



Midvaal Local Municipality
PO Box 9, Meyerton, 1960
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www.midvaal.gov.za

BID DOCUMENT

BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

FULL NAME OF BIDDER /CONTRACTOR/TENDERING ENTITY:			
CONTACT PERSON:			
TEL NO:		CELL NO:	
FAX NO:		EMAIL:	
CENTRAL SUPPLIER DATABASE (CSD) NO:			
MIDVAAL VENDOR NO. (NOT COMPULSORY):			
COMPULSORY BRIEFING SESSION:			
DATE:	WEDNESDAY, 15 OCTOBER 2025	TIME:	10:00
VENUE:	MIDVAAL ENGINEERING SERVICES, 56 ROOIBOK STREET, HIGHBURY, RANDVAAL		
BID CLOSING:			
DATE:	THURSDAY, 6 NOVEMBER 2025	TIME:	10:00
TOTAL BID PRICE/VALUE (INCLUDING VAT) (R):	N/A	<i>Mark "X" if Rates Based</i>	X
PREFERENCE POINTS CLAIMED:		B-BBEE RATING LEVEL:	

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NOTE:

All writing to be done in this document must be in black to facilitate clear photocopying.

Any changes to Section 1 – 6 of this document will result in immediate disqualification, (i.e. removal or addition of any pages). All returnables shall be included in a separate volume.



MIDVAAL LOCAL MUNICIPALITY

P O Box 9
MEYERTON
1960

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION
OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING
STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND
WHEN REQUIRED BASIS FROM DATE OF AWARD TO
30 JUNE 2028**

**SECTION 1:
T1 – TENDER CONDITIONS**

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**T1.1 – TENDER NOTICE AND INVITATION
TO TENDER**

T1.1. TENDER NOTICE AND INVITATION TO TENDER

BID 8/2/2/453 (6CE/5CEPE OR HIGHER) THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

Employer Tender Number: BID 8/2/2/453 (6CE/5CEPE OR HIGHER)

cidb Reference Number: 100109251

MIDVAAL LOCAL MUNICIPALITY INVITES TENDERS FOR THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 KV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

It is estimated that tenderers should have a cidb contractor grading of 6CE or higher. 5CE Potentially Emerging Enterprises who satisfy criteria stated in the Tender Data may submit Tender offers.

Preferences are offered to tenderers who suitable experience and suitably qualified employees and resources to render the services.

The council reserves the right to accept any bid or part thereof and does not bind itself to accept the lowest or any bid and not to

consider any bid not suitably endorsed or comprehensively completed.

Bids completed in pencil or re-typed will be regarded as invalid bids.

Bids must also be submitted in full, i.e with all pages attached, failure thereof will result in your bid being disqualified.

IMPORTANT INFORMATION:

Midvaal Local Municipality hereby requests all bidders to take note of the following process relating to bid documents requests and clarification notes:

Clarifications:

- Bidders will be given an opportunity to ask questions/clarifications by sending an email to tenders@midvaal.gov.za. Please quote the Bid No. on the subject line.
- The municipality will respond to all received queries/clarifications. Responsive bids will then be evaluated on 80/20 preference point system as prescribed by Midvaal Local Municipality's Supply Chain Policy and Preferential Procurement Policy, and PPPFA and its 2022 regulations.

Bids will be evaluated and adjudicated according to the following criteria:

- relevant specifications and technical proposals,
- value for money,
- capability to execute the contract,
- Midvaal SCM policy, PPPFA regulations and any other relevant legislations, as well as any supporting documents where required.

SPECIFIC GOALS & POINTS:

LOCAL ENTERPRISE: 10

B-BBEE STATUS: 10

- Details of the specific goals' allocation are demonstrated in the bid document.

T1.1 TENDER NOTICE

PLEASE NOTE:

1. No faxed or e-mailed tenders will be accepted.
2. All tenders must be submitted on the official forms (not to be re-typed). Only original signed tender documents will be accepted.
3. Bids must be completed in black ink. No correction fluid will be allowed. All alterations must be crossed out and initialed.
4. Where a compulsory briefing session is required, it is the onus of the bidder to attend and arrive on time. Late arrivals will not be allowed to sign the attendance register and will be deemed to be absent.
5. No bids will be considered from bidders who did not attend the briefing session.
6. Midvaal Local Municipality will not accept any bid with missing pages and not fully completed with the required attachment. Only tenderers who have read and signed the provisions of the rules and specifications which are included in the bid documents are eligible to submit tenders.

A non-refundable tender deposit of R668.50 payable by proof of deposit is required on collection of the Tender documents.

- Bidding documents will be available for purchase during working hours after 12:00 on 15 October 2025 or via electronic request at tenders@midvaal.gov.za
- A non-refundable tender deposit of R 668.50 payable by proof of deposit or cash is required on collection of the Tender documents. Payments for the documents can be made at the municipality's rates and taxes hall during office hours Monday – Friday, 07:30 – 15:00 or alternatively direct deposits (no cheques accepted) to:
Midvaal Local Municipality
Bank: Nedbank
Account Number: 1224797469,
Branch: Public Sector - Central Gauteng

NB: Please use the bid/tender number as reference and remember to bring proof of payment for collection of bid documents.

Queries relating to the issues of these documents may be addressed to:

SCM

Tel No. 0163607451

E-mail. tenders@midvaal.gov.za

A compulsory clarification meeting with representatives of the Employer will take place at Midvaal Engineering Services, 56 Rooibok Street, Highbury, Randvaal Coordinates: -26.5147°S 28.0441°E (Front opposite Randvaal Clinic) on 15 October 2025 starting at 10:00.

The closing time for receipt of Tenders is 10:00 on Thursday, 6 November 2025.

Late Tenders will not be accepted.

Tenders may only be submitted on the tender documentation that is issued.

Requirements for sealing, addressing, delivering, opening and assessment of Tenders are stated in the Tender Data..

T1.1 TENDER NOTICE

T1.1.1. MBD 1 - INVITATION TO BID – PART A

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE MIDVAAL LOCAL MUNICIPALITY					
BID NUMBER:	BID 8/2/2/453 (6CE/5CEPE OR HIGHER)	CLOSING DATE:	THURSDAY, 6 NOVEMBER 2025	CLOSING TIME:	10:00
DESCRIPTION	THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT:

MIDVAAL LOCAL MUNICIPALITY					
25 MITCHELL STREET					
MEYERTON, 1961					
SUPPLIER INFORMATION					
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:	MAAA	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	☐ Yes ☐ No	
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES, ANSWER PART B:3]	
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					

T1.1 TENDER NOTICE

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		TECHNICAL INFORMATION MAY BE DIRECTED TO:	
DEPARTMENT	SUPPLY CHAIN MANAGEMENT	TECHNICAL	
CONTACT PERSON	SCM UNIT	CONTACT PERSON	DIRECTOR: PMU
TELEPHONE NUMBER	016 360 7609	TELEPHONE NUMBER	010 496 3125
FACSIMILE NUMBER	N/A	FACSIMILE NUMBER	N/A
E-MAIL ADDRESS	tenders@midvaal.gov.za	E-MAIL ADDRESS	tenders@midvaal.gov.za

For any Eskom portion of works, the Contractor shall be Eskom accredited as well as Authorised by the Gauteng Operating Unit. The Contractor shall provide their Eskom vendor number and authorisation, with verification, during tender stage. Midvaal Local Municipality reserve the right to independently verify with Eskom the validity of the issued Vendor Number. In the event that the Contractor is not accredited by Eskom, the contractor may sub-contract the construction activities to an Eskom accredited Contractor or form a joint venture with an Eskom accredited Contractor prior to tender closing. The bidder shall submit a subcontracting agreement or a joint venture agreement as part of the tender returnables.

Bidders who fail to submit their Eskom Vendor Number will not be evaluated further to criteria number 2.

T1.1.2. MBD 1 – TERMS & CONDITIONS FOR BIDDING – PART B

1. BID SUBMISSION:	
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.	
1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED– (NOT TO BE RE-TYPED) OR ONLINE.	
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.	
2. TAX COMPLIANCE REQUIREMENTS	
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 WWW.SARS.GOV.ZA.	
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.	
3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS	
3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?	☐ YES ☐ NO
3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?	☐ YES ☐ NO
3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	☐ YES ☐ NO
3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	☐ YES ☐ NO
3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?	☐ YES ☐ NO
IF THE ANSWER IS “NO” TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.	

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:

T1.1.3. REFERENCE NUMBER AND TITLE

The contract number and title shall be:

BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

T1.1.4. BRIEF DESCRIPTION OF THE WORKS

For this contract, the new Eskom 88 kV Savanna City Switching Station will be established. The station will be equipped with 2 x 88 kV feeder bays i.e., “Roshnee / Ironside Tee” and “Ironside”. These feeders will connect to an Eskom single 88 kV busbar, the customer will have two metering points taking load from the Eskom busbar via two busbar connectors onto the Midvaal busbars.

The Eskom 88 kV switching station portion of works will briefly comprise of the following:

- a) All required earth mat and finishes (fence, lighting, yard stone, etc. as per the BoQ);
- b) Two complete 88 kV line bays, an 88 kV busbar with a bus-section between the two-line bays, two sets of 88 kV VT's on the busbar and two power VT's to supply auxiliary supply to Eskom control room/meter room;
- c) The 88 kV busbar will be equipped with two 88kV links, where Midvaal Municipality will take supply;
- d) Build Control Room;
- e) Eskom will inspect the construction activities to ensure compliance with the Self-build Policy. The project will however be managed by the Midvaal LM appointed Consulting Engineer.

Although the project is funded by Department of Electricity and Energy via Midvaal Local Municipality, all infrastructure will become an Eskom asset and must therefore be approved and taken over by Eskom.

The Contract shall include all costs entailed in the detail design and preparation of all manufacturing drawings as specified in Clause 3.1.4.11 in Section 5, all costs of supplying and delivering the Works to site, all costs entailed in commissioning the Works, handing over of the Works to the relevant authority, all supervision, labour, tools, and materials necessary for erecting and testing of the works.

The Contract shall also include a warranty period of twelve (12) calendar months, all in accordance with the Conditions of Contract and Schedule of Requirements. The Contractor shall supply, install and commission all material for this project and deliver the project up to the final handing over stage including a 12-month defects liability period.

The tender document is to be accompanied with the tender returnables as stipulated.

T1.1.5. SUBMISSION AND VALIDITY OF TENDERS

Tenders are to be delivered to:

**THE TENDER BOX:
MIDVAAL LOCAL MUNICIPALITY
BLOCK A, CIVIC CENTRE
25 MITCHELL STREET, MEYERTON, 1961**

T1.1 TENDER NOTICE

Tenders are to be submitted in a robust sealed parcel clearly marked as follows:

THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

BID NO : 8/2/2/453 (6CE/5CEPE or Higher)

CLOSING DATE : THURSDAY, 6 NOVEMBER 2025 AT 10:00

NAME OF TENDERER : _____

The name of the Tenderer shall appear prominently on the cover of the parcel.

Tenders will not be considered unless all relevant schedules and Form of Tender contained herein have been completed.

Any alternative offers which the Tenderer may wish to submit may be presented on their official stationery, but it shall be understood that such offers shall be subject to all the conditions set out in this document. Tenders will not be considered if all returnables are not included in the bid submitted.

Tenderer's Condition of Sale or Contract printed on their own stationary will be disregarded and it shall be clearly understood that the Conditions which shall apply shall be those contained in these documents unless the Tenderer specifically absolves himself from any such conditions on the form "Alterations by Tenderer" contained in this document.

On no account shall any alterations be made to the text of these documents, or any pages removed from the binding

Tenders received after the closing date and time shall not be considered.

Faxed, e-mailed or telephonic tenders will NOT be accepted.

Tenders may only be submitted on the tender documentation that is issued.

Requirements for sealing, addressing, delivering, opening and assessment of Tenders are stated in the Tender Data.

Tenders are to be valid for a period as indicated in the Special Provisions of the Conditions of Contract from the date of submission.

Tender prices shall remain fixed and firm for the entire validity period.

The Tenderer shall submit one completed original tender document, one copy of the original tender document and two electronic versions of the completed tender document.

T1.1.6. COMPULSORY SITE BRIEFING

SIGNATURE CONTRACTOR / SUPPLIER

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T1.2 – TENDER DATA

T1.2 TENDER DATA

T1.2. TENDER DATA

The Contractor shall supply, install and commission all material for this project and deliver the project up to the final handing over stage, including the Defects Notification Period.

Note: The tenderer must allow for construction over multiple years as from the date of tender award up to the end of June 2027 as funding is made available. The tender shall allow for all de-establishment and re-establishment costs, including renewal of assurances and insurances in the relevant sections of the BoQ.

The Contract shall include all costs entailed in the design and preparation of all drawings, all costs of supplying and delivering the Works to site, all costs entailed in commissioning the Works, handing over of the Works to the relevant authority, all supervision, labour, tools, and materials necessary for erecting and testing of the works.

The Contract shall also include a warranty period, as indicated in the Contract Data under the Conditions of Contract (Defects Notification Period), all in accordance with the Conditions of Contract and Schedule of Requirements. The Contractor shall supply, install, and commission all material for this project and deliver the project up to the final handing over stage, including the Defects Notification Period.

The tender document shall be accompanied with the relevant tender returnables as stipulated.

The following conditions will apply to this project:

- a) The contract shall be executed by means of labour-intensive construction methods for the purpose of including local labour.
- b) The tenders will be adjudicated according to Midvaal Local Municipality's SCM Policy.
- c) Progress payment shall be done according to period progress and payment for material may only be done for material installed and as certified by the Engineer and approved by the employer's representative according to their measurements.

T1.2.1. TENDER VALIDITY

The tender offer validity shall be 90 calendar days from the tender closing date, as indicated in the Letter of Tender under C1.1 Form of Offer and Form of Acceptance.

T1.2.2. DOCUMENTS

The Tender Documents comprise of a complete set which includes one (1) bound volume: (Ref. No. 8/2/2/453 (6CE/5CEPE or Higher) containing consecutively numbered pages per section scheduled in the List(s) of Contents, and drawings which are listed in the "Drawings Section" of the document and included as an annexure.

Tenderers are advised to check the number of pages in the Tender Document and verify the inclusion of all drawings listed. If any pages or drawings are missing or duplicated, or if there are any discrepancies or obvious errors noticed, the Tenderer is liable for any errors and ambiguities in the tender submitted. The Tenderer shall immediately request clarification.

T1.2 TENDER DATA

T1.2.3. CONSULTING ENGINEERS

The Employer has appointed Lyon and Partners (Pty) Ltd as Consulting Engineers and Project Managers.

TECHNICAL AND SUPPLY CHAIN ENQUIRIES MAY BE DIRECTED TO:

E-Mail : tenders@midvaal.gov.za

Queries shall be in writing and no queries will be entertained within seven (7) calendar days of the tender closing date.

T1.2.4. PROGRAMME & CASH FLOW

Tenderers are required to submit programmes for the main activities of each section of work as well as a proposed cash flow.

