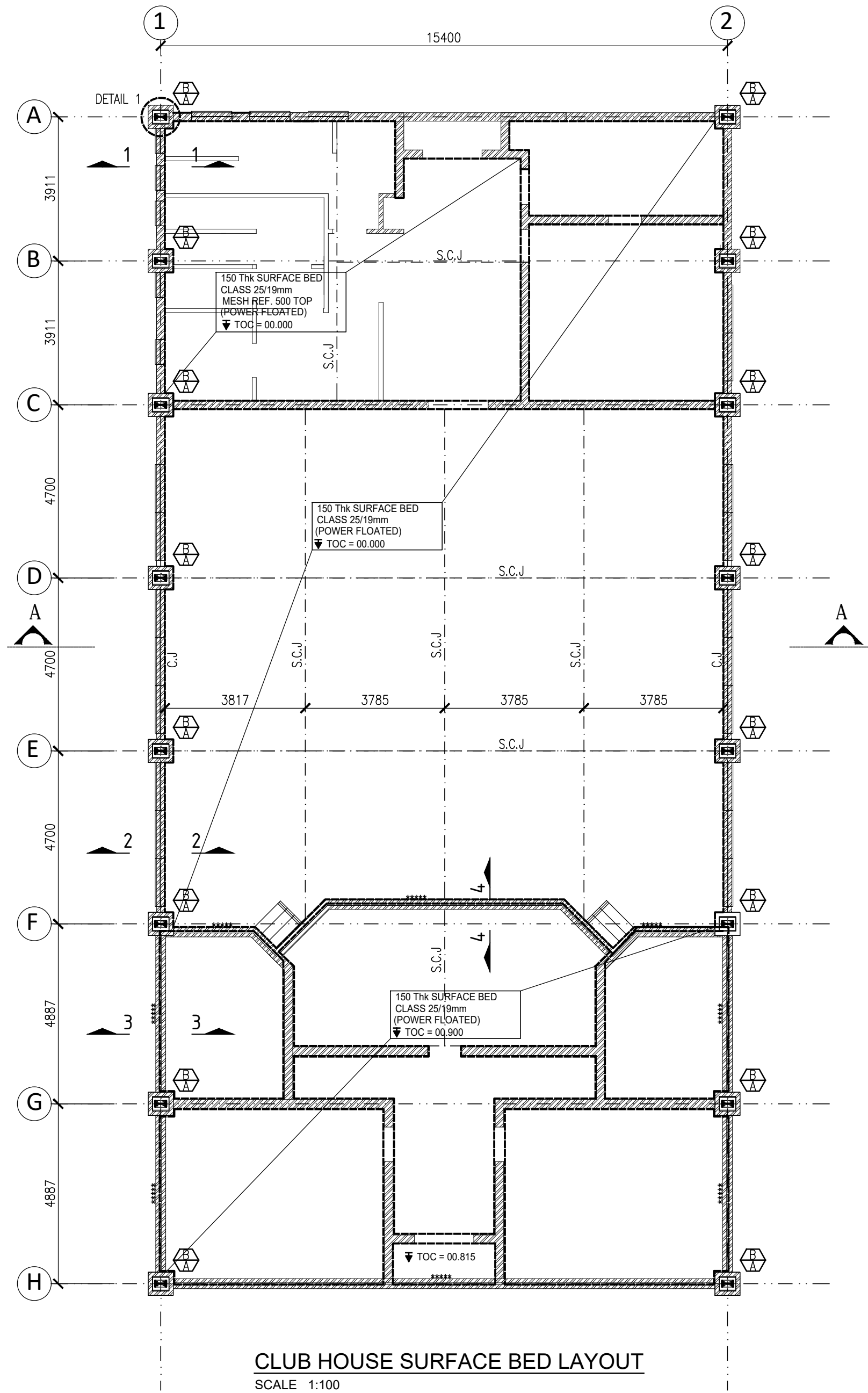


BASE SCHEDULE		
TYPE	BASE SIZE	No. OFF
1	1500x1500x400 DEEP COLUMN "A" OVER	16
KEY:-		
COLUMN TYPE OVER		
FOUNDATION UNDER		

COLUMN SCHEDULE		
TYPE	COLUMN SIZE	No. OFF
A	450x350 STUB	16
B	305x165x40 1 SECTION (STEEL COLUMN)	16
KEY:-		
COLUMN TYPE OVER		
COLUMN TYPE UNDER		

STRUCTURAL STEEL NOTES:-		
1. ALL WORK IN ACCORDANCE WITH SANS 1200H		
2. ALL WELDS 6mm CONTINUOUS FILLET WELDS.		
3. STEEL GRADE S355JR		
4. BOLT GRADE 8.8		
5. ALL STEEL TO BE HOT DIPPED GALVANIZED TO ISO 1461 OR EN 10240.		
6. 2 SETS OF FABRICATION DRAWINGS TO BE PROVIDED TO ENGINEER FOR APPROVAL BEFORE COMMENCING FABRICATION.		

CONCRETE:	
C1. MATERIALS AND MIX PROPORTIONS:	
1.1 THE GRADES FOR CONCRETE, UNLESS OTHERWISE INDICATED SHALL BE AS FOLLOWS:	
COLUMNS	CLASS 25/19mm
FOUNDATIONS	CLASS 25/19mm
SURFACE BED SLABS	CLASS 25/19mm
MASS CONCRETE	CLASS 10/36mm
BUNDLING LAYERS	CLASS 10/19mm
STAIRS	CLASS 25/19mm
1.2 WHEN READY MIXED CONCRETE IS USED, TEST CUBES ARE TO BE TAKEN ON SITE. WHILST CASTING, SABS 1200G	
CLAUSE 7.3.3 (STATISTICAL ASSESSMENT) WILL NOT APPLY, BUT ACCEPTANCE CRITERIA WILL BE IN ACCORDANCE WITH SABS 1200G	
CLAUSE 7.3.1 AND 7.3.2	
SAMPLING FREQUENCY MUST COMPLY WITH THE MINIMUM RATES GIVEN IN CLAUSE 7.1.2.2 OF SABS 1200G.	
1.3 CONCRETE, FORMWORK AND REINFORCEMENT TO BE IN ACCORDANCE WITH SABS 1200G.	
1.4 CEMENT FOR CONCRETE TO COMPLY WITH SANS 50197	
1.5 CEMENT IS TO BE OF THE FOLLOWING (MINIMUM) STRENGTH CLASSES UNLESS OTHERWISE AGREED WITH THE ENGINEER:	
(a) GENERAL CONCRETE	32,5N
(b) SURFACE BEDS OR PAWING	42,5N
C2. CONCRETE COVER OVER REINFORCEMENT UNLESS SHOWN DIFFERENTLY:	
SLABS AND BEAMS	30mm
COLUMNS	30mm MINIMUM COVER TO STIRRUPS
FOUNDATIONS	50mm BOTTOM SIDES AND TOP
C3. CASTING OF CONCRETE IN EXCESS OF 3.5m HIGH IS NOT PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.	
MASONRY:	
B1. ALL BRICKWORK TO BE OF SOLID HARD BURNED CLAY BRICKS WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 10.5MPa LAID ON A CLASS 2 MORTAR WITH A 28 DAYS COMPRESSIVE STRENGTH OF 7MPa AS SPECIFIED IN SABS 0164 PART 1 - 1987 (CODE OF PRACTICE FOR MASONRY). REFER TO DRAWINGS FOR DETAILS OF LOAD BEARING WALLS.	
B2. BRICKFORCE:	
MINIMUM DIAMETER OF BRICKFORCE = 2.8mm YIELD STRENGTH = 485MPa	
LAP LENGTH = 400mm (MIN)	
B3. BRICKFORCE TO BE PLACED IN THE FIRST SIX LAYERS OF BRICKWORK ON STRIP FOOTINGS. THEREAFTER TO BE PLACED IN EVERY 4th LAYER IN ALL BRICK WALLS. PLACE BRICK FORCE IN THE FIRST FIVE LAYERS OF BRICKWORK OVER ALL WINDOW AND DOOR OPENINGS, ANCHORED AT LEAST 100mm EITHER SIDE OF THE OPENING. BRICKFORCE TO BE TIED INTO ALL CORNERS IN BRICKWORK.	
B4. ALL DIMENSIONS AND DETAILS OF BRICKWORK ARE AS PER THE ARCHITECTS LAYOUTS.	
B5. PLACE 10mm SOFTBOARD OR OTHERWISE APPROVED MATERIAL ON TOP OF ALL NON-LOADBEARING WALLS (U.O.N).	
B6. TWO LAYERS OF 3 PLY HALTHOD TO BE PLACED ON TOP OF STEEL TROWELLED MORTAR SURFACE ON TOP OF ALL LOADBEARING BRICKWORK (U.O.N).	
B7. EXTENT OF LOADBEARING WALLS WILL BE INDICATED ON THE LAYOUT DRAWINGS.	
B8. ALL BRICKWORK TO BE CONSTRUCTED WITH BURNT CLAY MASONRY UNITS IN ACCORDANCE WITH SABS 227.	
B9. REFER TO THE ENGINEER'S DETAILS FOR JOINTS IN BRICKWORK AND CONNECTIONS TO STEEL AND CONCRETE. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS, A 10mm SOFT JOINT ("JOINTEX" OR SIMILAR APPROVED) WITH HOOP IRON CONNECTIONS EVERY 4TH COURSE ON EACH BRICK SKIN MUST BE PROVIDED BETWEEN THE CONCRETE OR STEEL BUILDING FRAME AND BRICK WALLS. HOOP IRON TIES SHOULD BE SHOT FIXED WITH 2x60 "HILTI" NAILS TO CONCRETE OR STEEL COLUMNS, THEN BENT 90 DEGREES AND BUILT INTO THE BRICKWORK WITH A 300mm HORIZONTAL LENGTH.	