The program shall indicate the following items as a minimum:

1. Time for site establishment
2. Time for obtaining H & S permit (if required)
3. Procurement
4. Manufacture of equipment
5. Factory Acceptance Testing
6. Delivery to site
7. Erection
8. Site Acceptance Testing
9. Testing and Commissioning
10. Handover
11. "Float" for unforeseen delays
12. Any items in the Conditions of Contract, i.e.:
 - a) Commencement date, time for completion
 - b) Date for right of access to, and possession of, the site
 - c) Order in which the Works are to be executed, including:
 - i) preparation and submission of the Contractor documents
 - ii) procurement
 - iii) manufacture of equipment
 - iv) inspection
 - v) delivery to site
 - vi) construction
 - vii) erection
 - viii) installation
 - ix) work by sub-contractor
 - x) testing and commissioning
 - d) Revision periods
 - e) Sequence and timing of inspections and tests
 - f) Holidays, weekends, etc.
 - g) Key delivery dates
 - h) Progress reports, etc.

T1.2.5. COMPLIANCE WITH SPECIFICATIONS AND STANDARDS

The Tenderer is responsible for the aptitude and efficiency of the proposal submitted, which is offered as a complete working unit, it follows that the tenderer is entirely responsible for the inclusion in the tender offer for every item of plant and every accessory which may be necessary including the means of fixture into its required position, and also including all measures required by any Act or Regulation in force governing the operations of electrical equipment, wiring and installations. It is also incumbent on the Tenderer to make provision in the tender offer for the highest quality of workmanship, in both the manufacture of the equipment and its accessories, and in the erection thereof.

If it is found, whilst the plant is being erected or when it is about to be commissioned or during its test period or period of warranty, that any item necessary for the continuous and efficient operations of the Works to the full capacity required was omitted from the tender or was included, but has since been found not to be entirely satisfactory, or that the workmanship during manufacture or erection was not of the best standard, it shall be the responsibility of the Tenderer to supply such an item, replace it with a satisfactory one, or re-erect any portion of the Works, as the case may be, at his/her own expense.

Under the provisions above, it follows that there shall be no extras of any kind except such extras as may be ordered in writings by the Engineer to be supplied or erected by way of additional plant or accessories, or such extras which may arise as a result of the building work not having been carried out in conformity with the working drawings supplied by the Contractor.

T1.2.6. ASSESSMENT OF TENDERS

Tenders will be adjudicated solely on the information submitted with the tender before tender closure. No alteration shall be considered after tender closure. The Engineer / Adjudicator reserves the right to adjust obvious arithmetic errors in the Bill of Quantities and subsequent calculation of the total tender amount. Tenders shall firstly be evaluated for responsiveness which requires full compliance to compulsory returnables, to be deemed responsive. Responsive tenders shall be evaluated for functionality.

Responsive tenders scoring above the minimum functionality threshold shall be evaluated in accordance with the Preferential Procurement Policy Framework Act (2000), to determine the preferred bidder.

T1.2.7. ACCEPTANCE OF TENDERS

The successful tenderer shall enter into a Contract with the Employer, in accordance with the Conditions of Contract, for the execution of the specified works.

The Employer does not bind himself to accept the lowest or any tender or to give any explanation for decisions made in connection with the tenders, further, the Employer reserves the right not to award the contract.

The Employer reserves the right to accept any one or more or all of the sections of the Works as specified in this document, and that no liability is accepted for any expenses incurred by a tenderer in submitting a tender offer. The Employer therefore reserves the right to scale down the project to fall within the values of the available funds even if the reduced Scope of Works exceeds 20 % of the tender amount. No alteration of unit prices will be allowed for scaling down on the project.

T1.2 TENDER DATA

Limited, non-guaranteed funds are available for this project.

The tender shall be disqualified if the materials offered by the tenderer do not comply with the relevant specifications.

T1.2.8. IMPORTED AND LOCAL ITEMS OF PLANT

The Tenderer should take cognizance of the requirement regarding local production and content as stipulated in the Preferential Procurement Policy Framework Act, Act No 5 of 2000, Preferential Procurement Regulations, 2022.

The Tenderer must furnish, with his/her tender, a summary of what plant he intends to import and which of it he intends to be locally manufactured.

The Tenderer should give Particulars of the premises where he intends locally manufactured items to be made and offer every facility to the Employer and the Engineer for inspecting such premises before the tenders are considered, to enable the Employer and the Engineer to satisfy them that the facilities for manufacturing the items concerned are adequate.

T1.2.9. CURRENCY AND FOREIGN TENDERS

All prices quoted and all transactions are to be in the currency of the Republic of South Africa (South African Rand).

Tenders not domiciled in the Republic of South Africa (R.S.A.) shall state the name and address of their accredited or intended agents within the R.S.A.

T1.2.10. HEALTH AND SAFETY

The Tenderer shall comply with the provisions of the Occupational Health and Safety Act no 85 of 1993, as amended, and shall undertake to acquaint his/her employees with the provisions, regulations, duties, obligations, and prohibitions, and shall accept sole liability for due compliance with the duties, obligations and prohibitions and absolve the Employer from being obliged to comply with the aforesaid duties, obligations, and prohibitions.

T1.2.11. TECHNICAL FUNCTIONALITY

After evaluating tenders for responsiveness, the functionality of the tenderer will be evaluated and to qualify for the next round of evaluation, the tenderer must score a minimum threshold percentage. Only tenders scoring above the minimum threshold score will advance to the preferential procurement evaluation.

The responsiveness check determines if all information and documents required are submitted with the tender, non-responsive tenders shall not be considered for functionality evaluation. The functionality evaluation involves detailed adjudication of all forms, technical schedules, returnables etc. to be populated or included by the tenderer.

For the minimum requirements, refer to Section 2: T2 – Tender Form, under Returnables: Claim for Functionality.

T1.2 TENDER DATA

T1.2.12. PREFERENTIAL PROCUREMENT

The following preference point systems are applicable to all bids in terms of the “PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000: PREFERENTIAL PROCUREMENT REGULATIONS, 2022”:

- the 80/20 system for requirements with a Rand value equal to or above R 30 000.00 and up to R 50 000 000.00 (all applicable taxes included); and
- the 90/10 system for requirements with A Rand value above R 50 000 000.00 (all applicable taxes included)

The value of this bid is estimated not to exceed R 50 000 000 (all applicable taxes included) therefore the 80/20 system shall be applicable.

Preference points for this bid shall be awarded for:

- Price; and
- Specific Goals.

The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for price and B-BBEE must not exceed	100

Failure on the part of a bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a sworn affidavit together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed. It shall further be noted that the sworn affidavit be provided by the authorised representative of the company. Affidavits from accounting firms will not be accepted.

Original or Certified copy of SANAS only accredited BBBEE certificate OR copy of BBBEE Sworn Affidavit must be attached. (Failure to submit Valid Certificate will result in your bid not being allocated Points for BBBEE).

The Employer reserves the right to request the 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 Employer.

T1.2.13. ELIGIBILITY TO TENDER

Only those tenderers who satisfy the following eligibility criteria shall be eligible to submit tenders:

- a) The Tenderer or any of its directors/ shareholders is not listed on the Register of Tenderer 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.
- b) Has the legal capacity to enter into the contract,
- c) Is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a

T1.2 TENDER DATA

judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing.

- d) The Tenderer submits an original valid Tax Clearance Certificate/ or Tax Clearance Verification Pin issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations.
- e) The Tenderer is registered with the CIDB with an appropriate category of registration.
- f) The Tenderer has not:
 - Abused the Employer's Supply Chain Management System; or
 - Failed to perform on any previous contract and has been given a written notice to the effect.
 - Failed to pay municipal rates and taxes or service charges and such rates, taxes and charges are in arrears for more than three months.
- g) Latest Municipal rates & taxes account which is not in arrears for more than 3 months (In a case of Rates & Taxes Account being in a family member's name, **ONLY A MUNICIPAL** account where the address of the account matches the address on the CK document will be accepted) for the **COMPANY AND DIRECTORS / TRUSTEES / MEMBERS / SHAREHOLDERS**.

In the event of a tenant (renting) a copy of a valid and signed (both Lessor and lessee) Lease Agreement (the lease agreement must indicate dates of commencement and expiry, in the occasion where the lease has expired the original lease **AND** extension must be attached with commencement and expiry dates) for the **COMPANY AND DIRECTORS / TRUSTEES / MEMBERS / SHAREHOLDERS**.

NOTE - The following documents will not be accepted:

- Affidavits;
- Address confirmation letter;
- Invoices from the body corporates or agents,
- Rates and taxes of the lessor and;
- Municipal tender/rates clearance letter.

As per the Local Government: Municipal Finance Management Act 56 of 2003 updated 20 January 2017 on Section 28 (1) (c) and Section 38 (1) (d) (i):

28 (1) (c) check in respect of the recommended bidder whether municipal rates and taxes and municipal service charges are not in arrears;

38 (1) (d) to reject any bid from a bidder;

(i) if any municipal rates and taxes or municipal service charges owed by that bidder or any of its directors to the municipality or municipal entity, or to any other municipality or municipal entity, are in arrears for more than three months.

- h) There is no conflict of interest which may impact on the Tenderer's ability to perform the Contract in the best interests of the Employer or potentially compromise the tender process.

T1.2 TENDER DATA

- i) Competency of management and supervisory staff:
 - Only tenderers with staff satisfying the requirements of the Scope of Works, are eligible to submit tender.
- j) Joint ventures are eligible provided that:
 - Every member of the joint venture is registered with the CIDB.
 - The lead partner has a grading equal to or higher than the grading specified.
 - The combined contractor grading designation calculated in accordance with the CIDB Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations

T1.2.14. ALTERATIONS BY TENDERER

Tenderer's Condition of Sale or Contract printed on their own stationary will be disregarded, the Conditions which shall apply shall be those contained in these documents unless the Tenderer specifically absolves himself from any such conditions on the form "Alterations by Tenderer" contained in the "Alterations to Tender" table.

On no account shall any alterations be made to the text of these documents, or any pages removed from the binding.

Should the Tenderer desire to make any departures or modifications to the General Conditions of Contract, Specifications, Bill of Quantities or Drawings, or to qualify his/her tender in any way, he shall set out his/her proposals clearly in the table hereunder.

If no departures or modifications are desired, the Schedule hereunder is to be marked NIL and signed by the Tenderer.

FAILURE TO POPULATE AND SIGN "*Table 1: Alterations by tenderer*" SHALL RESULT IN THE TENDER OFFER BEING NON-RESPONSIVE.

Table 1: Alterations by tenderer

PAGE	CLAUSE OR ITEM

T1.2 TENDER DATA

POPULATE AND SIGN “*Table 1: Alterations by tenderer*”

NAME & SIGNATURE OF TENDERER :

DATE :

NAME & SIGNATURE OF WITNESS :



MIDVAAL LOCAL MUNICIPALITY

P O Box 9
MEYERTON
1960

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION
OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING
STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND
WHEN REQUIRED BASIS FROM DATE OF AWARD TO
30 JUNE 2028**

**SECTION 2:
T2 - TENDER FORM**

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T2.1 – LIST OF RETURNABLE DOCUMENTS

T2.1 RETURNABLE DOCUMENTS

T2. TENDER FORM

T2.1. LIST OF RETURNABLE DOCUMENTS

It is a condition of tender that the tender must be accompanied with the following documentation.

T2.1.1. RETURNABLES

NOTE:

Returnables not forming part of the tender document shall be compiled into a separate “returnables” file and submitted as a Volume 2 to the tender document.

Table 1: Table of Returnables

NO	RETURNABLES	NOTES	SUBMITTED (TICK)	
			YES	NO
1	Form of Offer	Fully completed and signed in black ink pen.		
2	COID	Proof of compliance with the Compensation for Occupational Injuries and Diseases Act 130 of 1993 (as amended)		
3	A copy of a CSD summary report OR CSD number.	CSD full report or summary report OR CSD number.		
4	Proof of company registration documents with the Director's details must be attached.	The company registration documents must indicate the company and Director's details.		
5	Fully completed MBD forms	Fully Completed and signed, handwritten and in black ink pen.		
6	Audited Financial Statements signed by the CA or Auditor & Director of the company (MBD 5 form)	If required by law submit audited financial statements for the past 3 years or since the date of establishment if established during the past 3 years.		
7	Joint Venture Agreement ALL OF THE DOCUMENTS FROM ROWS 1 TO 6 ABOVE ARE REQUIRED FOR EACH COMPANY IN THE JV AGREEMENT.	- If applicable submit a complete and signed JV agreement. - JV agreement stating who the lead partner is with the shared percentages. - Note: JV agreement must be as per CIDB Regulation of 2008 regulation 25 (5)(a), (b) and (6)		
8	Subcontracting Agreement	If applicable submit a complete and signed subcontracting agreement.		

T2.1 RETURNABLE DOCUMENTS

NO	RETURNABLES	NOTES	SUBMITTED (TICK)	
			YES	NO
9	Joint Venture Agreement ALL OF THE DOCUMENTS FROM ROWS 1 TO 6 ABOVE ARE REQUIRED FOR EACH COMPANY IN THE JV AGREEMENT.	• If applicable submit a complete and signed JV agreement. • JV agreement stating who the lead partner is with the shared percentages. • Note: JV agreement must be as per CIDB Regulation of 2008 regulation 25 (5)(a), (b) and (6)		
10	In the event of a tenant renting a lease agreement MUST be attached for the COMPANY AND DIRECTORS/TRUSTEES/ MEMBERS/SHAREHOLDERS.	The lease agreement must include the following: • A valid copy of the lease agreement must be signed by (both Lessor and lessee). • The lease agreement must indicate dates of commencement and expiry or duration. • NOTE: The lease agreement for the company must indicate that the premises are for business purpose. • In a case where the lease agreement has expired and there is a clause indicating an automatic renewal the original lease agreement and a confirmation letter signed by Lessor must be attached. • In the occasion where the lease agreement has expired the original lease agreement AND extension must be attached with commencement and expiry dates or duration.		
11	Municipal rates and taxes for bidders who are from the rural areas for the COMPANY AND DIRECTORS / TRUSTEES / MEMBERS / SHAREHOLDERS.	• In the event that the bidder is from the rural area a letter from the municipality that the area is not liable to pay municipal rates and taxes OR a signed letter from the chief indicating that the bidder is from that particular rural/tribal area.		