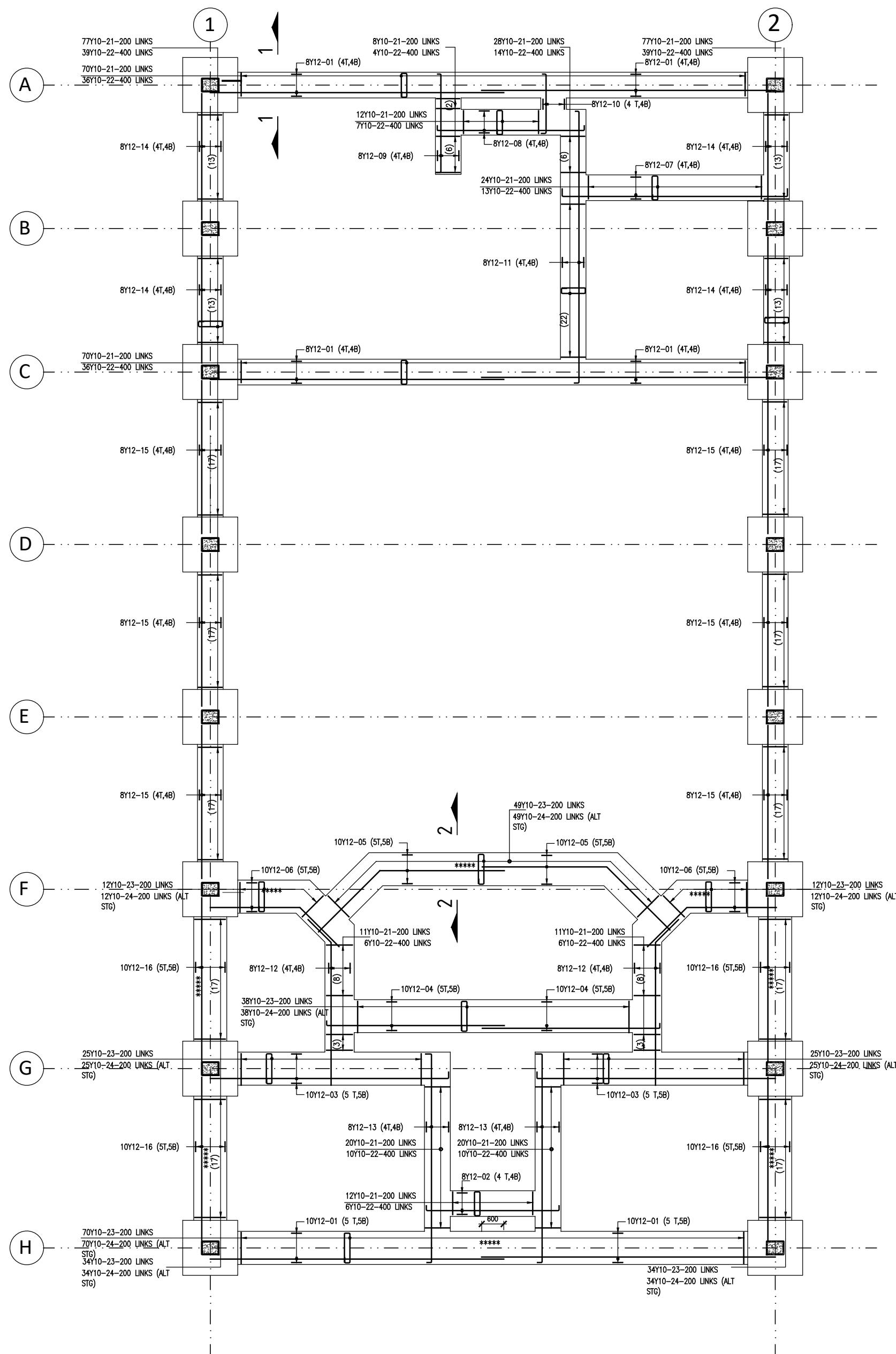


CLUB HOUSE SURFACE BED LAYOUT  
SCALE 1:100

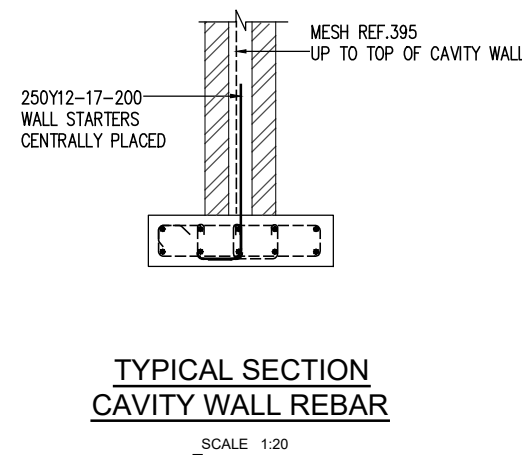
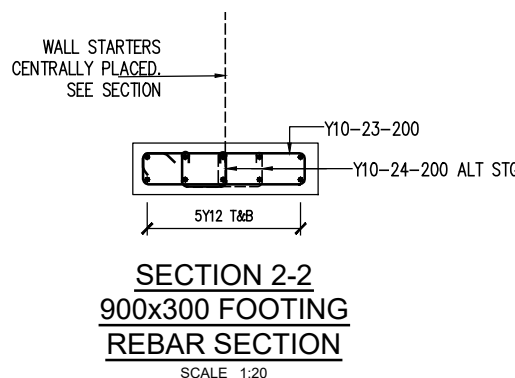
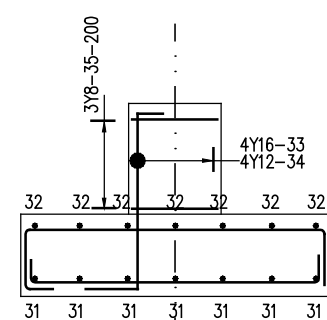
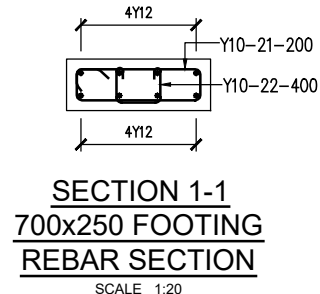
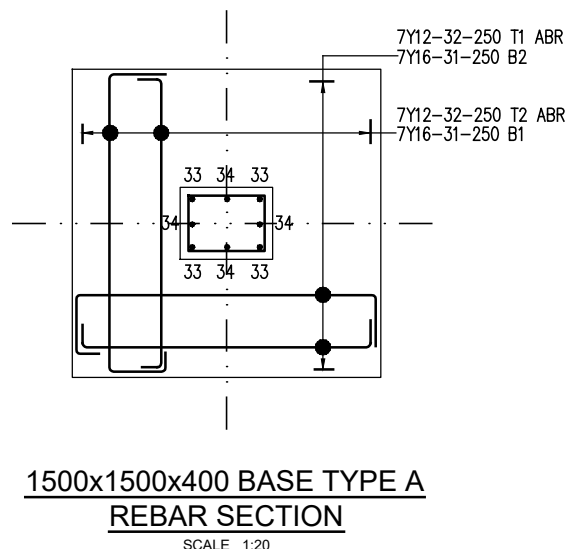
No.	AMENDMENTS	BY	APPROVER	DATE
A	ISSUED FOR TENDER	JUN	RM	MAR'18

PROJECT STATUS			
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CONCEPT	TENDER	APPROVED FOR	AS BUILT
DRAWING	DRAWING	CONSTRUCTION	DRAWING

"TENDER"		DESIGNED	CLIENT	CONSULTANT
PROJECT ENGINEER	R. MOODLEY	J.L. NINZERU	POLKOWANE MUNICIPALITY	TLOU CONSULTING (PTY) LTD
CLIENT	T. TLOU		OUR LANDINGS WARE & BODENSTEN STREETS	P.O. BOX 1309
PREPARED	MARCH 2018		POLKOWANE 0700	PRETORIA
DRAWING NO.	1:500		TEL: 015 290 2300	TEL: (012) 336-8800
			EMAIL: montitsoa@polkowane.gov.za	FAX: (012) 460-2033
PROJECT ENGINEER		PROJECT MANAGER	DRAWING NO.	
R. MOODLEY	M.L. PHILELA	PM36/2018	P14296-022	



FOUNDATION REBAR LAYOUT  
SCALE 1:75



#### REINFORCEMENT NOTES

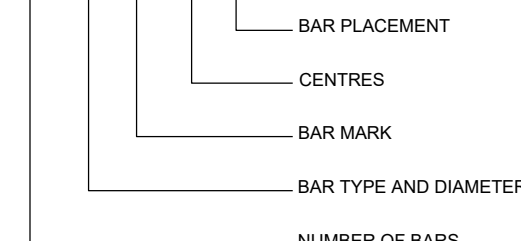
- REINFORCEMENT TO SABS 920 (1985) AND SABS 82
- COVER TO REINFORCEMENT TO BE:  
FOUNDATIONS = 50mm  
COLUMNS = 30mm
- MINIMUM BAR LAP LENGTH TO BE 600mm

#### REINFORCING LEGEND:

- T - TOP
- M - MIDDLE
- B - BOTTOM
- T1 - FIRST TOP LAYER
- T2 - SECOND TOP LAYER
- B1 - FIRST BOTTOM LAYER
- B2 - SECOND BOTTOM LAYER
- ABR - ALTERNATE BARS REVERSED
- ALT - ALTERNATING BARS
- NF - NEAR FACE
- FF - FAR FACE
- EW - EACH WAY

#### REINFORCING NOTATION:

10 - Y12-01 - 250 T1



Member	Bar mark	Type and size	No. of bars	No. of bars in each	Total no.	Cutting Length	Shape code	A mm	B mm	C mm	D mm	E/R mm
FOUNDATIONS STRIP FOOTING	01	Y12	1	52	8000	20						
	02	Y12	1	8	3800	35	3600					
	03	Y12	1	20	6600	34	6500					
	04	Y12	1	20	5000	34	4900					
	05	Y12	1	20	5800	62	2350	1650				
	06	Y12	1	20	3900	62	1500	1050				
	07	Y12	1	8	6300	35	6100					
	08	Y12	1	8	4200	35	4000					
	09	Y12	1	8	2900	35	2700					
	10	Y12	1	8	1800	35	1600					
	11	Y12	1	8	7600	35	7400					
	12	Y12	1	16	4700	62	900	630				
	13	Y12	1	16	5900	35	5700					
	14	Y12	1	40	3400	20						
	15	Y12	1	48	4200	20						
	16	Y12	1	40	4400	20						
	17	Y12	1	250	250	1000	37	200				
	18											
	19											
	20											
	21	Y10	1	440	440	1750	60	600	200			
	22	Y10	1	226	22	850	72	200	215			
	23	Y10	1	212	212	2150	60	800	200			
	24	Y10	1	212	212	850	72	200	215			
BASE TYPE A 1500x1500x400	31	Y16	16	14	224	1700	35	1400				
	32	Y12	16	14	224	2000	52	150	300	1400		
	33	Y16	16	4	64	1200	54	200	850			
	34	Y16	16	4	64	1200	54	200	850			
	35	Y8	16	3	48	1450	60	390	290			
FOUNDATIONS = 50 COVER												
REINFORCING BAR DIA		6	8	10	12	16	20	25	32	40	TOTAL	
Y kg												
R kg												

No.	AMENDMENTS	BY	APPROVER	DATE
A	ISSUED FOR TENDER	JUN	RM	MAR'18

PROJECT STATUS			
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CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION	AS BUILT DRAWING

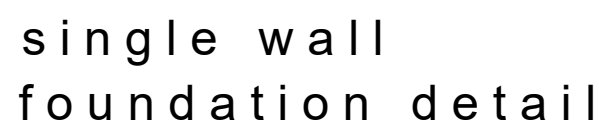
"TENDER"		DESIGNED R. MOODLEY	CLIENT POLKOWANE MUNICIPALITY OUR LANDINGS WARE & BODENSTEIN STREETS P.O. BOX 111 POTKOWANE 0700 TEL: 015 290 2300 Email: monticopa@polkowane.gov.za	CONTRACT NO. P14296-030R
SIGNATURE	DATE	DRAWN J.L. NINZERI		
SIGNATURE	DATE	CHECKED T. TLOU		
REVISION	DATE	DATE MARCH 2018		
DRAWING NO.	SCALE 1:500	PROJECT ENGINEER R. MOODLEY	PROJECT ENGINEER M.L. PHILELA	CONTRACT NO. PM36/2018

MAJA SPORTS COMPLEX: CLUB HOUSE - FOUNDATION REBAR LAYOUT & DETAILS		CONTRACT NO. PM36/2018	DRAWING NO. P14296-030R
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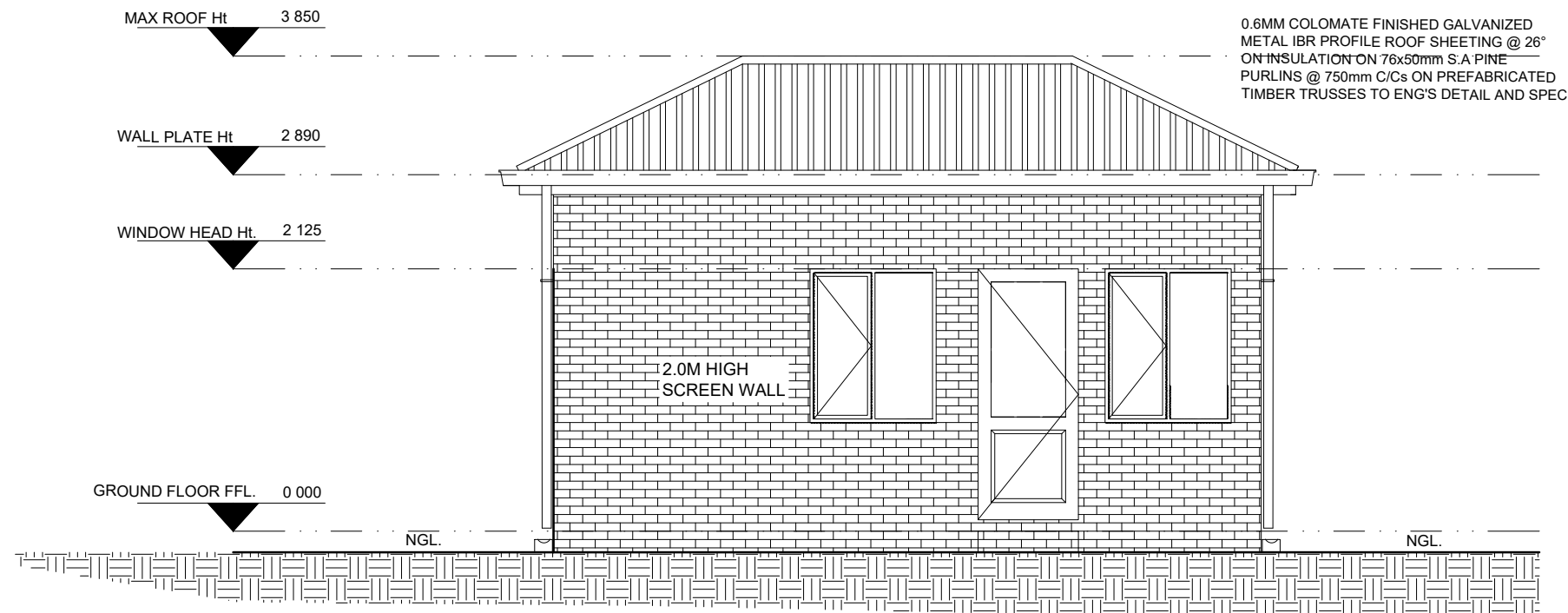
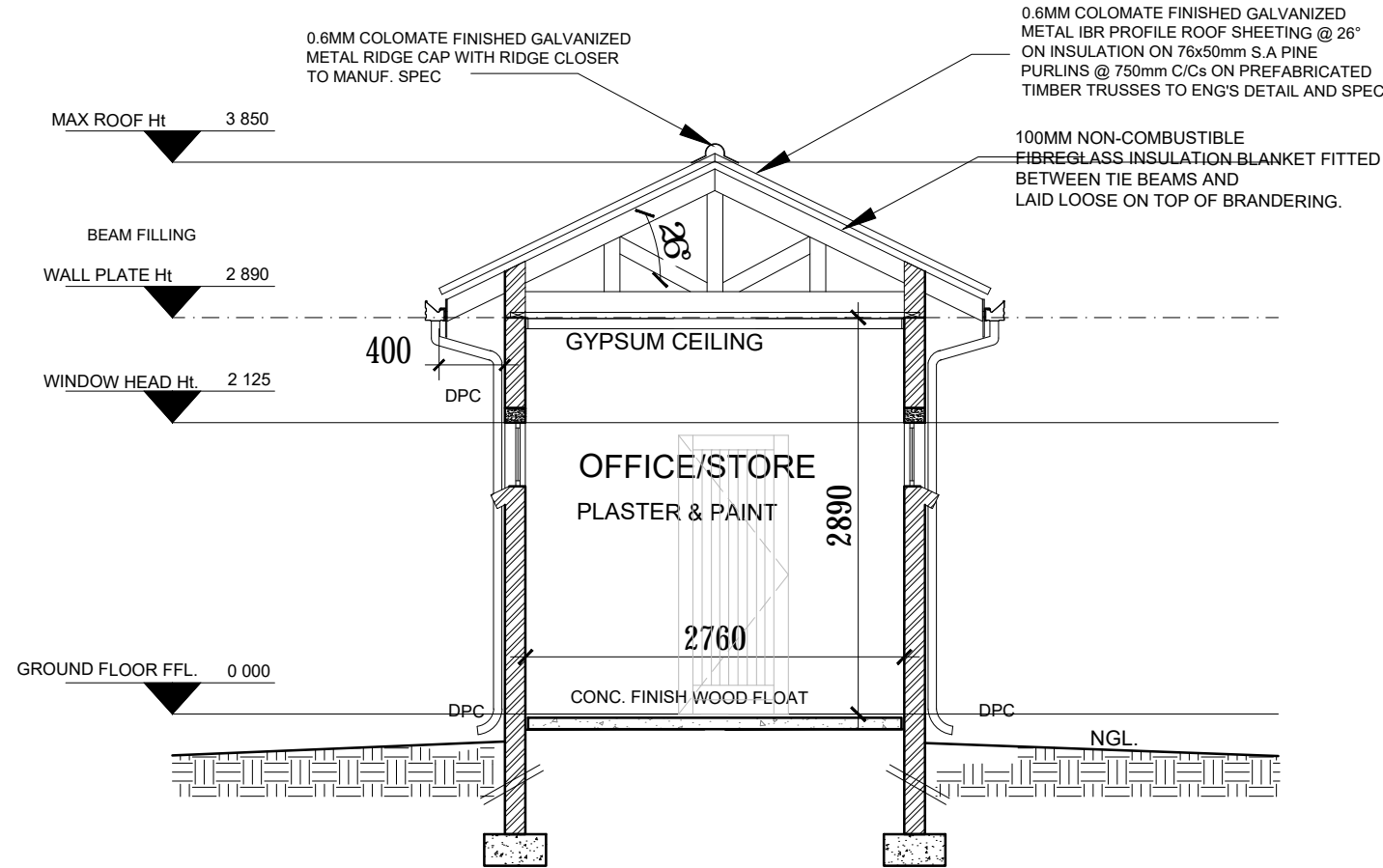
WINDOW SCHEDULE		W1		W2		W3		W4	
WINDOWNUM									
NAME		1	2	3	4				
DESCRIPTION		STANDARD 512X654 RESIDENTIAL TYPE CHARCOAL, STEEL FRAME	STANDARD 1022X654 RESIDENTIAL TYPE CHARCOAL, STEEL FRAME	STANDARD 1022X654 RESIDENTIAL TYPE CHARCOAL, STEEL FRAME	STANDARD 1511X654 RESIDENTIAL TYPE CHARCOAL, STEEL FRAME				
GLAZING		4mm THICK CLEAR FLOAT GLASS	4mm THICK CLEAR FLOAT GLASS	4mm THICK CLEAR FLOAT GLASS	4mm THICK CLEAR FLOAT GLASS				
LOCATION		45 DEG. FINISHING	45 DEG. FINISHING	45 DEG. FINISHING	45 DEG. FINISHING				

## DOOR SCHEDULE

PROJECT STATUS			
			
CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION DRAWING	AS BUILT DRAWING

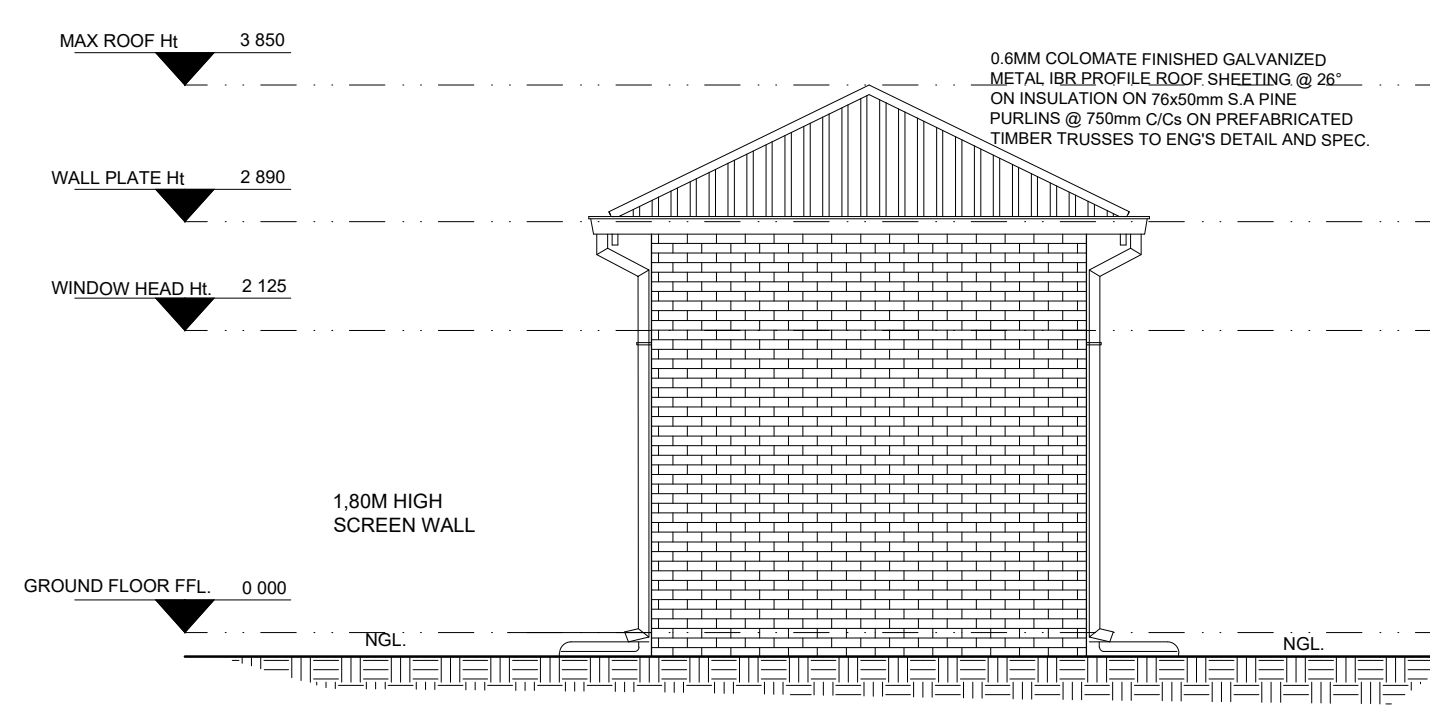
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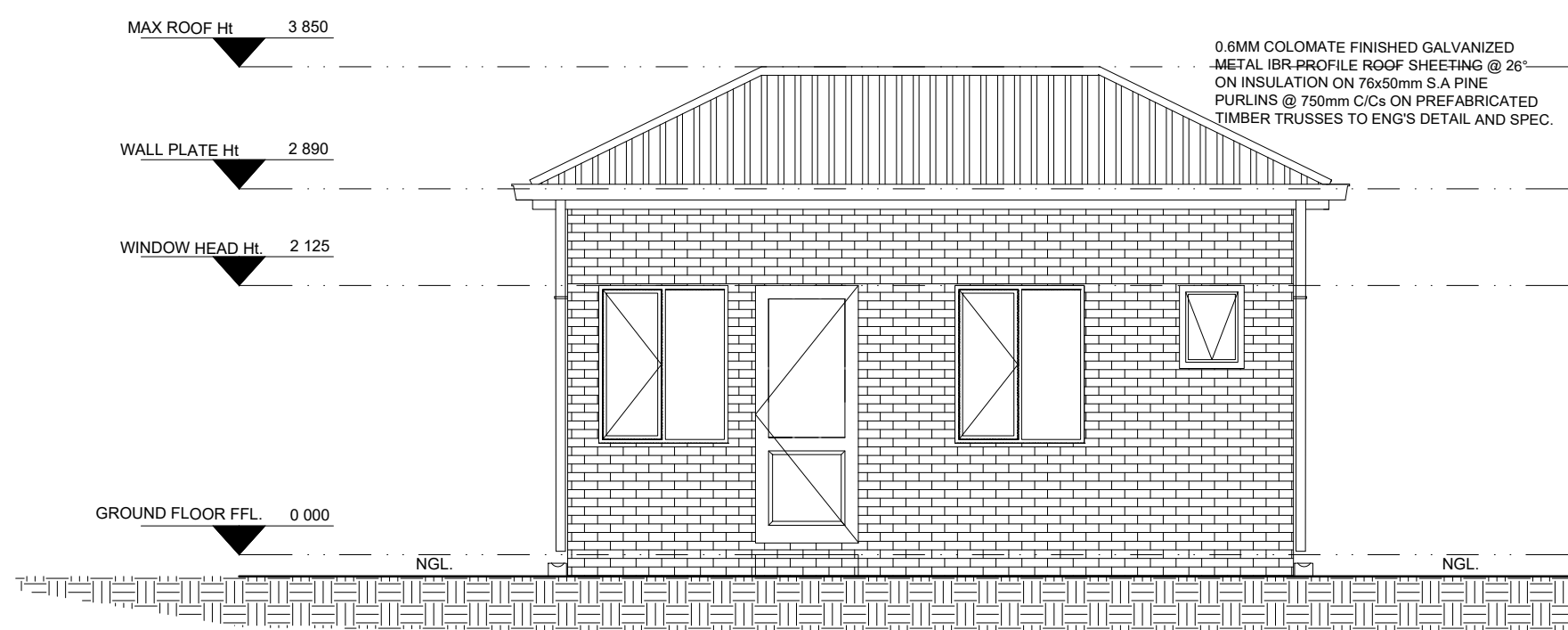
## NORTH EAST ELEVATION