T2.1 RETURNABLE DOCUMENTS

NO	RETURNABLES	NOTES	SUBMITTED (TICK)	
			YES	NO
12	BBBEE Certificate or Affidavit	Valid SANAS only accredited BBBEE certificate OR valid copy of BBBEE Sworn Affidavit must be attached. (Failure to submit Valid Certificate will result in your bid not being allocated Points for BBBEE).		
13	CIDB Grading	Copy of Company CIDB Grading designation 6 CE/6CE PE or higher.		
14	Fully Completed BOQ	BOQ completed in handwriting and black ink pen		
15	Confirmation by guarantor	Confirmation letter to be provided by the tenderer's guarantor that the 10% performance security guarantee can be obtained in accordance with the condition of the contract.		
16	Programme	Programme submitted according to the requirements of the Tender Conditions (T1.2.4)		
17	Eskom Vendor Number	Eskom Letter confirming the Vendor Number of the Contractor, sub-contractor or JV partner.		
18	Eskom Equipment	All equipment offered and priced for the Savanna City Switching Station portion of works compliant to Eskom standards and to be procured from Eskom's LAP (List of Approved Products)		
19	Certificate of Undertaking	Certificate of Undertaking to be signed (T2.2.26)		

T2.1 RETURNABLE DOCUMENTS

Table 2: Specific Goals

GOAL	WEIGHT		REQUIRED PROOF	SUBMITTED (TICK)	
				YES	NO
Local Enterprise (10 Points)	10 Points, if the business operates within the jurisdiction of Midvaal Local Municipality		• Rates and Taxes statement in the name of the business, or that of its director(s); OR • Confirmation of the company's director(s) ward and voting district as per the IEC (Independent Electoral Commission of South Africa)		
	5 Points, if the business operates outside Midvaal but within the Sedibeng District jurisdiction				
	3 Points, if the business operates outside the Sedibeng jurisdiction				
	0 points for non-submission				
B-BBEE Status (10 Points)	Status Contributor	Points	B-BBEE certificate: - issued by the DTIC (The Department of Trade and Industry and Competition) through CIPC; OR - from an accredited institution registered with SANAS; OR a valid sworn affidavit, as issued by the DTIC		
	1	10			
	2	8			
	3	6			
	4	5			
	5	4			
	6	3			
	7	2			
	8	1			

NB: confirmation of the voting district can be obtained from <https://www.elections.org.za/pw/Voter/Voter-Information>
A screenshot of the confirmation will be sufficient.

BIDDER'S AUTHORISED SIGNATORY:

.....
Full Names and Surname

.....
Signature

T2.2 – RETURNABLE SCHEDULES

T2.2. RETURNABLE SCHEDULES

T2.2.1. ESKOM VENDOR NUMBER

It is confirmed that (company name)
is registered on the Eskom Supplier Database with vendor number,
proof of which is included in the returnables.

Refer to T2.2.10

ESKOM SUBCONTRACTOR APPOINTMENT

.....
("the Contractor")

.....
("the Subcontractor")

The Contractor hereby conditionally appoints the Subcontractor for:

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS
FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL
MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF
AWARD TO 30 JUNE 2028**

The provision for the conditional appointment includes that:

- The Contractor and Subcontractor shall enter into a supplemental agreement based on the Main Contract if the Contractor's bid is successful.
- There shall be no claim by the Subcontractor if the Contractor's bid is unsuccessful.
- The Subcontractor shall be authorized to execute self-build work on Eskom infrastructures.
- The supplemental agreement shall be subject to approval by the Main Contract's Engineer.
- The Subcontractor shall comply and be subjected to all the conditions of the Main Contract.

Subcontractor details

Company Registration Number :

herein represented by :

in the capacity of :

It is confirmed that (subcontractor name)

is registered on the Eskom Supplier Database with vendor number,
proof of which is included in the returnables.

Signed at on 20.....

Witnesses:

1. _____

2. _____

For: THE CONTRACTOR

Name:

Designation

Signed at on 20.....

Witnesses:

1. _____

2. _____

For: THE SUB-CONTRACTOR

Name:

Designation

T2.2.2. CIDB REQUIREMENTS

In terms of Clause 3 of the Notes on the use of Standardized Procurement Documents for Engineering and Construction Works, October 2005, all Prime or Main Contractors must register with the Construction Industry Development Board (CIDB) according to Act 38 of 2000.

After receipt of an application the CIDB will grade the applicant according to experience in the various sections of works and financial capability.

The CIDB requirements for all contractors tendering on this project are as follows:

1. Tenderers and his subcontractor must be registered with the CIDB in a CE class of construction works.
2. Tenderers must have a CIDB Contractor Grading Designation of 6 CE / 5 CE PE or higher. Please note that this tender will not be split and that no portion of the contract may be outsourced unless specified.
3. The tenderer shall submit the company profile and CIDB registration of the proposed sub-contractor for this project.

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2.3. MBD 4 – DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position relation to the evaluating/adjudicating authority.
3. A Person who is an advisor or consultant contracted with the municipality.
4. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid

3.1. Full Name of bidder or his or her representative:

3.2. Identity Number:

--	--	--	--	--	--	--	--	--	--	--	--	--

3.3. Position occupied in the Company (director, trustee, shareholder²):

3.4. Company Registration Number:

3.5. Tax Reference Number

3.6. VAT Registration Number

3.7. The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

3.8. Are you presently in the service of the state? **YES / NO**
If so, furnish particulars.

¹**MSCM Regulations: “in the service of the state” means to be –**

- (a) a member of –
 - any municipal council;
 - any provincial legislature; or
 - the national Assembly or the national Council of provinces.
- (b) a member of the 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 the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

² **“Shareholder”** means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

3.9. Have you been in the service of the state for the past twelve months? **YES / NO**
If so, furnish particulars.

3.10. Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
If so, furnish particulars.

3.11. Are you aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
If so, furnish particulars.

- 3.12. Are any of the company's directors, trustees, managers, principal shareholders, or stakeholders in service of the state? **YES / NO**

If so, furnish particulars.

- 3.13. Are any spouse, child or parent of the company's directors' trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

If so, furnish particulars.

- 3.14. Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract **YES / NO**

If so, furnish particulars.

5. Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	State Employee Number

6. **Please note that The Federal Executive of the DA resolved as follows:**

“That no office-bearer or member of the professional staff of the Party, or any company, partnership, close corporation or similar juristic entity in which such office-bearer or member of the professional staff has an interest, may tender for or contract to provide any goods or services to any DA controlled government.

For the purposes of this resolution:

“office-bearer” means any public representative or member of the Federal Executive, a provincial executive, a provincial management committee, a regional executive or a constituency executive;

“an interest” means that the office bearer or member of the professional staff has a 5% of more stake; and

“member of the professional staff” means any person who has an employment contract with the Party, and includes any person who is employed by the Party but who is paid by an organ of state, but does not include any person paid a gratuity or honorarium for services rendered to the Party.”

- 6.1. Are you or your company an office-bearer by means of any public representative or member of the Federal Executive, a provincial executive, a provincial management committee, a regional executive or a constituency executive? **YES / NO**
If so, furnish particulars.

- 6.2. Do you or your company have an interest by means that the office bearer or member of the professional staff has a 5% of more stakes? **YES / NO**
If so, furnish particulars.

- 6.3. Are you or your company a member of the professional staff by means any person who has an employment contract with the Party, and includes any person who is employed by the Party but who is paid by an organ of state, but does not include any person paid a gratuity or honorarium for services rendered to the Party? **YES / NO**
If so, 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 BIDDER

**T2.2.4. MBD 5 – DECLARATION FOR PROCUREMENT ABOVE R 10 MILLION
(ALL APPLICABLE TAXES INCLUDED)**

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

1. Are you by law required to prepare annual financial statements for auditing? **(YES/NO)**

.....

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? **(YES/NO)**

If no, this serves to certify that the bidder 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.

If yes, provide particulars

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)**

If yes, provide 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)**

If yes, provide 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 BIDDER

T2.2.5. MBD 6.1 - PREFERENTIAL PROCUREMENT CLAIM FORM

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

2. GENERAL CONDITIONS

2.1 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).

2.2 To be completed by the organ of state

(delete whichever is not applicable for this tender)

- (a) The applicable preference point system for this tender is the 90/10 preference point system.
- (b) The applicable preference point system for this tender is the 80/20 preference point system.
- (c) Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

2.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

2.4 To be completed by the organ of state

The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

- 2.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 2.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

3. DEFINITIONS

- a) “**tender**” means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- b) “**price**” means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- c) “**rand value**” means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- d) “**tender for income-generating contracts**” means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- e) “**the Act**” means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

4. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

4.1 POINTS AWARDED FOR PRICE

4.1.1 THE 80/20 PREFERENCE POINT SYSTEMS

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

80/20

$$Ps = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

4.2 FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

4.2.1 POINTS AWARDED FOR PRICE

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

80/20

or

90/10

$$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right) \quad \text{or} \quad Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

5. POINTS AWARDED FOR SPECIFIC GOALS

5.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

5.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
LOCAL ENTERPRISE		10		
BBBEE		10		

DECLARATION WITH REGARD TO COMPANY/FIRM

5.3 Name of company/firm

5.4 Company registration number

5.5 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

5.6 I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - a) disqualify the person from the tendering 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 tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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, if deemed necessary.

.....	
SIGNATURE(S) OF TENDERER(S)	
SURNAME AND NAME:	
DATE:	
ADDRESS:	
	
	
	

T2.2.6. MBD 8 – DECLARATION OF BIDDER’S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1. This Municipal Bidding Document must form part of all bids 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 taken to combat the abuse of the supply chain management system.
3. The bid of any bidder may be rejected if that bidder, or any of its directors have:
 - a) abused the municipality’s / municipal entity’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) willfully neglected, reneged on or failed to comply with any government, municipal or other 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 Corrupt 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 bid.

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

	If so, furnish particulars:		
4.3	Was the bidder 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?	Yes ☐	No ☐
	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
	If so, furnish particulars:		
4.5	Was any contract between the bidder 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?	Yes ☐	No ☐
	If so, 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 BIDDER

T2.2.7. MBD 9 - CERTIFICATE OF INDEPENDENT BID DETERMINATION

1. This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding 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 bid of any bidder if that bidder 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 bidding 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 bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids, and proposals.

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

CERTIFICATE OF INDEPENDENT BID DETERMINATION (MBD 9)

I, the undersigned, in submitting the accompanying bid:

.....
(Bid Number and Description)

in response to the invitation for the bid 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 Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - a) has been requested to submit a bid in response to this bid invitation;
 - b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement, or arrangement with any competitor. However, communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) prices;

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

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

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

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2.8. FINANCIAL RESPONSIVENESS

I / We agree, if required, to furnish audited copies of the required financial statements, together with my / our Director's and Auditor's report, for the current, unaudited financial year, including management statements for each month, for consideration by the Employer.

T2.2.8.1. FINANCIAL INFORMATION

a) Turnover in the last three (3) financial years:

2022 / 2023:

2023 / 2024:

2024 / 2025:

b) Financial Year starts on and ends on

c) Average monthly **income** over the last three financial years:

d) Average monthly **expenses** over the last three financial years:

e) Average monthly **profit** over the last three financial years:

f) Average monthly **cash funds** over the last three financial years:

g) Value of the **largest completed** project in the last three years (excluding VAT):

R.....

h) **Average** value of projects completed in the last five years (excluding VAT):

R.....

i) Highest (combined) total value of debtors at any given period during the last three financial years: R.....

j) Lowest (combined) total value of debtors at any given period during the last three financial years: R.....

k) Debtors at tender closing:

> Current (excl. VAT):

> 30 days (excl. VAT):

> 60 days (excl. VAT):

> 90 days (excl. VAT):

In excess of 120 days :
(excl. VAT)

SIGNATURE ACCOUNTANT:p. 26

SIGNATURE DIRECTOR:

l) Creditors at tender closing:

> Current (excl. VAT):

> 30 days (excl. VAT):

> 60 days (excl. VAT):

> 90 days (excl. VAT):

In excess of 120 days :
(excl. VAT)

m) Management statements for all months in the current financial year included: Yes / No
(delete which is not applicable)

n) Name of accountant :

Qualifications :

Signature :

Date :

SIGNED AT

ON THIS.....DAY OF20.....

ON BEHALF OF

.....

SIGNATURE:

AS WITNESSES:

1.

2.

T2.2 RETURNABLE SCHEDULES

T2.2.9. PROGRAMME

1. Has the site been inspected by the Tenderer? YES / NO
2. Date of inspection
3. Has a thorough method study been made of the proposed execution of the project?
YES / NO
4. Has a preliminary construction programme been prepared of the project and accompanying the tender? YES / NO

ALL PERIOD TO BE CALCULATED FROM DATE OF RECEIVING AN APPOINTMENT LETTER.

5. Period required to commence work: days
6. Period required to establish site: days
7. Period required for material delivery: days
8. Period to first delivery of material: days
9. Period to last delivery of material: days
10. Period required to complete the project: days
(Should be the same as the Letter of Tender AND the project programme)

I / We accept responsibility for late delivery of material and will enter into agreements with our suppliers of material to forward penalties accruing from claims due to late delivery of materials.

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.10. PREVIOUS EXPERIENCE

Particulars of projects of similar nature to that contained in this contract to which the Tenderer is at present committed and / or involved during the last five (5) years to be submitted hereunder.

Table 3: Previous Experience

	PROJECT	PLACE	ENGINEER & TEL NO	CONTRACT AMOUNT	CONTRACT PERIOD	DATE COMPLETED	COMPLETION IN TIME (YES / NO)
1.							
2.							
3.							
4.							
5.							

Is the information provided in compliance with the POPI (Protection of Personal Information) Act?

Yes
No

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.11. ESTIMATED MONTHLY EXPENDITURE (CASH FLOW)

The Tenderer shall, in the table below, state the estimated value of work to be completed every month, based on his preliminary program and his tendered unit rates. Amounts for contingencies and contract price adjustment shall not be included.

Table 4: Cash Flow

MONTH	VALUE
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
SUBTOTAL	R
Plus: 5 % Retention	R
TOTAL	R

Note: Preference will be given to tenderers that can provide bridging financing.

T2.2 RETURNABLE SCHEDULES

T2.2.12. DECLARATION OF LOCAL INVOLVEMENT

I / We the undersigned declare that it is the intent of (*Firm's name in Block Letters*) to stimulate the local economy by providing employment to local residents as summarised below.

I / We are fully aware and understand that this declaration is legally binding, and that a detailed Local Involvement Program and Local Involvement Monthly Return will have to be submitted to the Engineer in accordance with the requirements and provisions stipulated in Clause 2.4 of the Detail Specification, and in the format prescribed by the Engineer.

Table 5: Local Involvement

LOCAL INVOLVEMENT	PART OR TYPE OF WORK	MONETARY VALUE (R)
Local Labour Content		R
Local Sub-Contractors		R
Material Purchased from Local Suppliers		R
Other (Specify)		R
TOTAL (Excl. VAT)		R

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.13. MATERIAL INFORMATION

Where a certain manufacturer's material or apparatus are mentioned in the drawings or specifications, such materials or apparatus shall be provided as specified, excepting where an alternative to this condition is allowed in the specifications. Where a detailed specification for material or apparatus is not provided, it shall be understood that all normal requirements for the use of such material or equipment shall apply.

Where certain products of a specified manufacturer are unobtainable, substitutes may be offered, but shall only be supplied after written consent has been given by the Employers Representative.

All apparatus, components, fittings, and material supplied and / or installed, whether expressly specified herein or not, shall confirm in respect of quality, manufacture, tests and performance, with the requirements of the South African Bureau of Standards and / or the appropriate current "British Standard Specifications and Addenda thereto", except where otherwise specified or permitted by the Employers Representative in writing.

The Employers Representative may order the elected contractor to supply and / or deliver and / or install any other make or manufacture of article(s) than that / those for which the contractor tendered. The unit total cost of such item(s) taken out, shall then be subtracted from the tender sum of the contractor and the unit total of such other apparatus, component parts, fittings and / or materials, with which these are replaced, if any, shall be added to the tender price.

The price of such items added or omitted shall be calculated by using the current general wholesale prices at which the Electrical Contractor can buy such equipment. The Employers Representative decision for the determination of such prices shall be final.

Installation work which has been started with certain materials and / or equipment shall be completed by using the same manufacture of articles or equipment throughout the whole project, for that specific application, unless specified otherwise.

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

Table 6: Equipment Delivery & Manufacturers

[illegible]

T2.2 RETURNABLE SCHEDULES

T2.2.14. IMPORTED EQUIPMENT

The tenderer shall, in the table below, state the value of equipment to be imported every month, based on his preliminary program and his tendered unit rates. Amounts for contingencies and contract price adjustment shall not be included.

Table 7: Imported Equipment

EQUIPMENT	MONTH	VALUE
	1	R
	2	R
	3	R
	4	R
	5	R
	6	R
	7	R
	8	R
	9	R
	10	R
	11	R
	12	R
	13	R
	14	R
	15	R
	16	R
	17	R
	18	R
	19	R
	20	R
	21	R
	22	R
	23	R
	24	R
	25	R
SUBTOTAL		R
TOTAL		R

T2.2 RETURNABLE SCHEDULES

T2.2.15. COMPOSITION OF TENDERER'S COMPANY

1. GENERAL

State whether the Tenderer is a company, a partnership, a person or a closed corporation.

Company		Partnership		Person		Closed Corporation	
---------	--	-------------	--	--------	--	--------------------	--

2. INFORMATION TO BE PROVIDED

2.1 IF THE TENDERER IS A COMPANY:

- a) Affix a certified copy of the Certificate of Incorporation to this page.
- b) List the Directors and each Director's date of appointment:

Table 8: Directors' appointment dates

DIRECTORS	DATE OF APPOINTMENT
1.	
2.	
3.	
4.	
5.	
6.	

- a) List the Shareholders and percentage of shareholding:

Table 9: Shareholders' percentages

SHAREHOLDERS	PERCENTAGE OF SHARE HOLDING
1.	
2.	
3.	
4.	
5.	
6.	

T2.2 RETURNABLE SCHEDULES

- d) List all companies of which your Company is a shareholder and percentage shares:

Table 10: Company shareholding

COMPANIES	PERCENTAGE SHARES
1.	
2.	
3.	
4.	
5.	
6.	

2.2 IF THE TENDERER IS A PARTNERSHIP:

- a) List the partners and state each partner's share in the partnership:

Table 11: Partnership shares

PARTNER	PARTNER'S SHARE
1.	
2.	
3.	
4.	
5.	
6.	

2.3 IF THE TENDERER IS A PERSON:

- a) Provide the full name and qualifications of the person:

Table 12: Tenderer qualification

FULL NAME OF PERSON	QUALIFICATIONS
1.	
2.	
3.	
4.	
5.	
6.	

T2.2 RETURNABLE SCHEDULES

2.4 IF THE TENDERER IS A CLOSED CORPORATION:

a) State each member's share in the closed corporation:

Table 13: Member shares in Close Corporation

MEMBER	MEMBER'S SHARE
1.	
2.	
3.	
4.	
5.	
6.	

b) It shall be expected from the above members of the closed corporation in Clause 10.2.4.a) hereof to be responsible in their personal capacity for any transaction relating to this project.

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.16. SCHEDULE OF SUBCONTRACTORS:

The Tenderer shall list below any Sub-Contractors he wishes to employ to carry out specialised works.

The acceptance of this tender shall not be construed as being approval of all or any of the listed Sub-Contractors. Should any or all of the Sub-Contractors not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding even in the event of a Sub-Contractor not listed below being approved by the Employer.

Table 14: Complete Schedule of Sub-contractors

Name of Sub-contractor	Proposed Duties	% of Overall Scope	Experience (Years)
1.			
2.			
3.			
4.			
5.			
6.			

TOTAL PERCENTAGE SUB-CONTRACTING:%

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.17. POWER OF ATTORNEY

RESOLUTION PASSED BY THE BOARD OF DIRECTORS OF:

.....

.....

AT ON THE DAY OF 20.....

RESOLVED

THAT

IN THE CAPACITY OF

is hereby authorised and empowered to sign the Tender and Contract Documents on behalf of

the Company for the supply,
delivery, erection and testing of all Works covered in the attached document.

SIGNATURE: 1.

2.

CERTIFIED A TRUE COPY:

T2.2 RETURNABLE SCHEDULES

T2.2.18. CERTIFICATE OF CONVERSANCE WITH THE TENDER DOCUMENTS

I / We, the undersigned hereby certify that I / We am / are fully conversant with the General and Special Conditions of Contract, Conditions of Tender, Specifications, Schedules of Quantities and Drawings.

I / We declare that I / We am / are satisfied with the description of the work and the explanations furnished by the Engineer, and that I / We fully understand the nature and extent of the work required to be executed, as specified and according to the intent of the Contract.

I / We declare that all the equipment offered in my / our tender comply to the Specifications of these Tender Documents and that the relevant Data Sheets have been completed correctly and in full.

I / We have ascertained all factors which may have a bearing on the execution of the works and the costs thereof.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.19. CERTIFICATE OF CONVERSANCE WITH THE PROJECT PHASING

I / We, the undersigned hereby acknowledge that the project will be phased over multiple years as from the date of tender award up to June 2027.

I / We, the undersigned hereby further acknowledge that I / We am / are fully conversant that the funding is not guaranteed, and the construction works will be subject to the availability of funds.

I / We declare that I / We has / have adequately allowed for all costs associated with site de-establishing and site re-establishment over multiple years as from the date of tender award up to June 2027.

I / We declare that I / We am / are fully conversant with the envisaged Scope of Works for phases.

I / We, the undersigned hereby acknowledge that the Scope of Works for phases might be adjusted in excess of 20 % as dictated by the funds allocations and that our unit rates will remain fixed.

SIGNED AT

ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

SIGNATURE

CAPACITY

T2.2 RETURNABLE SCHEDULES

T2.2.20. MINIMUM REQUIREMENTS

1. First round of evaluation

No.	DESCRIPTION	ATTACHED (YES/NO)
1	Tenderer must submit an Eskom Vendor Number, failure to submit the vendor number will result in a tender not being evaluated further.	

2. For the second round of evaluations, the following minimum requirements will be evaluated as envisaged below, to qualify for further evaluations tenderers must meet the minimum requirements as outlined below. If the tenderer fails to comply with a sub-category, the tenderer will result in not being evaluated further.

No.	DESCRIPTION	ATTACHED (YES/NO)
1	Bidders to submit a minimum of three (3) both appointment letters and corresponding completion/practical completion certificates indicating previous experience in the construction of civil works for HV Substation within the last 10 years (2015 to date). <i>Note: High Voltage (HV): 44 kV to 132 kV Medium Voltage (MV): 3.3 kV to 33 kV Low Voltage (LV): ≤ 1000 V Phased completion certificates for one appointment letter will be considered as only one project.</i> <i>Failure to meet the requirements of this criteria, the bidder will not be evaluated further.</i>	
2	Bidders must submit a comprehensive CV of Site Supervisor with minimum of 4 years' experience in construction of HV Substations AND Bidders must attach a minimum of National Diploma NQF Level 6 in Civil Engineering. (Attach CV and copy of qualification) <i>Failure to meet the requirements of this criteria, the bidder will not be evaluated further.</i>	
3	Bidders must submit a comprehensive CV of Contract Manager with minimum of 4 years' experience in project management of construction of HV Substations AND Bidders must attach a valid ECSA registration as Pr Eng or Pr Tech Eng or valid SACPCMP registration certificate as a Pr CPM, Pr CM or PMI-CP. (Attach CV and copy ECSA/SACPCMP/PMI certificate) <i>Failure to meet the requirements of this criteria, the bidder will not be evaluated further.</i>	
4	Bidders must submit a comprehensive CV of SHEQ Officer with minimum of 4 years' experience in safety management. AND Bidders must attach a valid SACPCMP registration certificate as Pr CHSA or CHSO. (Attach CV and copy SACPCMP certificate) <i>Failure to meet the requirements of this criteria, the bidder will not be evaluated further.</i>	

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2.21. CONSENT AND ACKNOWLEDGMENTS IN TERMS OF THE PROTECTION OF PERSONAL INFORMATION ACT 2013 (POPI)

This section sets out how personal information will be collected, used and protected by MLM, as required by the Protection of Personal Information Act. The use of the words “the individual” for the purposes of this document shall be a reference to any individual communicating with MLM and/or concluding any agreement, registration or application, with the inclusion of each of those individuals referred to or included in terms of such agreement, registration or application.

1. What is personal information?

The personal information that MLM requires relate to names and surnames, birth dates, identity numbers, passport numbers, demographic information, education information, occupation information, health information, addresses, memberships, and personal and work email and contact details.

2. What is the purpose of the collection, use and disclosure (the processing) of personal information?

MLM is legally obligated to collect, use and disclose personal information for the purposes of:

- reporting MLM initiatives to the Gauteng Provincial Treasury and Sedibeng District Municipality;
- reporting to National Treasury all contracts awarded;
- obtaining information related to Tax Compliance information from SARS;
- Verifying information on the National Treasury database of defaulters;
- evaluating and processing applications for registration on the database;
- compiling statistics and other reports;
- providing personalised communications;
- complying with the law; and/or
- for a purpose that is ancillary to the above. Personal information will not be processed for a purpose other than what is identified (the purpose) above without obtaining consent beforehand.

3. How will MLM process personal information?

MLM will only collect personal information for the purpose as stated above. Information will be collected in the following manner:

- directly from the individual;
- from service providers who provided with services or goods to MLM;
- from MLM’s own records relating to previous supply of services or goods; and/or
- from a relevant public or equivalent entity.

4. To whom will personal information be disclosed?

The personal information may be disclosed to other relevant public or other entities on whose behalf we act as intermediaries, other third parties referred to above in relation to the purpose or who are sources of personal information, service providers such as professional bodies who operate across the borders of this country (transborder flow of information) where personal information must be sent in order to provide the information and/or services and/or benefits requested or applied for. In the event of another party/ies acquiring all of or a portion of MLM's mandate or functions, personal information will be disclosed to that party but they will equally be obliged as we are, to protect personal information in terms of this policy and the law.

5. Consent and Permission to process personal information:

I hereby agree with the policy and provide authorisation to MLM to process the personal information provided for the purpose stated.

- I understand that withholding of or failure to disclose personal information will result in MLM being unable to perform its functions and/or any services or benefits I may require from MLM.
- Where I shared personal information of individuals other than myself with MLM I hereby provide consent on their behalf to the collection, use and disclosure of their personal information in terms of this personal information policy and I warrant that I am authorised to give this consent on their behalf.
- To this end, I indemnify and hold MLM not responsible in respect of any claims by any other person on whose behalf I have consented, against MLM should they claim that I was not so authorised.
- I understand that in terms of POPI and other laws of the country, there are instances where my express consent is not necessary in order to permit the processing of personal information, which may be related to police investigations, litigation or when personal information is publicly available.
- I will not hold MLM responsible for any improper or unauthorised use of personal information that is beyond its reasonable control.

6. Rights regarding the processing of personal information:

- The individual may withdraw consent to the processing of personal information at any time, and should they wish to do so, must provide MLM with reasonable notice to this effect. Please note that withdrawal of consent is still subject to the terms and conditions of any contract that is in place. Should the withdrawal of consent result in the interference of legal obligations, then such withdrawal will only be effective if MLM agrees to same in writing. MLM specifically draws to the attention that the withdrawal of consent may result in it being unable to provide the requested information and/or services and/or financial or other benefits.
- In order to withdraw consent, please contact the Information Officer at Johannesm@midvaal.gov.za
- A copy of the full MLM policy is available at our offices, situated at Head Office, 25 Mitchell Street, Meyerton, 1961, South Africa.

T2.2 RETURNABLE SCHEDULES

- Individuals are encouraged to ensure that where personal information has changed in any respect to notify MLM so that our records may be updated. MLM will largely rely on the individual to ensure that personal information is correct and accurate.
- The individual have the right to access their personal information that MLM may have in its possession and are entitled to request the identity of which third parties have received and/or processed personal information for the purpose. Please note however, that any request in this regard may be declined if:
 - the information comes under legal privilege in the course of litigation,
 - the disclosure of personal information in the form that it is processed may result in the disclosure of confidential or proprietary information,
 - giving access may cause a third party to refuse to provide similar information to MLM,
 - the information was collected in furtherance of an investigation or legal dispute, instituted or being contemplated,
 - the information as it is disclosed may result in the disclosure of another person's information,
 - the information contains an opinion about another person and that person has not consented, and/or
 - the disclosure is prohibited by law.

7. Requesting access and lodging of complaints:

- Please submit any requests for access to personal information in writing to MLM's information officer at Johannesm@midvaal.gov.za
- With any request for access to personal information, MLM will require the individual to provide personal information in order to verify identification and therefore the right to access the information.
- There may be a reasonable charge for providing copies of the information requested.
- If any request has not been addressed to satisfaction a complaint may be lodged at the office of the Information Regulator.

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.22. MUNICIPAL SERVICES, RATES AND TAXES CLEARANCE CERTIFICATE FOR SUPPLY CHAIN MANAGEMENT PURPOSE

The purpose of this form is to obtain prove that municipal services, rates and taxes of the service provider are not more than three months in arrears with the relevant municipality / landlord in the municipal area where the service provider conduct his / her business.

Where bidders are not owners of a property and cannot submit a copy of the municipal account, the following must be completed together with a duly signed lease agreement:

(TO BE COMPLETED BY THE LANDLORD)		
Name of the Landlord:		
Property Physical Address:		
Please tick below	Yes	No
Rental: in arrears for more than 3 months		
Municipal services: in arrears for more than 3 months		
Landlord Signature:		
Date: _____		
Landlord's business stamp here (where applicable)		

**MUNICIPAL SERVICES, RATES AND TAXES CLEARANCE CERTIFICATE, OR
LEASE AGREEMENT MUST BE ATTACHED BEHIND THIS PAGE.**

T2.2 RETURNABLE SCHEDULES

T2.2.23. MIDVAAL LOCAL MUNICIPALITY INDEMNITY

1. The Contractor hereby agrees to indemnify, hold harmless and defend Midvaal Local Municipality and their officers, employees, agents and representatives, from and against the following liabilities arising as a result of the execution of the work:
 - 1.1 Any liability with regard to claims by governmental authorities or others for non-compliance by Contractor of any Act of Parliament, law, ordinance, regulation or by-law made by a lawful authority provided that such compliance therewith was required for the execution of the Contract or at Law.
 - 1.2 Any liability arising from actual or alleged public or private nuisance arising out of negligent acts or omissions to act of Contractor or its Subcontractors, or of their employees.
 - 1.3 Any liability arising from loss or damage to Contractor and/or Subcontractor's equipment and their other property on site.
 - 1.4 Any liability arising from claims with regard to the death of/or injury or sickness or disease to Contractor's employees or the death of/or injury or sickness or disease to third parties.
 - 1.5 Any liability arising from any loss of/or damage to property belonging to a third party.
 - 1.6 Any liability arising from actual or asserted infringement or improper appropriation or use of patents, copyrights, proprietary information or know-how in respect of the work designed by/or under the responsibility of the Contractor.
 - 1.7 Any liability arising from the death or injury or loss or damage to property of third parties or Midvaal Local Municipality's property as a result of the negligent acts or omissions of contractors or its subcontractor's employees.
 - 1.8 Contractor shall indemnify Midvaal Local Municipality against all claims, proceedings, damages and costs of whatsoever nature arising out of contravention of environmental legislation.