SCALE 1: 50



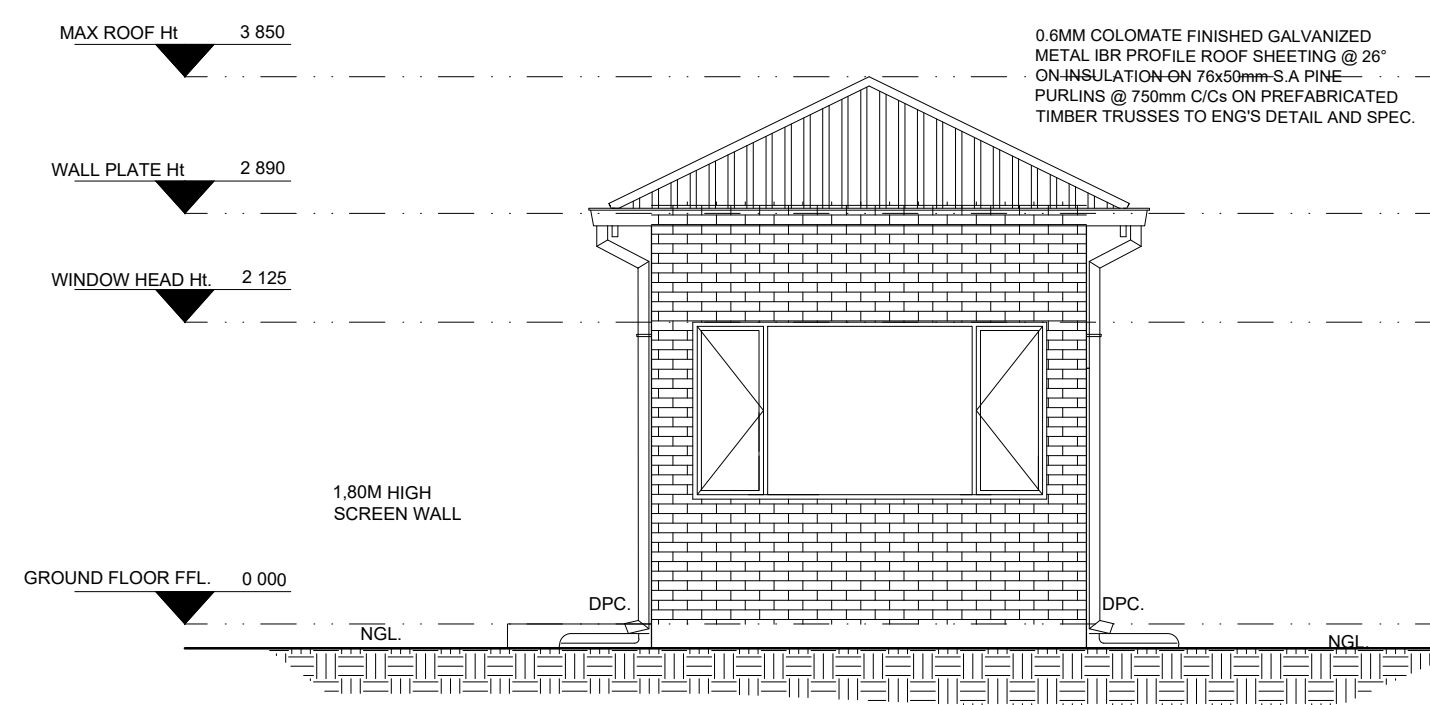
## SOUTH EAST ELEVATION

SCALE 1: 50



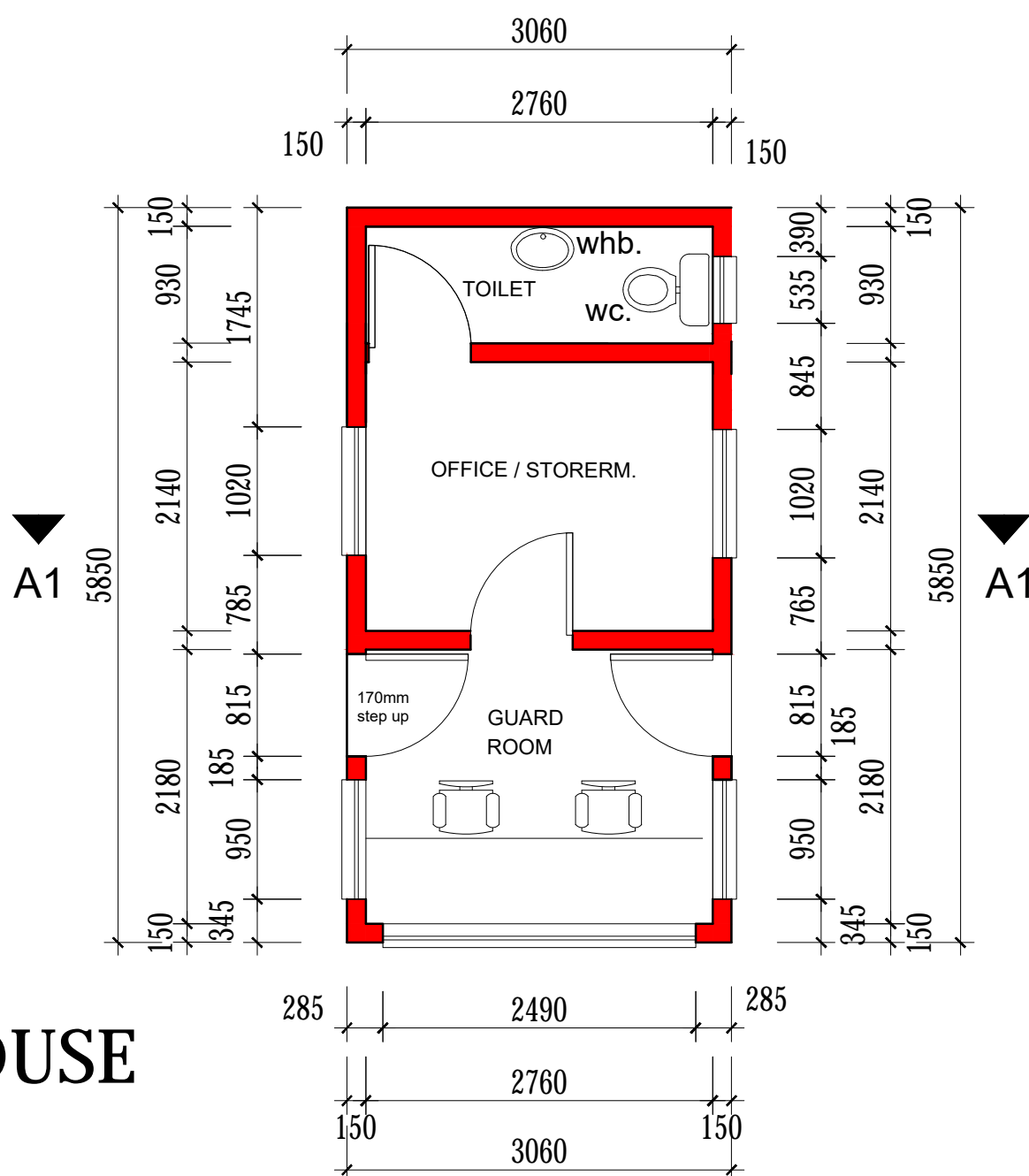
## SOUTH WEST ELEVATION

SCALE 1: 50



## NORTH WEST ELEVATION

SCALE 1: 50



## GATE HOUSE

SCALE1:50.

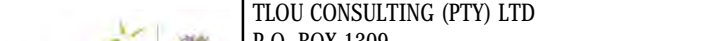


AREA - 18sqm.

### WINDOW & DOOR SCHEDULE

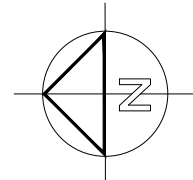
SCALE 1:100

WINDOW SCHEDULE		W2	W3
SECTION 1-1			
DESCRIPT	2490 1815	1022 851	533 654
1:50			
DESCRIPTION	STANDARD 2490x1815 RESIDENTIAL TYPE CHARCOAL STEEL FRAME	STANDARD 1022x851 RESIDENTIAL TYPE CHARCOAL STEEL FRAME	STANDARD 533x654 RESIDENTIAL TYPE CHARCOAL STEEL FRAME
GLASS	4mm THICK CLEAR FLOAT GLASS	4mm THICK CLEAR FLOAT GLASS	4mm THICK CLEAR FLOAT GLASS
LOCATION	AS PER DRAWING	AS PER DRAWING	AS PER DRAWING

DOOR SCHEDULE		D1
SECTION 1-1		
DESCRIPT		813 2022
1:50		
DESCRIPTION	STANDARD STEEL FRAMED DOOR	
FRAME	STANDARD 813x2022RESIDENTIAL STEEL FRAME	
LOCK	TO ROMANIGERY SPEC	
GLASS	NONE	
LOCATION	AS PER DRAWING	

No.	AMENDMENTS	BY	APPROVED	DATE	PROJECT STATUS				"TENDER"		DESIGNED R MOODLEY	CLIENT: POLOKWANE MUNICIPALITY CNR LANDROS MARE & BODENSTEIN STREETS P.O. BOX 111 POLOKWANE 0700 TEL: 015 290 2300 Email: manthoap@polokwane.gov.za	CONSULTANT: TLOU CONSULTING (PTY) LTD P.O. BOX 1309 PRETORIA 0001 TEL: (012) 336-9800 FAX: (012) 460-2033		
					 CONCEPT DRAWING	 TENDER DRAWING	 APPROVED FOR CONSTRUCTION DRAWING	 AS BUILT DRAWING	PROJECT ENGINEER:  SIGNATURE _____ DATE _____	CHECKED T TLOU	DESCRIPTION:  MOLEPO-MAJA SPORTS COMPLEX - PHASE 2 : GUARD HOUSE	PROJECT ENGINEER: R. MOODLEY	PROJECT MANAGER: M.L. PHIHLELA	CONTRACT No.: PM36/2018	
A	ISSUED FOR TENDER	JLN	RM	MAR'18						REMARKS:  DATE MARCH 2018	SCALE AS SHOWN				





# COMBI COURTS & 5 ASIDE SOCCER PITCHES

SCALE 1:100

## NOTES:

1. All courts to have 'all weather surfaces' to be coloured green.
2. Enclosure fence to specialist detail.
3. Court lights to Electrical engineer's specification.