I, the undersigned (duly authorised to sign) hereby declare that I have read and understood the abovementioned and agree to all the above.

BIDDER'S AUTHORISED SIGNATORY:

.....
Full Names and Surname

.....
Signature

T2.2 RETURNABLE SCHEDULES

T2.2.24. CERTIFICATE OF UNDERTAKING

I, the undersigned, in submitting the accompanying bid:

BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

response to the invitation for the bid made by:

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

I certify, on behalf of:

_____ that:

(Name of Bidder)

1. I will ensure that all plant and equipment indicated in the table below will be made available by myself (the bidder) upon award of contract for the entire duration of the contract as and when required for the purpose of executing the works. In the event of not owning the plant and / or equipment I will lease the required plant and equipment for use on an as and when required basis.

Description
1x 8t crane truck
2x LDV

2. It is my (the bidder) responsibility to ensure that all plant and equipment available will be in good working condition and will not be older than 15 years (2010).

SIGNATURE

DATE

POSITION

NAME OF BIDDER

T2.2 RETURNABLE SCHEDULES

T2.2.25. PERFORMANCE MANAGEMENT SYSTEM

The Municipal Finance Management Act (No. 56 of 2003) Section 116 (2) (d) determines that a Municipality must enter into a Performance Management System (PMS) with all service providers.

CONTRACT	BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028	
BIDDER		
TERM OF CONTRACT	From date of award to June 2028	TENDER NUMBER:
PERIOD OF ASSESSMENT		RESPONSIBLE OFFICIALS: Director: PMU

KEY PERFORMANCE AREA	KEY PERFORMANCE INDICATOR	RESPONSIBLE PERSON & TARGET DATE	OUTCOME OF PERFORMANCE ASSESSMENT	RECTIFICATION MEASURES TO BE IMPLEMENTED IN THE CASE OF REPORTED DEVIATIONS	AGREED RECTIFICATION MEASURES TO COMPLY
KEY DELIVERABLES AS PER TENDER SPECIFICATIONS					
General Conditions	Comply and adhere to the General Conditions of contract: 1. Contractual Obligations 2. Scope of Work & Specifications 3. Quality Material 4. Adhere to Programme of Works Adhere to Cashflow Projections	Contractor / Consultant	Complaint / Non-Compliant		
Monthly Meetings	Attending Monthly performance meetings	Contractor / Consultant Monthly	Complaint / Non-Compliant		

T2.2 RETURNABLE SCHEDULES

KEY PERFORMANCE AREA	KEY PERFORMANCE INDICATOR	RESPONSIBLE PERSON & TARGET DATE	OUTCOME OF PERFORMANCE ASSESSMENT	RECTIFICATION MEASURES TO BE IMPLEMENTED IN THE CASE OF REPORTED DEVIATIONS	AGREED RECTIFICATION MEASURES TO COMPLY
KEY DELIVERABLES AS PER TENDER SPECIFICATIONS					
Reports	Weekly and Monthly reports according to contract deliverables	Contractor / Consultant Monthly	Complaint / Non-Compliant		
Claims/Invoices	Submit Monthly invoice with correct claim and on time	Contractor / Consultant Monthly	Complaint / Non-Compliant		
Quality Assurance	Compliance to Quality Assurance provisions	Contractor / Consultant	Complaint / Non-Compliant		
Occupational Health and Safety	Compliance to Occupational Health and Safety Act provisions	Monthly	Complaint / Non-Compliant		
Timelines	Were the items delivered within the required timelines as indicated in the RFQ?	Contractor / Consultant Monthly	Complaint / Non-Compliant		
Progress/delivered Items, Quality, compliance	Are the delivered items in line with the specifications as indicated in the Bid Document? In accordance to – SANS, ISO, Colto etc.	Contractor / Consultant Monthly	Complaint / Non-Compliant		
Local Labour	Comply with local unskilled labour and submission of monthly EPWP Reports	Contractor / Consultant Monthly	Complaint / Non-Compliant		

Accepted and agreed upon:

ON BEHALF OF **CONTRACTOR**

ON BEHALF OF **CONSULTANT**

ON BEHALF OF **MIDVAAL**

DATE

DATE

DATE



MIDVAAL LOCAL MUNICIPALITY

P O Box 9
MEYERTON
1960

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION
OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING
STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND
WHEN REQUIRED BASIS FROM DATE OF AWARD TO
30 JUNE 2028**

**SECTION 3:
C1 – CONDITIONS OF CONTRACT**

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C1.1 – FORM OF OFFER AND ACCEPTANCE

C1.1 FORM OF OFFER AND ACCEPTANCE

C1. CONDITIONS OF CONTRACT

C1.1. FORM OF OFFER AND ACCEPTANCE

C1.1.1. LETTER OF TENDER (MBD 3.1)

Tenderers are required to fill up all the blank spaces in this Tender Form and Appendices.

MIDVAAL LOCAL MUNICIPALITY

P O Box 9
MEYERTON
1960

BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

We have examined the Conditions of Contract, Specifications, Drawings, Bill of Quantities, Schedules, the attached Appendix and Addenda for the execution of the above-named Works. We offer to execute and complete the Works and remedy any defects therein in conformity with this Tender which includes all these documents, for the sum of:

TOTAL TENDER AMOUNT (VAT is included)
(Carried over from summary of Bill of Quantities)

TIME FOR COMPLETION

R weeks

TENDER AMOUNT IN WORDS.....

.....

We accept your suggestions for the appointment of the Dispute Avoidance and Adjudication Board, as set out in the Schedule.

We agree to abide by this Tender for a period of **ninety (90)** days from the date of submission and it shall remain binding upon us and may be accepted at any time before that date. We acknowledge that the Appendix forms part of this Letter of Tender. We further agree to carry all costs incurred by the Employer in the securing of a suitable alternative Tender, if we should withdraw this Tender before the expiry of the tender validity period, which may include the difference between my/our tender price and the tender price of the next suitable tender.

We undertake, if our tender is accepted, to commence with the Works on receipt of your order and to complete and deliver the Works comprised in the Contract in accordance with the programme set out in the Conditions of Contract, or as mutually agreed between ourselves, the Engineer and the Employer, before acceptance of tender.

We undertake to provide all necessary information, descriptive material, operational procedures, drawings, special circuits where necessary, attend all meetings as required to permit the Engineer to prepare further documents for the Works and to administer the contract to its completion. We further undertake to provide the above data when required by the Employer and the Engineer to ensure that

C1.1 FORM OF OFFER AND ACCEPTANCE

the proposed programme is adhered to. If this offer is accepted, we will provide the specified Performance Security from an accredited FSCA Institution, to be jointly and severally bound in a sum of ten percent (10 %) as per the financial year funding allocation or as otherwise indicated by Midvaal Local Municipality for the due performance of the Contract, to commence the Works as soon as is reasonably practicable after the Commencement Date, and to complete the Works in accordance with the above-named documents within the Time for Completion.

Unless and until a formal Agreement is prepared and executed this Letter of Tender, together with your written acceptance thereof, shall constitute a binding contract between us.

We confirm that we have satisfied ourselves as to the correctness and validity of our bid; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the bidding documents; that the price(s) and rate(s) cover all our obligations and we accept that any mistakes regarding price(s) and rate(s) and calculations will be at our own risk.

We understand that you are not bound to accept the lowest or any tender you may receive and that the tender may be accepted as a whole or partially and that certain items, which may not be required, may be omitted from the Bill of Quantities.

Signature..... in the capacity of

Duly authorised to sign tenders for and on behalf of

.....

Address:

.....

Date :

C1.1 FORM OF OFFER AND ACCEPTANCE

C1.1.2. FORM OF AGREEMENT

This Agreement made the day of 20.....

between

MIDVAAL LOCAL MUNICIPALITY

herein represented by

.....
(here after called "the Employer") of the one part and

(COMPANY)

herein represented by

(NAME)
(here after called "the Contractor") of the other part

WHEREAS the Employer is desirous that certain Works, hereafter called the Contract Works,
should be provided, and executed, by the Contractor

viz.

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS FOR
A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY
ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028**

and has appointed **C de Beer Pr Tech Eng** of the firm **LYON AND PARTNERS (PTY) LTD** as the
Engineer for the purposes thereof (here after called the "Engineer") and has accepted a Tender by the
Contractor for the provision, execution, and maintenance of such Works under the direction and to the
reasonable satisfaction of the Engineer in the sum of

.....

.....

.....

(Here after called "the Contract Sum")

C1.1 FORM OF OFFER AND ACCEPTANCE

THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract here after referred to.
2. The Conditions of Contract applicable to this agreement is the FIDIC Conditions of Contract for Building and Engineering Works designed by the Employer, Second Edition 2017.
3. The following documents shall be deemed to form and be read and construed as part of this Agreement viz:
 - a) The Letter of Acceptance dated
 - b) The Letter of Tender dated
 - c) The Conditions of Contract – Part 1: General Conditions of Contract
 - d) The Conditions of Contract – Part 2: Contract Data
 - e) The Specifications / Scope of Work
 - f) The Drawings, and
 - g) The Completed Schedules
1. The Contractor hereby undertakes to execute and complete the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
2. The Employer hereby covenants to pay the Contractor in consideration of the provision, execution and completion of the Works and the remedying of defects therein the Contract sum, or such other sum as may become payable under the provisions of the Contract at the time and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed the day and year first before written in accordance with their respective laws.

SIGNATURE:

SIGNATURE:

SIGNED BY:

*for and on behalf of the **EMPLOYER**
in the presence of*

SIGNED BY:

*for and on behalf of the **CONTRACTOR**
in the presence of*

Witness (*sign*):.....

Witness (*sign*):.....

Name :

Name:

Address:

Address:

Date:

Date:

C1.1 FORM OF OFFER AND ACCEPTANCE

C1.1.3. PRO-FORMA LETTER OF ACCEPTANCE

Our ref.: Bid Number: 8/2/2/453

(Date)

P O Box

.....

.....

For the attention of: Mr

Sir,

BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF AWARD TO 30 JUNE 2028

1. I have pleasure in informing you that *the Employer* have decided to accept your tender, dated *day-month-year* for the above contract.
2. Your contract amount can be composed as follows:

Nett amount of tender	R
<i>Min/Plus: Correction of calculation errors (Refer to item)</i>	R
Nett amended tender amount	R
Plus: Amount allowed for contingencies	R
Plus: Amount allowed for escalation	R
SUBTOTAL	R
Plus: VAT	R
TOTAL ACCEPTED CONTRACT AMOUNT	R

3. Your attention is drawn to the fact that the above PROVISIONAL AMOUNTS for escalation in costs and for contingencies shall only be spent at the discretion of the Engineer and will fall away in part or in whole if not required. We also emphasize that prior to any variation, official approval must be given.
4. The date of commencement of the contract is *day-month-year*, on which day you were informed that your tender was accepted. Furthermore, in terms of the months completion period, the completion date of the entire works will be *day-month-year (after allowing for 3 weeks builders holiday)*.

C1.1 FORM OF OFFER AND ACCEPTANCE

5. The site will be handed over to you on *day-month-year* at It is requested that your authorized representative attend this meeting for the signing of the document.
6. The Conditions of Contract applicable for administering the project shall be the FIDIC “Red Book” 2017 (ISBN 978-2-88432-084-9), with the General Conditions of Contract (Part 1) and Contract Data (Part 2) as included in the tender documentation.
7. You must furnish us with the following documents or information within the time periods given:
 - 7.1. The Performance Security, correctly completed in duplicate, by a Bank, Insurance, or other FICA approved / NCR institution, in the amount set out in the Appendix to Tender, which must remain valid until the date of issue of the Performance Certificate with Final Completion of the project. The provision in respect of the surety amount, as contained in the Contract Data is 10% of the available funding for the financial year or the contract amount indicated on the Purchase Order i.e. R....., which can be reduced by 50% with issuing of the Taking Over Certificate. The Contractor shall produce a draft Performance Security within 14 days of the commencement date and the Final Performance Security within 28 days of the commencement date.
8. Proof that you have provided, as prescribed by Clause 19 of the Conditions of Contract, adequate insurance in the joint names of the Employer and Contractor as summarised below:
 - 8.1. Insurance cover against loss or damage for the replacement value plus 15% of the works (Contract sum plus 15 % = R.....) valid until the date of the Taking-Over Certificate plus 28 days – Sub-clause 19.2.1.
 - 8.2. Insurance cover to the full replacement value of the Goods and other things brought to site by the Contractor, valid until they are no longer required for the Works – Sub-clause 19.2.2.
 - 8.3. Insurance cover against liability for breach of professional duty for any designs by the Contractor for the permanent Works – Sub-clause 19.2.3.
 - 8.4. Insurance against liability for claims, damages, losses, and expenses resulting in injury, sickness, disease, or death of any person employed by the Contractor or any of the Contractor’s other personnel – Sub-clause 19.2.4 and 19.2.5.
 - 8.5. In accordance with South African practice, third party liability insurance against any claims, damages, losses, and expenses during the execution of the Works – Sub-clause 19.2.6.
9. You are hereby informed that no payments will be made to you before the completed Performance Security has been returned to us.
10. We confirm that the Employer will not accept any responsibility or liability for making good on any claims or losses resulting from your failure to adequately insure as required in par 8 and 9 above.
11. The following general conditions are applicable to this contract:
 - 11.1. The defects liability period or period of maintenance of the Works, as described in Clause 11 of the Conditions of Contract is twelve months from the issuing of the Taking-Over Certificate

C1.1 FORM OF OFFER AND ACCEPTANCE

for the Works, and another twelve months for the Goods taken from the issuing of the Performance Security.