## AREA SCHEDULE :

BASKETBALL/ NETBALL COURT - 1545sqm.  
TENNIS / VOLLEYBALL COURT - 725sqm.

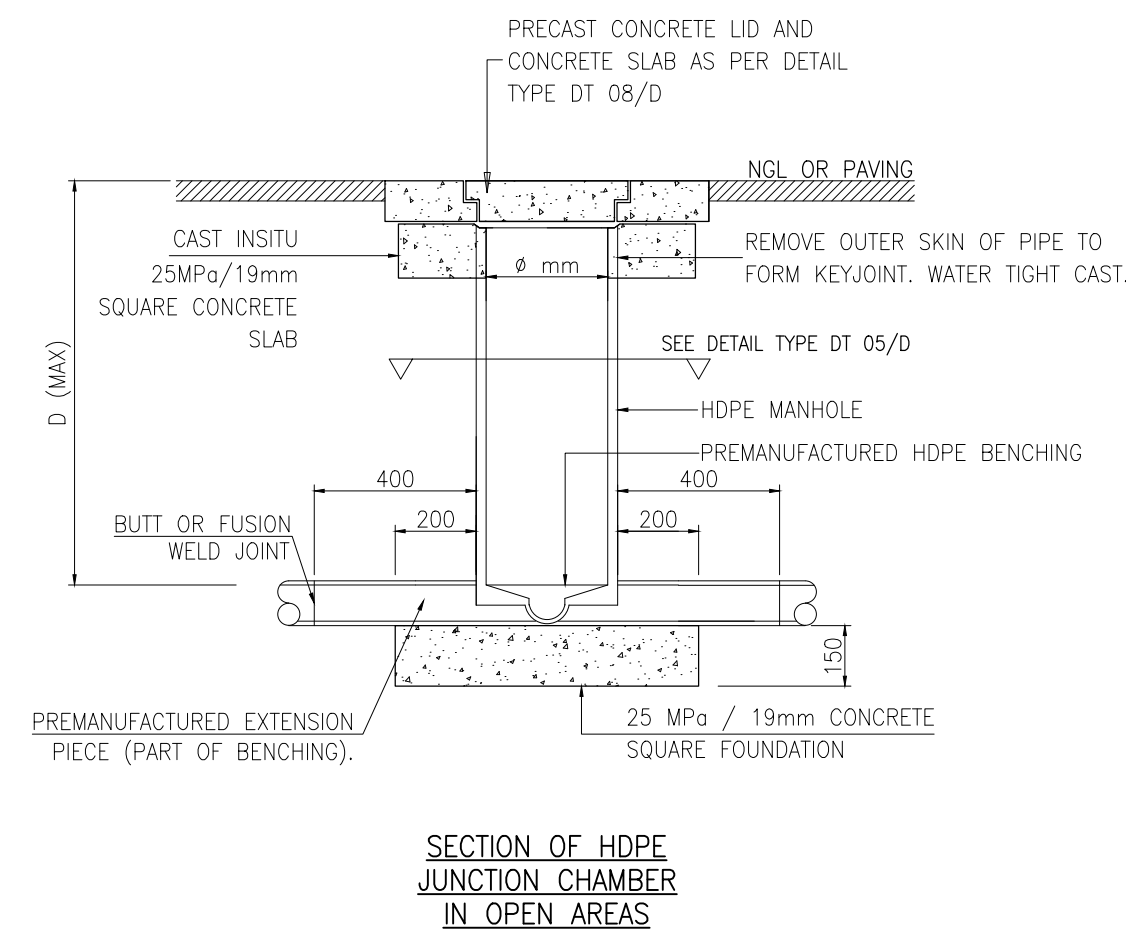
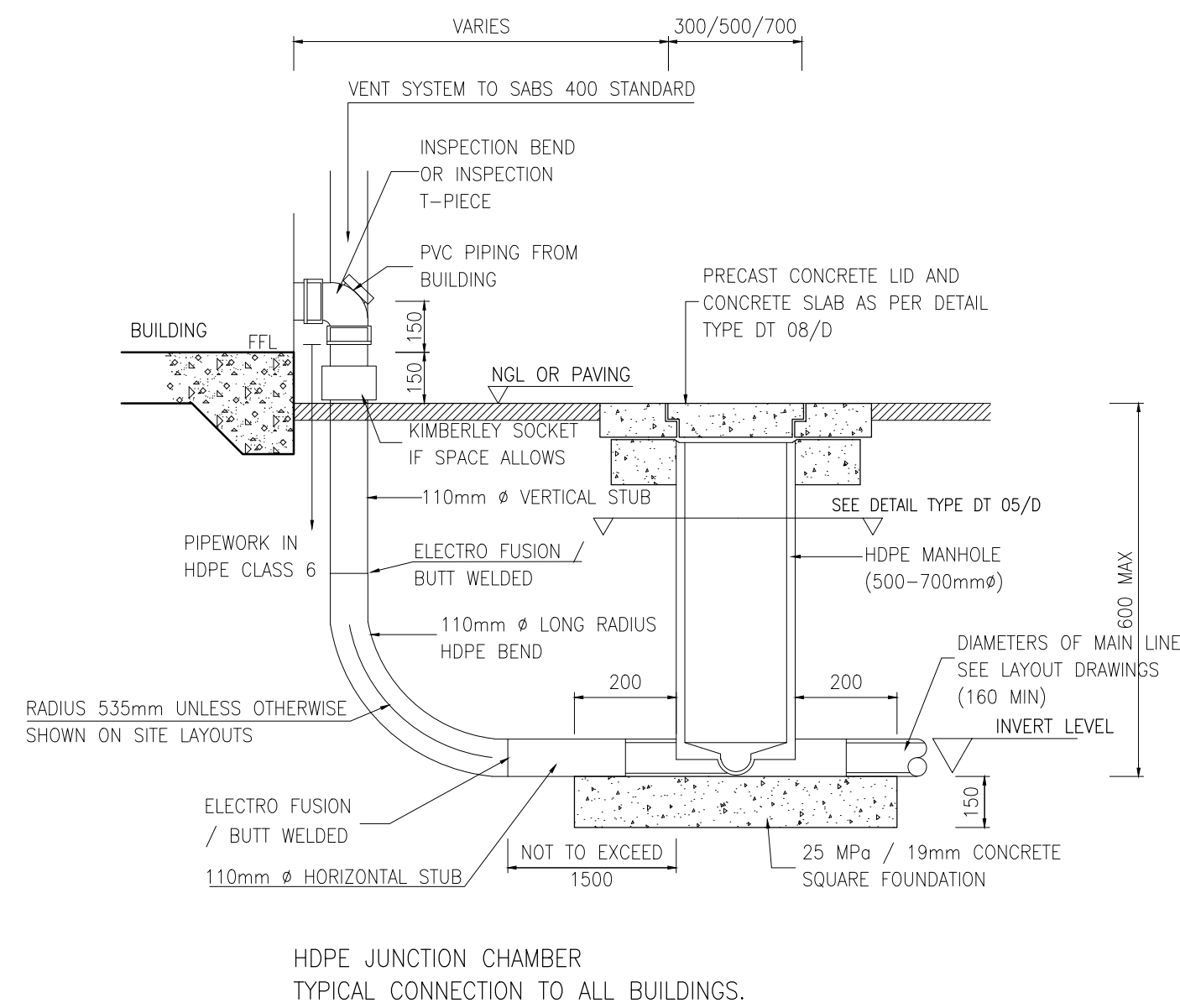
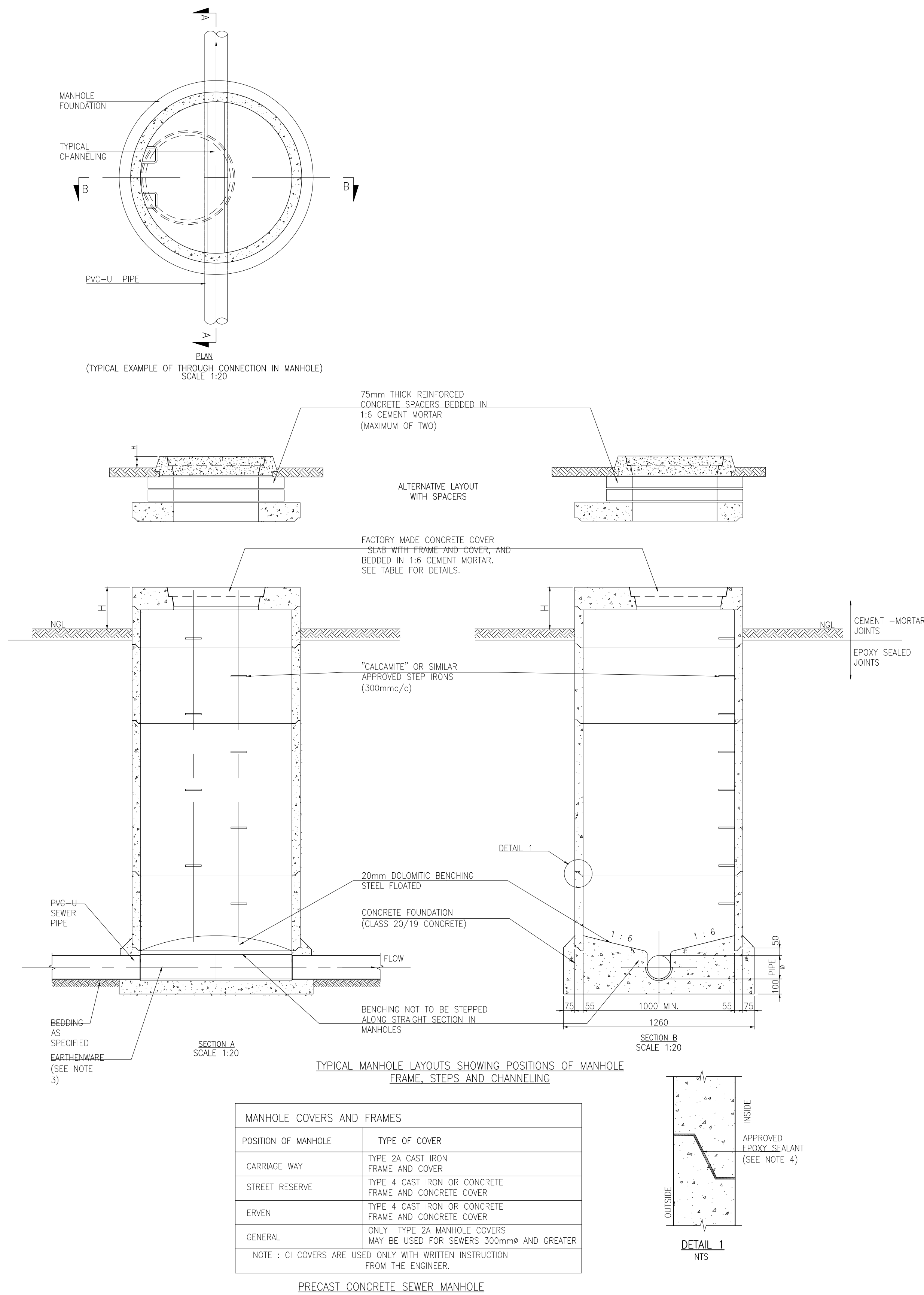
No.	AMENDMENTS	BY	APPROVED	DATE
A	ISSUED FOR TENDER	JLN	RM	MAR'18

PROJECT STATUS			
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<b>"TENDER"</b> PROJECT ENGINEER: SIGNATURE _____ DATE _____ CLIENT: SIGNATURE _____ DATE _____ REMARKS: DRAWING NO. _____	DESIGNED R MOODLEY	CLIENT POLOKWANE MUNICIPALITY CNR LANDROS MARE & BODENSTEIN STREETS P.O. BOX 111 POLOKWANE 0700 TEL: 015 290 2300 Email: manthoap@polokwane.gov.za	CONSULTANT TLOU CONSULTING (PTY) LTD P.O. BOX 1309 PRETORIA 0001 TEL: (012) 336-9800 FAX: (012) 460-2033
	DRAWN JL. NNZERU	CHECKED T TLOU	DATE MARCH 2018
	SCALE AS SHOWN	PROJECT ENGINEER: R. MOODLEY	PROJECT MANAGER: M.L. PHIHLELA
		CONTRACT No.: PM36/2018	DRAWING No.: P14296-080



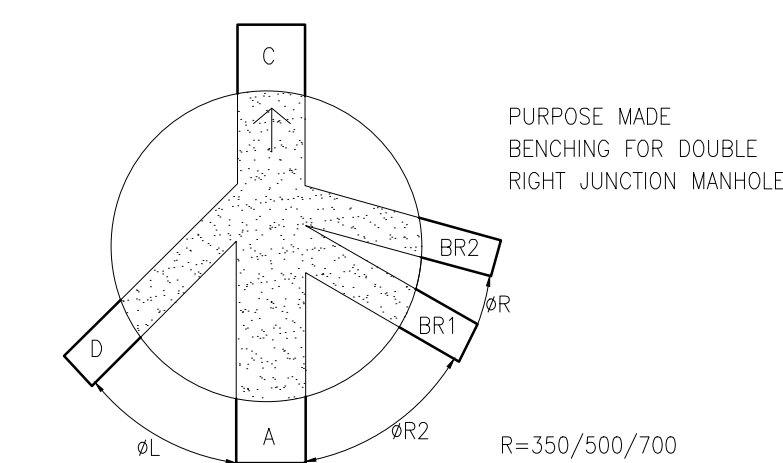
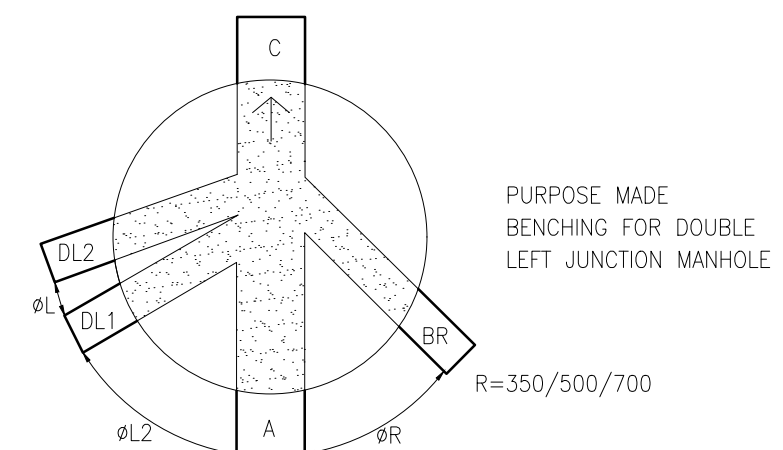
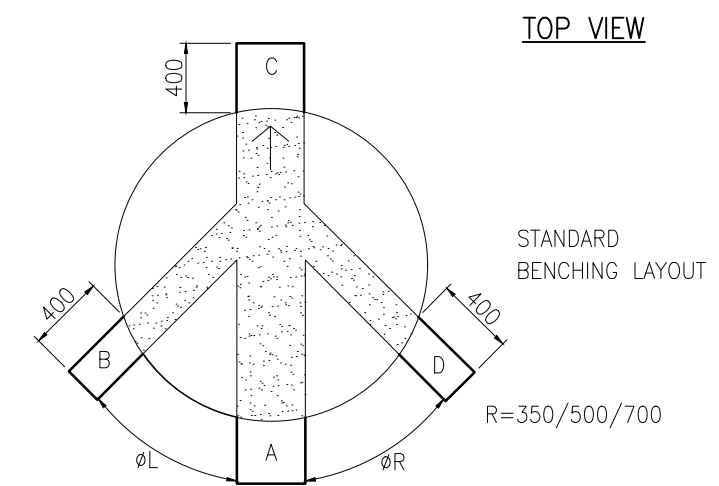




**NOTE:**

- ENGINEER TO SPECIFY MANHOLE SHAFT (MIN 8KN) AND ALL IN AND OUTLET SIZES AS WELL AS ANGLES.
- MANUFACTURING DETAILS AS PER TYPE NO DT 09/D.