- 11.2. The liquidated damages payable in respect of late completion of the Works as described in Clause 8.8 of the Conditions of Contract, is R..... per working day, to a maximum of R.....
12. In terms of the Occupational Health and Safety Act, 85/1993, it is required that you appoint a Safety Officer who must sign the “Written Agreement on Occupational Health and Safety” as well as Safety on Construction Site forms, taking full responsibility of the work carried out on site. He must also compile and submit a Health and Safety Plan and Risk Assessment forming part of the Safety, Health, Environmental and Quality (SHEQ) file. The SHEQ file must contain all appointments of the workforce, duly signed by your company MD or delegated person, and complete list of equipment required to execute the project scope with valid roadworthiness and calibration certificates. No work will be permitted on site until approval of the Health & Safety part of the SHEQ file by the Employer or his Safety Representative.
13. Your attention is finally drawn to the fact that our firm, being the Employer's Consulting Engineers, will administer this project. Consequently, any negotiations that may become necessary during the execution of the work regarding rates, additions, omissions, escalation in costs, etc. will only be carried on with our firm.
14. We respectfully point out that time is of the essence in the completion of this contract. You are earnestly requested to take every effort to ensure the timeous completion of the work or, if in any way possible, to improve thereon.
15. As stated in the Tender Form, this Letter of Acceptance will form part of the FORM OF AGREEMENT between the *Employer* and *Contractor*.
16. We trust that you will carry out the work with earnestness and to the best of your ability. You are assured of our complete co-operation in all aspects of this contract.

Sincerely,

MIDVAAL LOCAL MUNICIPALITY

MUNICIPAL MANAGER

**C1.2 – PART 1: GENERAL CONDITIONS OF
CONTRACT**

C1.2. GENERAL CONDITIONS OF CONTRACT (PART 1)

**CONDITIONS OF CONTRACT IN ACCORDANCE WITH THE FIDIC CONDITIONS OF
CONTRACT FOR CONSTRUCTION FOR BUILDING AND ENGINEERING WORKS
DESIGNED BY THE EMPLOYER**

FIDIC ® SECOND EDITION 2017

The Conditions of Contract comprises of two parts of which Part 1 is the General Conditions of Contract and Part 2 the Particular Conditions of Contract. Furthermore, the Particular Conditions comprise of the Particular Conditions Part A – Contract Data and the Particular Conditions Part B – Special Provisions.

Under the usual arrangement of this Contract, the Contractor is responsible for the construction, in accordance with the design of the Employer, of building and/or engineering Works. These Conditions allow that the Contractor may be required to design a proportion or element of the Permanent Works.

GENERAL CONDITIONS OF CONTRACT: PART 1

The Conditions of Contract comprise of:

“GENERAL CONDITIONS”

Which form part of the:

**“CONDITIONS OF CONTRACT FOR CONSTRUCTION FOR BUILDING AND
ENGINEERING WORKS DESIGNED BY THE EMPLOYER”**

[Second Edition 2017, as published by the Fédération Internationale des Ingénieurs-Conseils (FIDIC)(ISBN 978-2-88432-084-9)]

(Copy obtainable at cost from CESA)

SIGNATURE:

SIGNED BY:

DATE:
(for and on behalf of the Contractor)

PARTICULAR CONDITIONS OF CONTRACT: PART 2

The Conditions of Contract further comprise of the following “Particular Conditions of Contract” (PCC), the General Conditions of Contract shall be amended by the Particular Conditions of Contract as detailed herein.

These “Particular Conditions of Contract” forms an integral part of the Contract, and they supersede conditions contained elsewhere in the documents.

The Particular Conditions of Contract comprise of two sub-parts viz:

PART 2 A: CONTRACT DATA

PART 2 B: SPECIAL PROVISIONS

C1.3 – PART 2A: CONTRACT DATA

C1.3. GENERAL CONDITIONS OF CONTRACT (PART 2A)**PART 2A: PARTICULAR CONDITIONS – CONTRACT DATA**

The following Contract Data lays down specific information required by certain Sub-Clauses in the General Condition of Contract. Tenderers shall not amend the Contract data as provided unless instruction is given to populate data i.e., “*Tenderer to complete*”.

SUB- CLAUSE	DATA TO BE GIVEN	DATA
1.1.19	Where the Contract allows for Cost Plus Profit, percentage profit to be added to the Cost:	5 %
1.1.27	Defects Notification Period (DNP)	365 days <i>(From the date of issuing the Taking-Over Certificate)</i>
1.1.31	Employer’s name and address	MIDVAAL LOCAL MUNICIPALITY 25 Mitchell Street Meyerton 1961
1.1.35	Engineer’s name and address	LYON AND PARTNERS (PTY) LTD. Gravitas Building 2, First Floor 17 Vaal Drive, Sylviavale Vanderbijlpark 1911
1.1.85	Time for Completion <i>(Tenderer to Complete)</i>	 <i>(period to correspond with the letter of tender and programme submitted with the tender)</i>
1.3(a)(ii)	Agreed methods of electronic transmission	e-mail
1.3(d)	Address of Employer for communications	MIDVAAL LOCAL MUNICIPALITY 25 Mitchell Street Meyerton 1961
1.3(d)	Address of Engineer for communications	LYON AND PARTNERS (PTY) LTD. Gravitas Building 2, First Floor 17 Vaal Drive, Sylviavale Vanderbijlpark 1911
1.3(d)	Address of Contractor for communications <i>(Tenderer to Complete)</i>	
1.4	Contract shall be governed by the law of:	The contract shall be governed, construed, and interpreted in accordance with the Laws of the Republic of South Africa.
1.4	Ruling language	English
1.4	Language for communications	English

C1.3 - PART 2A: CONTRACT DATA

SUB- CLAUSE	DATA TO BE GIVEN	DATA
1.8	Number of document copies to the Contractor Number of <u>additional</u> paper copies of Contractor's Documents Documents to be kept on site by the Contractor	One paper original to the Employer. At least one copy of: a. the Contract; b. Contractor's records as per Sub-Clause 6.10 [<i>Contractor's Records</i>] and Sub-Clause 20.2.3 [<i>Contemporary Records</i>]; c. publications named in the Specification / Scope of Works, such as Eskom's standards and D-DT drawings; d. the Contractor's documents, such as ordering and delivering schedules; e. the Drawings; f. all Variations, Indices, Instructions, Minutes and other communication given under the Contract; g. the Project Programme; h. Wayleaves and Approvals; and i. Safety, Health, Environmental and Quality documents.
2.1	After receiving the Letter of Acceptance, the Contractor shall be given right of access to all or part of the Site within	14 days, the Contractor shall receive a Site Handover Certificate.
2.4	Employer's financial arrangements	Phase over multiple financial years.
2.5	Site data and items of reference	Included under "C4 – Site Information"
2.6	List of Employer-Supplied Material and / or Employer's Equipment	Not Applicable
4.1	Contractor's general obligations	Sub-Clause 4.1 (a) to (h) applies – The Contract requires the Contractor to provide detail designs, according to specifications, for all equipment, whether the detail design is executed by the Contractor or an OEM. The Contractor is responsible for any deficiencies in manufacturing designs or drawings.
4.2	Performance Security (as percentages of the Accepted Contract Amount in Currencies): - Percent - Currency	10 % - reduced to 5% following the issuing of the Taking-Over Certificate ZAR
4.3	Name of the Contractor's Representative during performance of the Contract (<i>Tenderer to Complete</i>)	
4.6	Co-operation	The Contractor shall provide training for the operation and maintenance of the Works to the Employer's personnel.
4.7.2	Period for notification by the Contractor of errors in the items of reference	28 days
4.8	Time for submission of the Health and Safety Manual	Within 21 days of the commencement date

C1.3 - PART 2A: CONTRACT DATA

SUB- CLAUSE	DATA TO BE GIVEN	DATA
4.9	Time for submission of the Quality Management System documents	Within 28 days of the commencement date
4.16	Transport of Goods notice	The Contractor shall give no less than 21 days' notice to the Engineer before the delivery date of any Goods to site
4.19	Period of payment by the Contractor for temporary utilities	Monthly <i>(the Contractor is to provide for all utilities required, i.e. water, electricity, toilets, wireless communication, etc.)</i>
5.1(a)	Maximum allowable accumulated value of work subcontracted (as a percentage of the Accepted Contract Amount)	30 %
5.1(b)	Parts of the Works for which subcontracting is not permitted	- Erection of primary plant equipment - Installation of control cabling into the control room - Stringing of overhead conductor
6.5	Normal working hours on the Site	- Monday to Friday from 07:00 to 17:00 - Saturday from 07h00 to 13h00 - No Sundays - No public holidays (Note: work outside normal working hours required for power outages)
6.6	Facilities to be provided for Staff and Labour	Contractor to provide for accommodation and welfare facilities for the Contractor's personnel.
6.12	List of the Contractor's key personnel	Project / Contracts Manager: Health and Safety Officer: ORHVS Qualified Site Supervisor: Civil Engineer: Company Accountant:
7.2	Period for the Contractor to submit samples to the Engineer	Within 28 days of the commencement date
7.3	Period for notification by the Contractor to the Engineer whenever any Plant, Materials or Work is ready for inspection	14 days
7.4	Period for notification by the Contractor to the Engineer whenever any Plant, Materials or Work is ready for testing	14 days
7.7	Payment shall be certified as a percentage of the material rate for material delivered to site.	80 % Payment shall only be certified for equipment delivered to site. (80% to be considered for materials off-site, subject to prior approval).

C1.3 - PART 2A: CONTRACT DATA

SUB- CLAUSE	DATA TO BE GIVEN	DATA
8.1	Commencement Date	Date of the Letter of Acceptance, as stated in the Letter of Acceptance, or 14 days from the date of the Letter of Acceptance. The Engineer shall give at least 14 days' notice to the Contractor stating the commencement date. The commencement date shall be no more than 42 days after the Contractor receives the Letter of Acceptance. The Contractor shall commence the execution of the Works on, or as soon as is reasonably practicable, after the commencement date and shall then proceed with the Works with due expedition and without delay.
8.3	Period for submission of the Programme by the Contractor to the Engineer	Within 28 days of the commencement date
8.8	Delay Damages payable for each day of delay	0.5 % of the Contract amount per calendar day.
8.8	Maximum amount of Delay Damages	10 % of final contract sum.
9.1	Completion test rectification Period by Contractor to Engineer	Test programme no less than 42 days before commencing with completion tests and 21 days' notice before starting completion tests
11.1	Defects Notification Period	For the Works, 365 days from the issuing of the Taking-Over Certificate for the Works, and for the Goods another 365 days after the issuing of the Performance Certificate.
11.11	Period for clearance of the site	Within 28 days of issuing the Performance Certificate
12.2	Method of measurement	Net actual quantities measured in accordance with the Bill of Quantities
12.3	Percentage profit	As stated under 1.1.19 above
13.4(b)(ii)	Percentage rate to be applied to Provisional Sums for overhead charges and profit	0 % if the Employer enters into a direct payment agreement with a subcontractor or nominated subcontractor, otherwise 5 %.

C1.3 - PART 2A: CONTRACT DATA

SUB- CLAUSE

DATA TO BE GIVEN

DATA

13.7

Adjustments for Changes in Cost:

Contract Price Adjustment (CPA) will not be applicable to this contract as whole but will be partially apply to items allowed in the CPA Items Table. The contract prices are fixed and firm for the first year of the contract. The Contractor must therefore allow for escalation in cost in his unit prices. Provision will however only be made for escalation on only the long lead items listed in the table below.

Table 1: CPA Items

EQUIPMENT	FOREIGN CURRENCY	COUNTRY OF ORIGIN
Labour (after 12 months)		
Steelwork (after 12 months)		

The above list of material and/or equipment will be subject to the formulae and conditions contained in the special provisions of the particular conditions of contract.

14.2

Total amount of Advance Payment (as a percentage of Accepted Contract Amount)

Not applicable

14.2

Currency or currencies of Advance Payment

Not applicable

14.2.3

Percentage deductions for the repayment of the advance Payment

Not applicable

14.3

Period of payment

Monthly
The procedure for payment to be addresses with the project kick-off.

14.3

Application for Interim Payment

The Contractor shall submit a Statement and Progress report to the Engineer on the 15th of each month.

14.3(iii)

Percentage of retention

Retention shall be withheld for payments due by the Employer to the Contractor:

- 10% of each Statement value certified for interim payment, until 5% of the Contract value is accumulated as retention, for the duration of the executions of the works;
- 50% of the 5% accumulated retention amount is released on issuing of the Taking-Over Certificate;
- The remaining 50% of the 5% previously accumulated retention is released on issue of the Final Completion Certificate (Performance Certificate as per sub-clause 11.9);

14.3(iii)

Limit of Retention Money (as a percentage of Accepted Contract Amount)

As stipulated in 14.3 (iii) of the Contract Data.

14.5(b)(i)

Plant and Materials for payment when shipped

Not applicable

14.5(c)(i)

Plant and Materials for payment when delivered to the site

Not applicable

C1.3 - PART 2A: CONTRACT DATA

SUB- CLAUSE	DATA TO BE GIVEN	DATA
14.6.2	Minimum amount of Interim Payment Certificate (IPC)	R 200 000.00
14.7(a)	Period for payment of Advance Payment to the Contractor	Not applicable
14.7(b)(i)	Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.13 (<i>Interim Payment</i>)	As per the General Conditions: 30 days after the Director: Electrical approves the Contractor's invoice
14.7(b)(ii)	Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.13 (<i>Final Interim Payment</i>)	As per the General Conditions: 30 days after the Director: Electrical approves the Contractor's invoice
14.7(c)	Period for the Employer to make final payment to the Contractor (<i>Final Payment</i>)	As per the General Conditions: 30 days after the Director: Electrical approves the Contractor's invoice
14.8	Financing charges for delayed payment (percentage points above the average bank short-term lending rate as referred to under sub-paragraph (a))	As per the General Conditions: Reserve Bank Repo Rate
14.13	Period within which the Engineer shall issue the Employer with a Final Payment Certificate (FPC) under Sub-Clause 14.13 (<i>Final Payment</i>)	As per the General Conditions: 28 days after the Engineer receives the Final Statement.
14.15	Currencies for payment of Contract Price	ZAR
14.15(a)(i)	Proportions or amounts of Local and Foreign Currencies are: - Local (<i>Contractor to complete</i>) - Foreign (<i>Contractor to complete</i>)	
14.15(c)	Currencies and proportions for payment of Delay Damages	ZAR

C1.3 - PART 2A: CONTRACT DATA

SUB- CLAUSE

DATA TO BE GIVEN

DATA

14.15(f)

Rates of exchange

This clause is not applicable to fixed rate contracts
The Rates of Exchange in Foreign Currency (at date of tender submission) for the purpose of this contract:

- i. 1 US Dollar: R
- ii. 1 Euro: R
- iii. 1 British Pound: R
- iv. 1 Chinese RMB (Yuan): R
- v. 1 Japanese Yen: R

The Tenderer must allow for changes in the Rate of Exchange in his unit prices. Provision will however be made for Rate of Exchange changes on only long lead items listed in the table below. Rate of exchange will apply to imported material to cater for upward and downward fluctuations in cost.

Table 2: RoE equipment table

EQUIPMENT	FOREIGN CURRENCY	COUNTRY OF ORIGIN

Note - The country of manufacturing origin's exchange rate shall be used i.e., a USD – ZAR exchange rate will not be accepted for equipment not manufactured in the USA.

17.2(d)

Forces of nature, the risks of which are allocated to the Contractor

Abnormal weather.
Refer to the Annexure to PCC - Rainfall

19.1

Permitted deductible limits:

- Insurance required for the Works and Goods
- Insurance required for liability for breach of professional duty
- Insurance required against liability for fitness for purpose (if any is required)
- Insurance required for injury to persons and damage to property
- Insurance required for injury to employees
- Other insurances required by Laws and by Local Practice

R 20 000.00

R 20 000.00

R 20 000.00

R 20 000.00

R 20 000.00

.....
.....

19.2(1)(b)

Additional amount to be insured in the joint name of the Contractor and the Employer

As per the General Conditions: 15%

C1.3 - PART 2A: CONTRACT DATA

SUB- CLAUSE	DATA TO BE GIVEN	DATA
19.2(1)(iv)	List of Exceptional Risks which shall not be excluded from the insurance cover for the Works	Force majeure, community unrest, riot, political
19.2.2	Extent of insurance required for Goods	Full replacement value plus delivery to site
19.2.3(a)	Amount of insurance required for liability for breach of professional duty	R 5 000 000.00
19.2.3(b)	Insurance required against liability for fitness for purpose	Yes
19.2.3	Period of insurance required for liability for breach of professional duty	From the commencement date to the date of the Performance Certificate
19.2.4	Amount of insurance required for injury to persons and damage to property	Minimum amount of R 5 000 000,00 insurance for third party liability per event.
19.2.6	Other insurances required by Laws and by local practice (<i>Tenderer to complete</i>)	
21.1	Time for appointment of DAAB	28 Days after dispute is declared
21.1	The DAAB shall comprise	One (1) Member
21.1	List of proposed members of DAAB	
	- Proposed by Employer	1.
	- Proposed by Contractor	1.
21.2	Appointing entity (official) for DAAB members	The President of FIDIC or a person appointed by the President

I,, on behalf of the Company,
, hereby
 acknowledge and accept the Conditions of Contract as set out in the table above.

SIGNATURE:

SIGNED BY:
 (for and on behalf of the Contractor)

DATE:

C1.4 – PART 2B: SPECIAL PROVISIONS

C1.4. PARTICULAR CONDITIONS (PART 2 B) – SPECIAL PROVISIONS

The Conditions of Contract further comprise of the following Special Provisions as part of the Particular Conditions of Contract, the General Conditions of Contract shall be amended by the Special Provisions as detailed herein.

These Special Provisions forms an integral part of the Particular Conditions of Contract and the Contract and supersedes overrides any other provisions contained elsewhere in the documents.

The following clauses of the “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer” Second Edition 2017, published by the Fédération Internationale des Ingénieurs-Conseils (FIDIC) (ISBN 978-2-88432-084-9) shall be amended as follows:

CLAUSE DESCRIPTION	CLAUSE NO	AMENDMENT
1. <u>GENERAL PROVISIONS</u>		
DEFINITIONS	1.1.31	“Employer” also means the Company, Subsidiary or Succession in Title or stated in the Contract Data.
	1.1.35	“Engineer” means an Engineer duly authorised by the Company, Subsidiary or Succession in Title stated in the Contract Data.
	1.1.7	Add to this sub-clause: The Commencement Date shall be defined under Sub-Clause 8.1 and shall be notified in the Contract Data or the Letter of Acceptance. Access to the site shall be granted on the Commencement Date.
LIMITATION OF LIABILITY	1.15	Notwithstanding the provisions of this Clause, the Contractors Limit of Liability in terms of defects shall be 5 years.
2. <u>THE EMPLOYER</u>		
EMPLOYER’S FINANCIAL ARRANGEMENTS	2.4	The Employer shall only be obliged to provide reasonable evidence that financial arrangements have been made and are being made, if there is a dispute arising from non-payment of a certificate or of any amounts payable to the Contractor or if the Employer intends to make material changes notwithstanding the provisions of this sub-clause. In all other cases, the Employer shall not be bound to provide the requested information.
EMPLOYER-SUPPLIED MATERIALS AND EMPLOYER’S EQUIPMENT	2.6	Add to this sub-clause: After this visual inspection, the Employer-Supplied / free-issue materials shall come under the care, custody, and control of the Contractor at which point, except where otherwise stated in the Contract, all risk in such free-issue materials shall also pass to the Contractor and shall remain with the Contractor unless and until the said free-issue materials are returned to the custody and control of the Employer.
3. <u>THE ENGINEER</u>		
ENGINEER’S DUTIES AND AUTHORITY	3.2	Add to this sub-clause: The Engineer shall require approval from the Employer on any matter, which affects extension of time or variation to the

C1.4 - PART 2B: SPECIAL PROVISIONS

CLAUSE DESCRIPTION	CLAUSE NO	AMENDMENT
		Contract Price. Variations of the project scope that is covered by contingency amounts requires the Engineers and Employers approval. If the Contractor receives any instructions from the Engineer that fall outside of these conditions, he shall obtain written confirmation from the Employer before proceeding.
DELEGATION BY THE ENGINEER	3.4	Add to the end of this sub-clause: No oral representation shall be made by the Contractor to the Engineer through the Engineers Representative. The authority to delegate expressly excludes the delegation of powers to vary the Works in terms of Sub-Clause 13.1 [Right to Vary].
ENGINEERS INSTRUCTIONS	3.5	Add to this sub-clause: No oral instructions may be accepted from the Engineer unless these are recorded in writing by the Contractor who then obtains confirmation from the Engineer by means of a signature or confirmation in minutes within 7 days of the instruction being issued, or prior to commencing work on the item in question.
REPLACEMENT OF THE ENGINEER	3.6	Add to this sub-clause: In the unforeseen situation where the Engineer or Engineers representative is not available to complete the Works, the Employer will advise the Contractor immediately upon knowledge of such an event and will give notice to the Contractor within 7 days of the details of the proposed replacement.
4. <u>THE CONTRACTOR</u>		
PERFORMANCE SECURITY	4.2	Add to this sub-clause: With the Employers consent, the Engineer will hold the original Performance Security for safekeeping. The following stipulations shall be included in the performance security: (i) A statement that the performance security may be called on by means of written instruction by the Engineer; (ii) The person's name, contact details and address to which the Engineer's instruction to call on the performance security must be addressed; (iii) A statement confirming the period from the date of the Engineer's instruction to call on the performance security, until the security amount is paid to the Employer (period to be less than 56 days); (iv) Cancellation of the performance security shall be subject to approval by the Engineer; and (v) Specific inclusion of the 12-month defect notification period. The following is added at the end of this Sub-Clause: Should the Contractor fail to provide the said security within the specified time the Employer, in his sole discretion, may either: - (a) Withhold payment from the Contractor until the amount withheld is equal the Performance Security Amount stipulated in the Contract Data (as percentages of the

C1.4 - PART 2B: SPECIAL PROVISIONS

CLAUSE DESCRIPTION	CLAUSE NO	AMENDMENT
		Accepted Contract Amount) over and above the normal retention, or (b) Proceed to issue notice in terms of Clause 15 [Termination by Employer] and recover costs from the Contractor.
CONTRACTORS REPRESENTATIVE	4.3	Add to this sub-clause: “Without derogating from the generality of the foregoing, the Contractor’s Representative shall, at the Contractor’s cost, implement forthwith any additional safety precautions which the Engineer may consider necessary for the proper protection of the Contractor’s employees engaged in the Works. Work to which such additional precautions will apply shall be suspended pending the implementation of such precautions.
QUALITY ASSURANCE	4.9	Add to this sub-clause under 4.9.3 General provisions: Testing frequency of all materials shall be in accordance with the relevant clause of the Specifications or as specified on the construction drawings. The Engineer will have the right to visit the manufacturing location for the purpose of audit, surveillance, or inspection during the manufacturing of the Materials/Plant to verify the Contractor’s quality management. In the event of the Material/Plant being rejected due to non-compliance with the specification, workmanship and/or other valid reasons, then the cost of rectification as well as the Engineer’s time-based cost and re-inspection cost shall be for the account of the Contractor.
SUFFICIENCY OF THE ACCEPTED CONTRACT AMOUNT	4.11	The following is added at the end of this Sub-Clause: Without derogating from the generality of the foregoing, no claim by the Contractor for additional payment will be entertained which is consequent upon any misunderstanding or the allegation, or fact that it was supplied with incorrect information by any person, or its failure to obtain correct information as to any matter affecting its accepted tender or the execution of the Works to be provided, nor will any such misunderstanding, or the obtaining of incorrect information, or the failure to obtain correct information, relieve it from any risk or responsibility for the due fulfilment of its obligations in terms of the Contract.
PROGRESS REPORTS	4.20	Add to this sub-clause: Progress reports shall include updating of drawings issued by the Engineer to as-built drawings as the work progresses.
WAIVER OF CONTRACTOR’S LIEN	4.24	The following additional Sub-Clause 4.24 is added to the end of Clause 4: The Contractor waives, in favour of the Employer, any lien or right of retention that is or may be held in respect of the Works

C1.4 - PART 2B: SPECIAL PROVISIONS

CLAUSE DESCRIPTION	CLAUSE NO	AMENDMENT
		to be executed on the Site. The Contractor shall ensure that it procures similar waivers from its subcontractors.
5. <u>SUBCONTRACTING</u>		
NOMINATED SUBCONTRACTORS	5.2	The following additional Sub-Clause 5.2.5 is added to the end of Clause 5.2: <u>5.2.5 Direct Payment with nominated sub-contractors</u> The Employer may enter into a direct payment agreement with a nominated sub-contractor. The Contractors profit shall not be paid to the Contractor if: i) The Contractor does not pay the subcontractor's invoice after receiving payment for work certified by the Engineer. ii) The Employer and nominated sub-contractor enter into a direct payment agreement and the Contractor performs no managerial function related to the works by the nominated sub-contractor.
6. <u>STAFF AND LABOUR</u>		
WORKING HOURS	6.5	Add to this sub-clause: As stipulated in sub-clause 6.5 (c) execution of work on any day including holidays at any time will be required, without additional remuneration to the Contractor, for power outages and other unavoidable circumstances.
HEALTH AND SAFETY	6.7	Add to this sub-clause: A Health and Safety plan shall be furnished by the Contractor within 14 days after Letter of Acceptance.
CONTRACTOR'S PERSONNEL	6.9	In addition to the items listed under headings (a) to (f), The Engineer may require the Contractor to remove any person who is in contravention of the provisions of the: • Environmental Management Plan • Client Safety Specification • The provisions of any statutory Act, i.e., OHS. Within seven (7) working days of signature of Letter Acceptance, the Contractor is required to furnish the Employer with a safety plan, risk assessment report and safe work procedures. Prior to commencement of site activities, the entire workforce to be located on site may be required to attend a Health and Safety Induction at the premises of the Employer. The Contractor shall ensure that all requirements set aside by the Occupational Health and Safety Act, and Construction Regulation are fulfilled.

C1.4 - PART 2B: SPECIAL PROVISIONS

CLAUSE DESCRIPTION	CLAUSE NO	AMENDMENT
7. <u>PLANT, MATERIALS AND WORKMANSHIP</u>		
MANNER OF EXECUTION	7.1	Add the following to Clause (d): All work shall be completed in accordance with the Specifications and drawings to be read in conjunction with all appropriate SANS or SABS, NRS, IEC, BC, IEEE and ANSI codes or guidelines prepared by authorities representing specialised industries.
OWNERSHIP OF PLANT AND MATERIALS	7.7	Add to this sub-clause: Before making any payment for Plant and Materials defined in this Clause, the Contractor is to provide the Employer with a Cession of ownership in a format to be agreed 14 days prior to the payment certificate. Payment thereof will be limited to materials stored where the following conditions are met: • Materials have not been prematurely delivered. • Materials are stored and protected adequately on site or an approved location. • Proof of payment for such materials is made available by the Contractor. After payment of the rate stipulated in the Contract Data, the ownership of material shall be ceded to the Employer.
8. <u>COMMENCEMENT, DELAYS AND SUSPENSION</u>		
COMMENCEMENT OF THE WORKS	8.1	Further to the provisions of this Clause, notwithstanding the agreed date for the commencement of the works, none of the activities related to project execution may begin until such time as the required proofs is received in respect of: • Insurances • Performance Guarantees • Approved SHEQ file The notice by the Engineer of the Commencement Date is recorded in the Contract Data. Access to the site shall be granted on the Commencement Date.
PROGRAMME	8.3	The first paragraph of this Clause is amended to read 14 days in place of 28 days. Add to this sub-clause: The programme shall provide for a minimum of two weeks “slack” in order to cater for unforeseen delays.

C1.4 - PART 2B: SPECIAL PROVISIONS

CLAUSE DESCRIPTION	CLAUSE NO	AMENDMENT
		The programme shall be submitted in the form of a Microsoft Projects Gantt Chart (version 2007 or newer)
EXTENSION OF TIME FOR COMPLETION	8.5	Add to this sub-clause: No extension of time for completion will be granted on account of normal inclement weather, but extension of time shall be determined for abnormal rainfall or wet conditions separately for each calendar month or part thereof in accordance with the Annexure to the Conditions of Contract applicable to Rainfall. The Contractor shall not be entitled to an extension of the Time for Completion to the extent that completion would, in the circumstances, in any event have been delayed by a cause not listed in sub-clause 8.5.
DELAY DAMAGES (PENALTIES)	8.8	Add to this sub-clause: Penalties shall be applied against Contractor according to Detailed Program submitted as per sub-clause 8.3
9. <u>TESTS ON COMPLETION</u>		
CONTRACTOR'S OBLIGATIONS	9.1	Add to this sub-clause: The Contractor shall provide a complete set of As-Built drawings and documentation to the Engineer in an approved format together with all the test results as called for in the various sections of the Specifications, Schedules, and Drawings.
10. <u>EMPLOYER'S TAKING OVER</u>		
TAKING OVER OF THE WORKS AND SECTIONS	10.1	Notwithstanding the various provisions of this Clause, if the Employer is a private entity, it is the Contractors responsibility to ensure that all works are completed, inspected, and approved to the satisfaction of the relevant authority.
11. <u>DEFECTS AFTER TAKING OVER</u>		
12. <u>MEASUREMENT AND VALUATION</u>		
EVALUATION	12.3	This Sub-Clause is amended as follows: • The percentage in sub-paragraph (b)(i) is amended to 20% • The percentage in sub-paragraph (b)(ii) is amended to 1.0% • The percentage in sub-paragraph (b)(iii) is amended to 5.0% Add to this sub-clause: The provisions for measurement are as per the Bill of Quantities and payment shall be made according to the progress on site and for material delivered to site before 7 days prior to the Contractor's Application for Interim Payment.