Ø mm	Dmm (MAX)
350	350
500	450
700	750

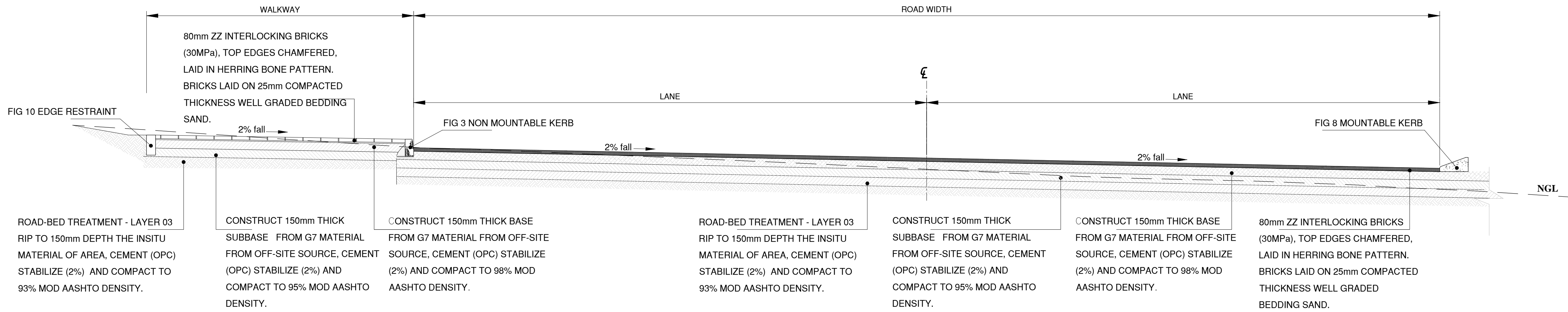


No.	AMENDMENTS	BY	APPROVED	DATE
A	ISSUED FOR TENDER	JLN	RM	MAR'18

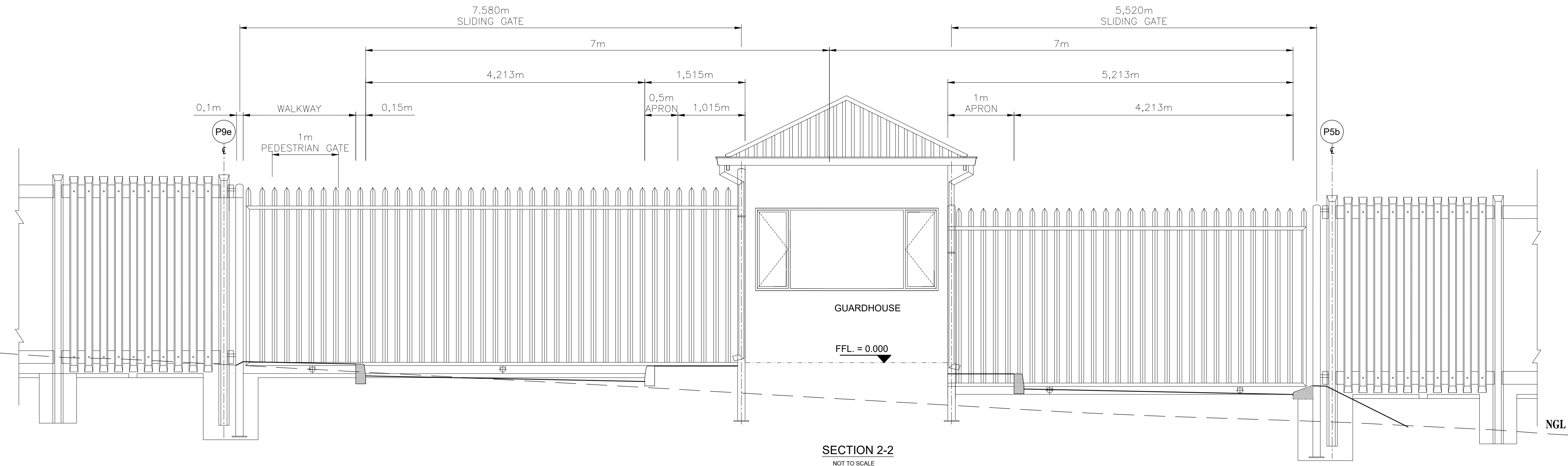
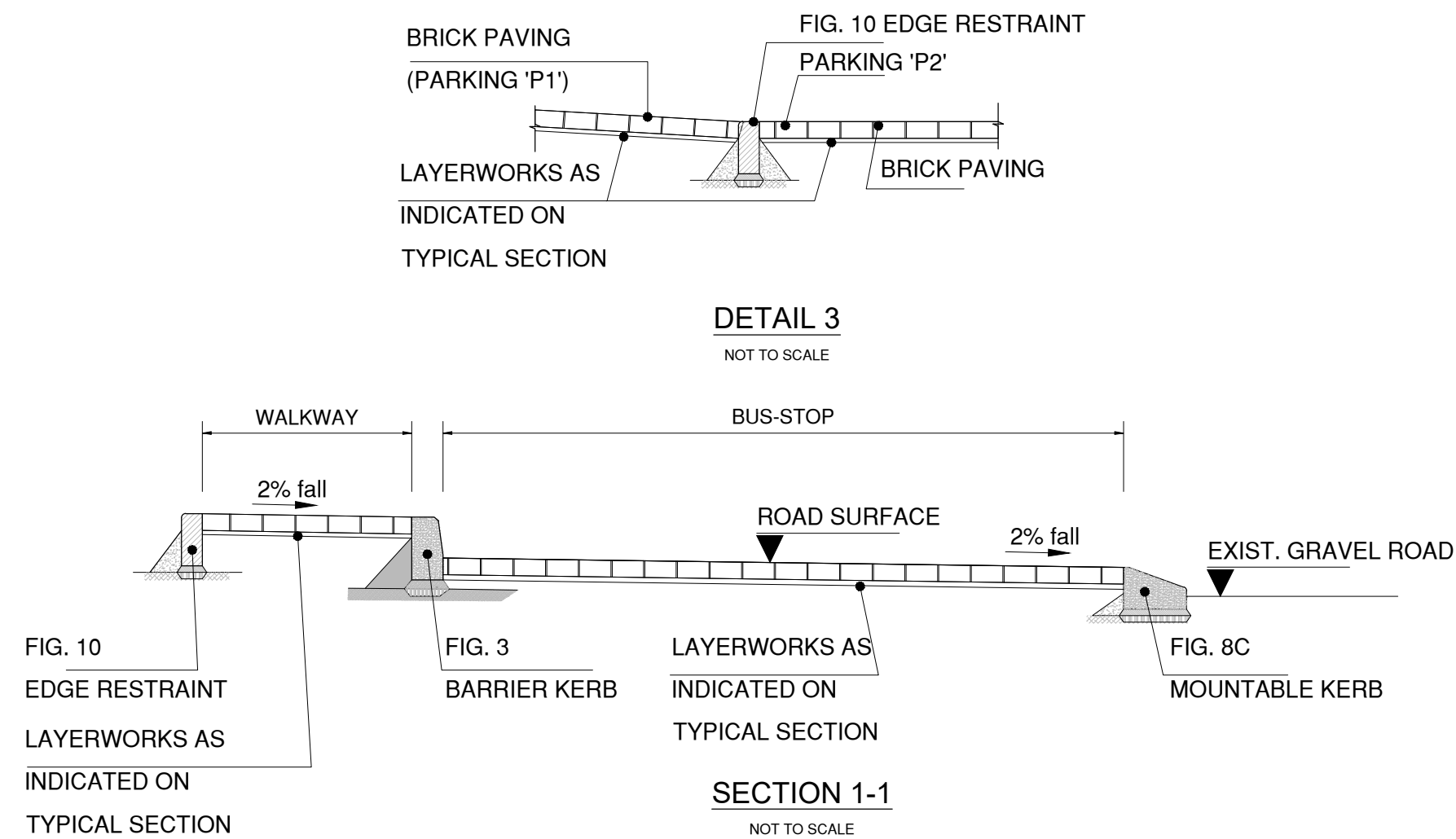
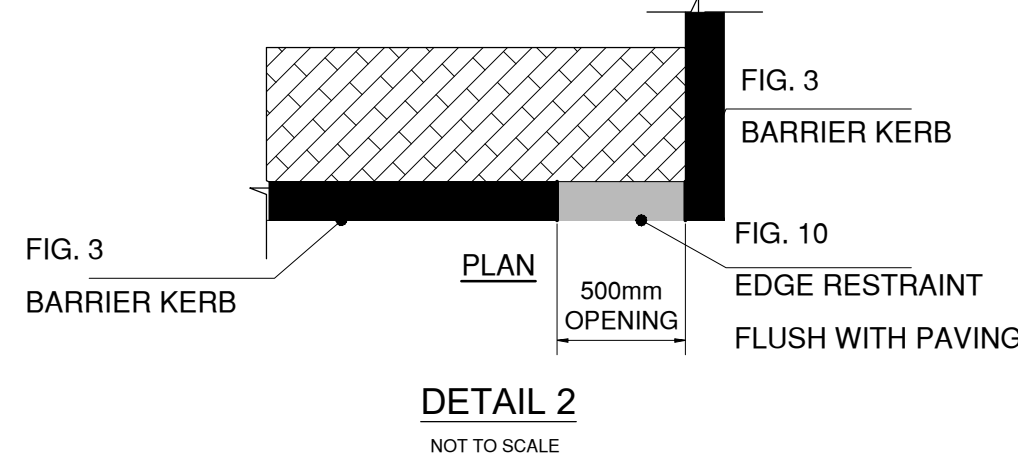
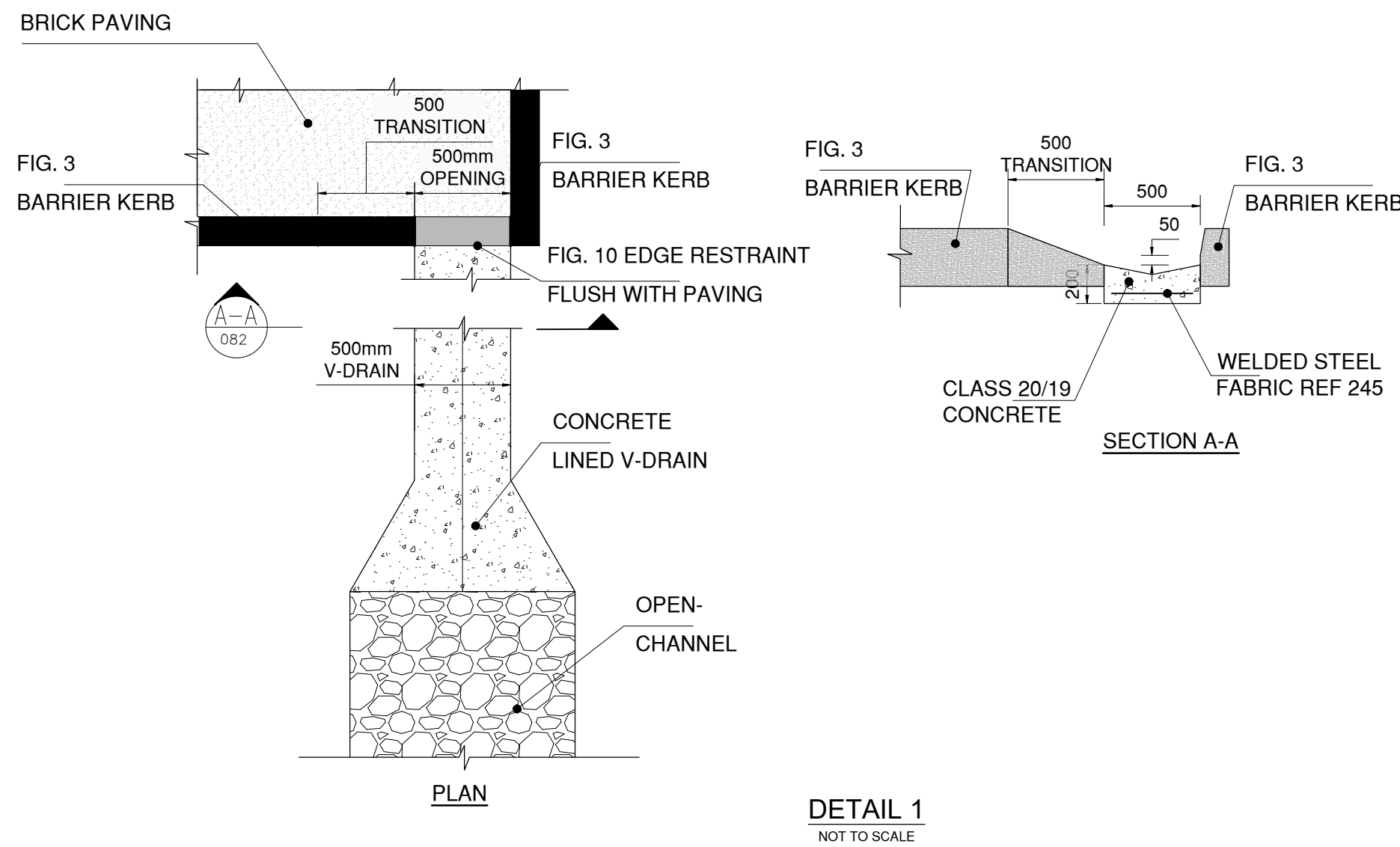
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"TENDER"		DESIGNED R MOODLEY	CLIENT POLOKWANE MUNICIPALITY CNR LANDROS MARE & BODENSTEIN STREETS P.O. BOX 111 POLOKWANE, 0700 TEL: 015 290 2300 Email: manthoap@polokwane.gov.za	CONSULTANT TLOU CONSULTING (PTY) LTD P.O. BOX 1309 PRETORIA 0001 TEL: (012) 336-9800 FAX: (012) 460-2033
PROJECT ENGINEER: SIGNATURE _____ DATE _____		DRAWN JL NNZERU		
CLIENT: SIGNATURE _____ DATE _____		CHECKED T TLOU		
REMARKS:		DATE MARCH 2018		
DRAWING NO.		SCALE AS SHOWN		
		PROJECT ENGINEER R. MOODLEY	PROJECT MANAGER M.L. PHILELA	CONTRACT NO. PM36/2018
				DRAWING NO. P14296-092





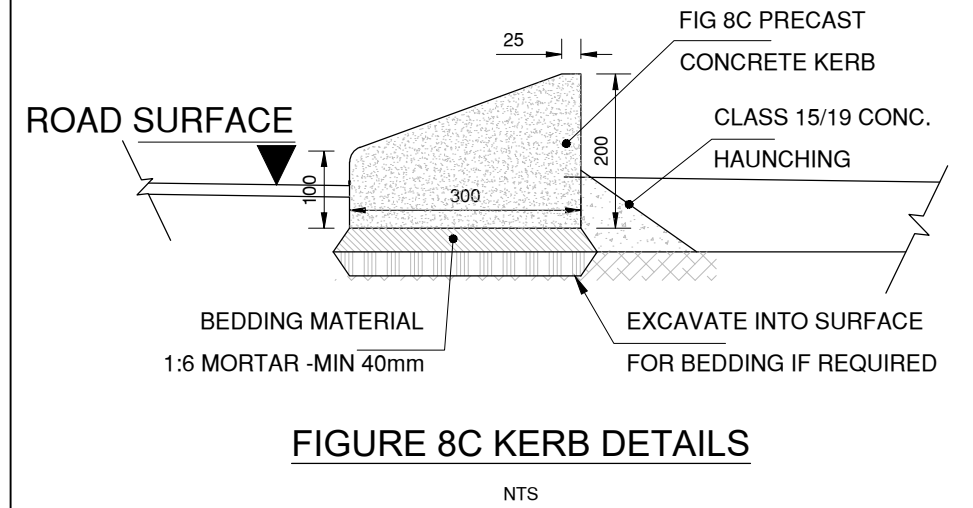
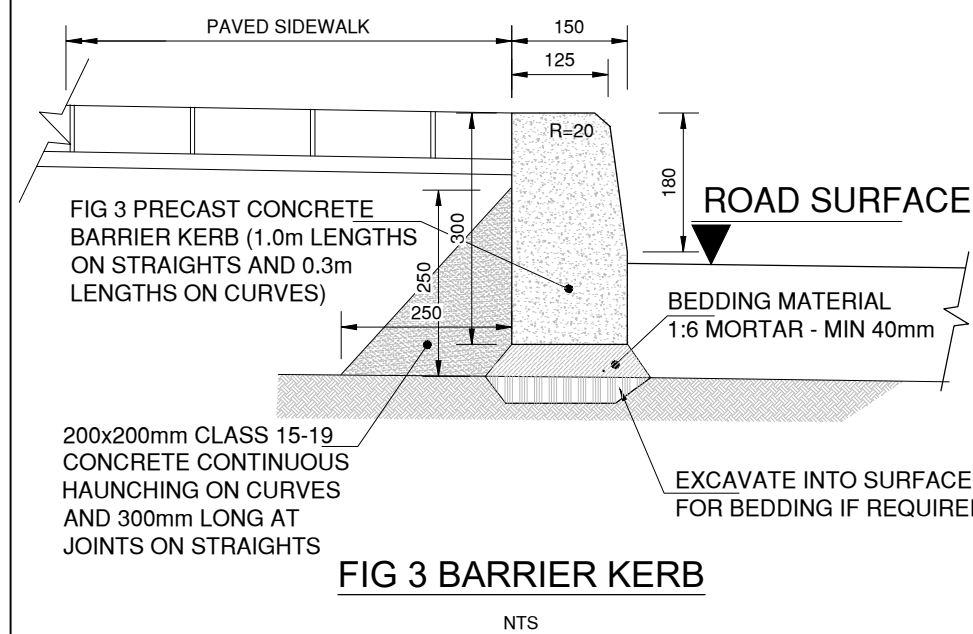
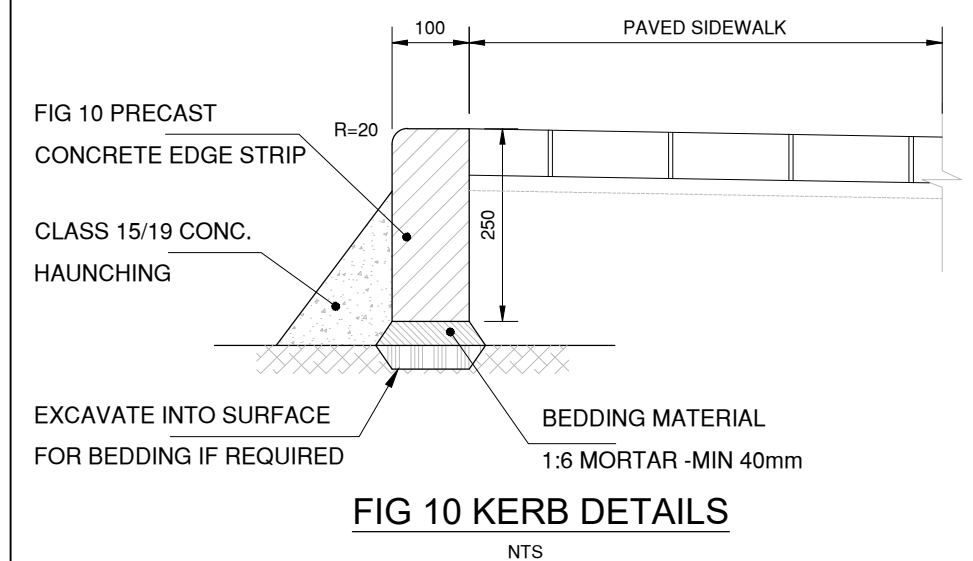
TYPICAL ROAD CROSS SECTION  
NTS



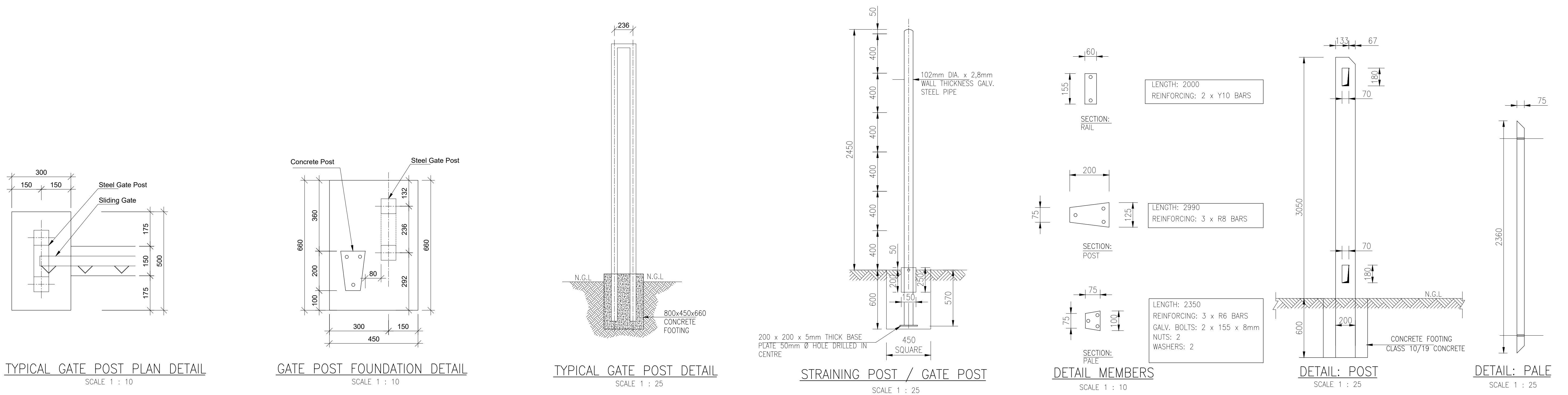
SECTION 2-2  
NOT TO SCALE

## NOTES

1. THE ACCURACY OF THE SERVICES INFORMATION ON THIS DRAWING IS NOT GUARANTEED. ALL SERVICES MUST BE CONFIRMED ON SITE BEFORE WORK COMMENCES.
2. SERVICE CONNECTIONS TO ERVEN HAVE NOT BEEN SHOWN. CARE MUST BE TAKEN WHEN EXCAVATING TO ENSURE THAT SERVICE CONNECTIONS ARE NOT DAMAGED.
3. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH SABS 1200 SPECIFICATION.
4. PAVEMENT MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE TECHNICAL RECOMMENDATIONS FOR HIGHWAYS, GUIDELINES FOR ROAD CONSTRUCTION MATERIALS TRH 14:1985.
5. THE ENGINEER TO BE NOTIFIED TO INSPECT THE SETTING OUT OF THE WORK PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. ALL STORMWATER PIPES OR CHANNELS TO HAVE A MINIMUM SLOPE OF 0.67%.
7. ALL LEVELS INDICATED ON THIS DRAWING NEED TO BE CONFIRMED ON SITE PRIOR TO ANY CONSTRUCTION WORKS.
8. ALL BACKFILLING TO BE COMPACTED TO MIN 93% MOD AASHTO DENSITY AND IN LAYERS NOT EXCEEDING 150mm THICK.



AMENDMENTS		BY	APPROVES	DATE	PROJECT STATUS				TENDER				CLIENT				CONSULTANT			
					<input type="radio"/> CONCEPT DRAWING	<input checked="" type="radio"/> TENDER DRAWING	<input type="radio"/> APPROVED FOR CONSTRUCTION (DRAWING)	<input type="radio"/> AS BUILT DRAWING	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>			
A ISSUED FOR TENDER									JLN		RM		MAR'18							

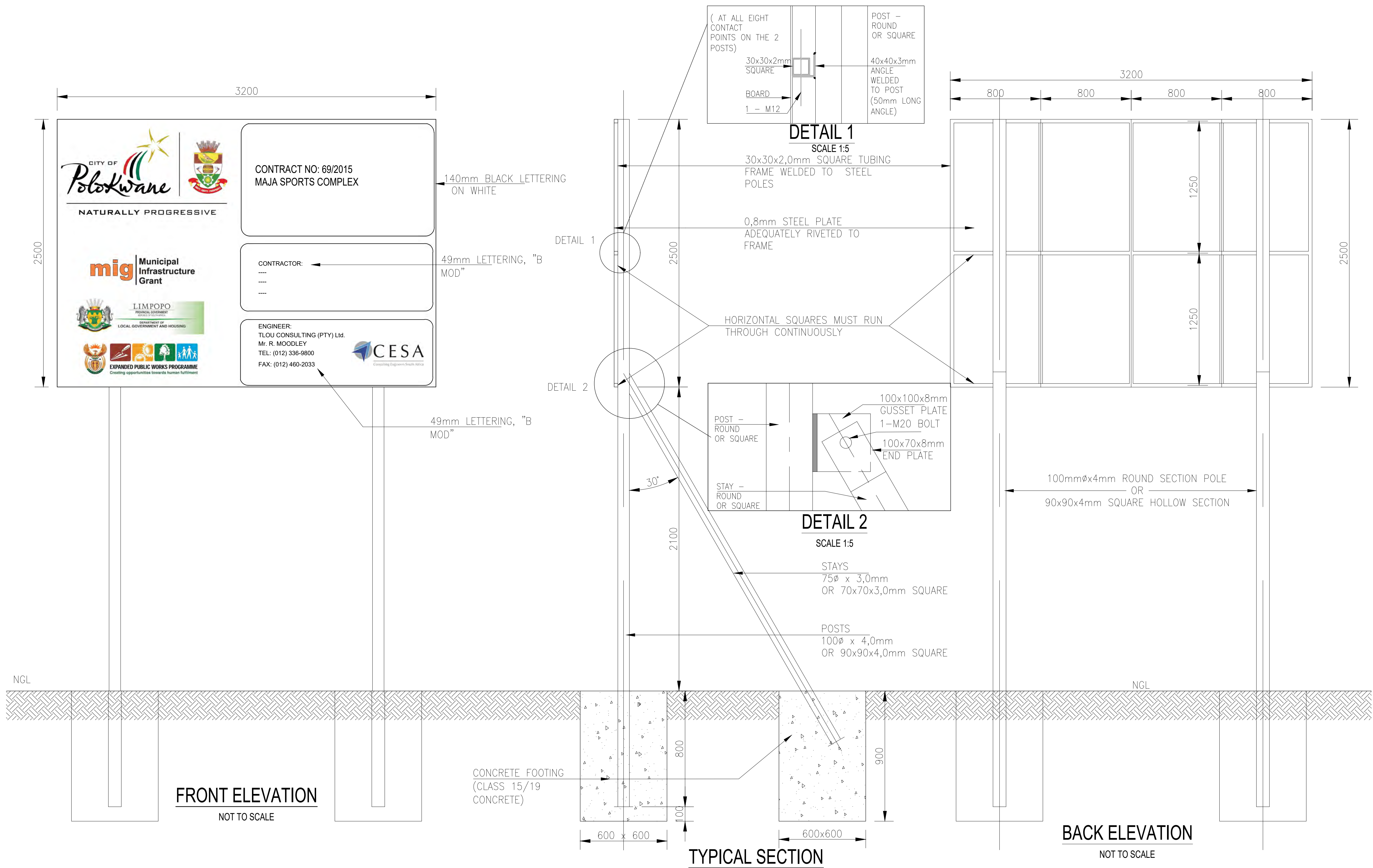


No.	AMENDMENTS	BY	APPROVED	DATE
A	ISSUED FOR TENDER	JLN	RM	MAR'16

PROJECT STATUS			
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CONCEPT DRAWING	TENDER DRAWING	APPROVED FOR CONSTRUCTION	AS BUILT DRAWING

<b>"TENDER"</b>		DESIGNED R. MOOLEY		CLIENT POLKANE MUNICIPALITY Cnr LANGRISH MARS & GONZALEZ STREETS POLKANE P.O. BOX 1590 DUNEDIN Email: manthos@polkane.gov.za		ORDER NO. LCO CONSULTING (PTY) LTD P.O. BOX 1590 PRETORIA 0001 TEL: (012) 336-9800 FAX: (012) 406-2333	
PROJECT DESCRIPTION		DRAWN J. MANDRU		 			
SPECIFICATIONS	DATE	DATE 01.05.2018		DESCRIPTION			
CLIENT		DUNEDIN T. LOU		MAJA SPORTS COMPLEX:			
SPECIFICATIONS	DATE			CONCRETE PALISADE FENCING DETAILS			
REMARKS		DATE MARCH 2018					
DRAWING NO.	SCALE	PROJECT DRAWING					
AS SHOWN	R. MOOLEY	M. PHIRLELA		PM36/2018		P12496-100 	





No.	AMENDMENTS	BY	APPROVED	DATE
A	ISSUED FOR TENDER	JUN	RM	MAR'18

PROJECT STATUS			
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"TENDER"		DESIGNED	CLIENT	CONSULTANT
PROJECT ENGINEER		R. MOODLEY	POLOKWANE MUNICIPALITY	TLOU CONSULTING (PTY) LTD
SIGNATURE	DATE	J.L. NINERU	ONE LANDROS MARE & BODENSTEN STREETS	P.O. BOX 1309
CLIENT			P.O. BOX 111	PRETORIA
SIGNATURE	DATE		POLOKWANE 0700	0001
PREPARED			TEL: 015 290 2300	TEL: (012) 336-9800
DRAWING NO.			Email: montloup@polokwane.gov.za	FAX: (012) 460-2033
SCALE			DATE	DESCRIPTION
AS SHOWN			MARCH 2018	MAJA SPORTS COMPLEX: NAMEBOARD
PROJECT ENGINEER		R. MOODLEY	PROJECT MANAGER	CONTRACT NO.
M.L. PHILELA				PM36/2018
				DRAWING NO.
				P14296-100