C1.4 - PART 2B: SPECIAL PROVISIONS

CLAUSE DESCRIPTION	CLAUSE NO	AMENDMENT
		The percentage payment of the material rate for material delivered to site is indicated in the Particular Conditions of Contract sub-clause 7.7.
13. <u>VARIATIONS AND ADJUSTMENTS</u>		
RIGHT TO VARY	13.1	Add to this sub-clause: The Employer reserves the right, in terms of the Clause, to request the Contractor to undertake Variations to the Contract outside the boundaries of the site but within the property boundary of land owned by the Employer.
VARIATIONS	13.3	Add to this sub-clause: Check All variations to the contract shall be priced in accordance with the rates agreed in the Contract Agreement for items where rates are available for work of similar nature.
ADJUSTMENTS FOR CHANGES IN COST	13.7	CPA will only be applicable for labour and material in Year 2 and Year 3, and the following conditions shall apply: (a) No CPA claims will be accepted which are submitted later than 60 days from the date of the Payment Certification of the applicable equipment. (b) CPA claims submitted on the basis of one or more provisional indices, shall be treated as final claims. (c) CPA claims shall have a fixed portion of the Contract Unit Rate Price which shall not be subject to Price adjustment, if the fixed portion is not specifically detailed the fixed portion value shall default to 15% of the applicable rate. This percentage shall be applied to the cost adjustment of each item. (d) No CPA shall apply to early or advance payments certified. The following SEIFSA price adjustment will be applicable to these items for fluctuations in cost of labour and material (excluding cables).

C1.4 - PART 2B: SPECIAL PROVISIONS

(i) FLUCTUATIONS IN COST FOR LABOUR

If the project is phased fluctuation in cost of all labour for subsequent phases shall be calculated in accordance with the following formula:

$$P = P_o \times [x + a1 \left(\frac{Lt1}{Lo1} \right) + a2 \left(\frac{Lt2}{Lo2} \right)]$$

Where,

P = Contract price after adjustment.

P_o = Contract price after at tender stage.

x = 15 % Fixed Portion.

a1 = 75 % Table C-3: Actual Labour Cost (All Hourly Paid Employees).

Lo1 = SEIFSA Index of Actual Labour Cost (All Hourly Paid Employees) for the month of July 2025.

Lt1 = SEIFSA Index of Actual Labour Cost (All Hourly Paid Employees) for the month in which the work was performed.

a2 = 10 % Table D-3: CPI (Consumer Price Index).

Lo2 = Statistics SA Consumer Price Index for the month of July 2025.

Lt2 = Statistics SA Consumer Price Index for the month in which the work was performed.

(ii) FLUCTUATIONS IN COST FOR STEEL

If the project is phased fluctuation in cost of all material for subsequent phases shall be calculated in accordance with the following formula:

$$P = P_o \times [x + a1 \left(\frac{Lt1}{Lo1} \right) + a2 \left(\frac{Lt2}{Lo2} \right) + b1 \left(\frac{Mt1}{Mo1} \right) + b2 \left(\frac{Mt2}{Mo2} \right)]$$

Where,

P = Contract price after adjustment.

P_o = Contract price after at tender stage.

x = 10 % Fixed Portion.

a1 = 35 % Table C-3: Actual Labour Cost (All Hourly Paid Employees).

Lo1 = SEIFSA Index of Actual Labour Cost (All Hourly Paid Employees) for the month of July 2025.

Lt1 = SEIFSA Index of Actual Labour Cost (All Hourly Paid Employees) for the month in which the work was performed.

a2 = 10 % Table D-3: CPI (Consumer Price Index).

Lo2 = Statistics SA Consumer Price Index for the month of July 2025.

Lt2 = Statistics SA Consumer Price Index for the month in which the work was performed.

b1 = 40 % Table E-A: Domestic Producers Price Steel Index: (Hot Rolled).

Mo1 = SEIFSA Index of Domestic Producers Price Steel (Hot Rolled) for the month of July 2025.

Mt1 = SEIFSA Index of Domestic Producers Price Steel (Hot Rolled) ruling for month prior to month during which work was performed.

b2 = 5 % Table F: Zinc.

Mo1 = SEIFSA Index of Metal Price (Zinc) for the month of July 2025.

Mt2 = SEIFSA Index of Metal Price (Zinc) ruling for month prior to month during which work was performed

C1.4 - PART 2B: SPECIAL PROVISIONS

Clause Description	Clause No	Amendment
14. <u>CONTRACT PRICE AND PAYMENT</u>		
ADVANCE PAYMENT	14.2.1 – 14.2.3	This advance payment sub-clause shall not apply to this contract. However, should the Employer agree, an upfront payment can be negotiated, whereby the Contractor will be required to issue the Employer with a guarantee for the exact amount of the upfront payment. The costs involved to obtain this guarantee will be for the Contractor's account.
APPLICATION FOR INTERIM PAYMENT CERTIFICATES	14.3	A single copy of the Contractor Statement in an electronic format will be deemed adequate. An original, hard copy, invoice shall be raised by the Contractor upon Certification of the Contractors Claim by the Engineer. This Sub-Clause is amended as follows: - Delete the words "end of the period" in the first paragraph and replace with "7 days prior to the 25th day of each month." Add the following at the end of this Sub-Clause: - In the event that the Contractor fails to submit a Statement on time, any late submission will only be evaluated in the next month.
SCHEDULE OF PAYMENTS	14.4	The content of this Clause is not applicable. The Contractor shall submit together with the Programme an estimated Cash Flow based on tasks in the Programme.
CURRENCIES OF PAYMENT (Rate of Exchange)	14.15 (f)	If the Contract Data under the Particular Conditions of Contract makes allowance for Rate of Exchange Adjustment for long lead items, these conditions shall apply: (a) No RoE claims will be accepted which are submitted later than 60 days from the date of the Payment Certification of the applicable equipment. (b) RoE claims submitted on the basis of one or more provisional indices, shall be treated as final claims. (c) No RoE shall apply to early or advance payments certified. (e) The country of manufacturing origin's exchange rate shall be used i.e., a USD – ZAR exchange rate will not be accepted for equipment not manufactured in the USA. (f) No Cost Adjustment will be applicable to this contract as <u>whole</u>. The Tenderer must therefore allow for changes in the Rate of Exchange in his unit prices. However, provision will be made for Rate of Exchange adjustments only on long lead items listed in the Contract Data. Rate of exchange will only apply to imported material, to cater for upward and downward fluctuations in cost.
ISSUE OF INTERIM PAYMENT CERTIFICATES	14.6	The content of sub-clause 14.6.1 is amended as follows: The Engineer will issue the Interim Payment Certificate within 7 - 28 days after the receipt of the Statement and supporting documentation
15. <u>TERMINATION BY EMPLOYER</u>		
16. <u>SUSPENSION AND TERMINATION BY CONTRACTOR</u>		
17. <u>CARE OF THE WORKS AND INDEMNITIES</u>		
18. <u>EXCEPTIONAL EVENTS</u>		
EXCEPTIONAL EVENTS	18.1	Add this sub-clause: It is explicitly noted that no claims by the Contractor will be entertained for work stoppages due to riot, commotion, disorder, any blockade, or embargo, strikes or lock outs by local labourers which are in the employ of the Contractor. If the Contractor has not reasonable provided against foreseeable community unrest stoppages by including a community desk, any claims by

C1.4 - PART 2B: SPECIAL PROVISIONS

the Contractor shall not be entertained for stoppages caused by persons other than the Contractor's personnel.

Note: for an event to be classified as an "exceptional event", the requirements of all four sub-paragraphs (i) to (iv) of clause 18.1 must be satisfied.

19. INSURANCE

20. EMPLOYER'S AND CONTRACTOR'S CLAIMS

21. DISPUTES AND ARBITRATION

CONSTITUTION OF THE DAAB	21.1	The DAAB shall be adhoc in the event where dispute(s) arise between parties
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22. ADDITIONAL GENERAL PROVISIONS

These conditions are adopted from Clause 5 of the FIDIC Conditions of Contract for EPC/Turnkey Projects. (First Edition 1999)

PERIOD OF VALIDITY OF TENDER	22.1	Add this sub-clause:
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The period of the tender validity shall be 90 days, with extension by mutual agreement between the Employer, Engineer, and the Contractor

TAX INVOICES	22.2	Add this sub-clause:
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The Contractor shall issue an invoice to the Employer for all amounts to be paid to the Contractor under the Contract. If VAT is payable on any amount certified by the Engineer for payment under the Contract, the Contractor shall ensure that the invoice complies with the requirements of a Tax Invoice under the Value Added Tax Act no. 89 of 1991 (as amended). No payment shall be made by the Employer on invoices not meeting this requirement and the Employer shall not be liable for interest for such non-payment.

EMPLOYER'S RIGHT TO STEP-IN	22.3	Add this sub-clause:
------------------------------------	------	----------------------

If the Contractor fails to carry out any obligation under the Contract and fails to make good the failure and remedy it despite being required to do so by the Engineer by notice under Sub-Clause 15.1 [Notice to Correct] (within the specified reasonable time), the Employer, without prejudice to its other rights, powers and remedies under the Contract or in law, shall be entitled to make good the failure and remedy it either himself or via other persons, and the reasonable costs of doing so shall be for the account of the Contractor.

The Contractor shall co-operate with the Employer and facilitate and permit the use of all required Goods, information, materials and other matter (including Contractor's Documents and all other drawings, CAD files, technical data, models, plans, designs, diagrams, evaluations, details, specifications, schedules, reports, calculation results, manuals or other documents or recorded information (electronic or otherwise) which have been or are at any time prepared by or on behalf of the Contractor under the Contract or otherwise for and/or in connection with the Works) and shall generally do all things required by the Engineer to achieve this end.

LIMITATION OF ENTITLEMENT WHERE CONTRACTOR IS CULPABLE	22.4	Add this sub-clause:
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Notwithstanding anything to the contrary, the Contractor shall not be entitled to any extension of time or additional payment or other compensation if and to the extent:

- (a) The cause, event or circumstance giving rise thereto is attributable to the negligence, error or default of the Contractor or any Subcontractor.
- (b) The Contractor fails to take all reasonable steps to mitigate the effects of the cause, event or circumstance giving rise thereto.

RECORD AND DATA KEEPING	22.5	Add this sub-clause:
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The Contractor shall maintain all data, records, electronic communications and documentation relating to this Contract and keep full and proper records and

C1.4 - PART 2B: SPECIAL PROVISIONS

accounts in connection with the Works (whether contained in documents or in electronic format), during the execution of the Works and for a period of 5 (five) years after the latest of the expiry dates of the Defects Notification Periods (or the earlier termination of the Contract for any reason whatsoever, as the case may be) and shall ensure that all Subcontractors do likewise.

The Employer's Personnel and the Employer's other authorised representatives and agents shall be entitled to examine, audit, copy and inspect all such books, records, systems, processes, procedures, and documents at all reasonable times during the execution of the Works and during the said 5 (five) year period in order to verify compliance by the Contractor with its obligations, and/or to assess any entitlement or claimed entitlement of the Contractor under the Contract.

The Contractor shall provide access to all such books, records, systems, data, and documents of the Contractor and to any premises and personnel of the Contractor for this purpose and shall co-operate and render all assistance requested by the Employer's Personnel and the Employer's other authorised representatives and agents.

All data, communications, records, and accounts are to be kept in a lockable storeroom and adequately protects against loss which includes, but is not limited to, fire, theft, vermin, etc.

DAMAGES FOR THE LATE SUPPLY OF DOCUMENTATION

22.6

Add this sub-clause:

If the Contractor fails to provide any of the documents listed by the dates specified in the Contract, the Contractor shall pay damages to the Employer for this default. **These damages shall be the same amount stated in the Contract Data under sub-clause 8.8 for delay damages, which shall be paid for each day which shall elapse between the time the document in question was to have been delivered and when it was actually delivered.** These damages shall not relieve the Contractor from his obligations to provide the said document, or to complete the Works, or from any other duties, obligations, or responsibilities which he may have under the Contract.

RETESTING & RE-INSPECTION

22.7

If the works or any Section fails to pass any Progress Tests, Completion Tests, Progress Inspections, Completion or Take Over Inspection, the Engineer may require such Tests and Inspections to be repeated on the same terms and conditions. All costs to which the Employer may be put due to repetition of the Tests under this sub-clause shall be deducted from the Contract price.

The Contractor shall be liable to pay R 20 000.00 penalty to the Engineer for scheduled inspections or tests failed, per failure, for time wasted.

C1.4 - PART 2B: SPECIAL PROVISIONS

GENERAL DESIGN OBLIGATIONS

23.1

The Contractor shall be deemed to have scrutinised, prior to the Base Date (28 days before the Tender Closing Date), the Engineer's Requirements (including design criteria and calculations, if any). The Contractor shall be responsible for the design of parts of the Works and for the accuracy of such Engineer's Requirements (including design criteria and calculations), except as stated below

The Engineer shall not be responsible for any error, inaccuracy, or omission of any kind in the Engineer's Requirements as originally included in the Contract and shall not be deemed to have given any representation of accuracy or completeness of any data or information, except as stated below. Any data or information received by the Contractor, from the Engineer, Engineer or otherwise shall not relieve the Contractor from his responsibility for the design and execution of the Works.

However, the Engineer shall be responsible for the correctness of the following portions of the Engineer's Requirements and of the following data and information provided by (or on behalf of) the Engineer.

- a) Portions, data, and information which are stated in the Contract as being immutable or the responsibility of the Engineer,
- b) Definitions of intended purposes of the Works or any parts thereof,
- c) Criteria for the testing and performance of the completed Works, and
- d) Portions, data, and information which cannot be verified by the Contractor, except as otherwise stated in the Contract.

CONTRACTOR'S DOCUMENTS

23.2

The Contractor's Documents shall comprise the technical documents specified in the Engineer's Requirements, documents required to satisfy all regulatory approvals, and the as-built documents requirements, and operation and maintenance manual requirements. Unless otherwise stated in the Engineer's Requirement, the Contractor's Documents shall be written in the language for communications defined in Sub-Clause 1.4 (Law and Language).

The Contractor shall prepare all Contractor's Documents and shall also prepare any other documents necessary to instruct the Contractor's Personnel.

Each review period shall not exceed 21 days, calculated from the date on which the Engineer receives a Contractor's Document. The Contractor's Documents shall state the level of compliance with the Contract, or the extent to which it does not comply.

The Engineer may, within the review period, give notice to the Contractor that a Contractor's Document fails (to the extent stated) to comply with the Contract. If a Contractor's Document so fails to comply, it shall be rectified, resubmitted, and reviewed in accordance with the Sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the Parties otherwise agree:

- a) Execution of such part of the Works shall not commence prior to the expiry of the review periods for all the Contractor's Documents which are relevant to its design and execution.
- b) Execution of such part of the Works shall be in accordance with these Contractor's Documents, as submitted for review; and
- c) If the Contractor wishes to modify any design or document which has previously been submitted for review, the Contractor shall immediately give notice to the Engineer. Thereafter, the Contractor shall submit revised documents to the Engineer in accordance with the above procedure.

Any such agreement (under the preceding paragraph) or any review (under this Sub-Clause or otherwise) shall not relieve the Contractor from any obligation or responsibility.

C1.4 - PART 2B: SPECIAL PROVISIONS

CONTRACTOR'S UNDERTAKING	23.3	The Contractor undertakes that the design, the Contractor's Documents, the execution, and the completed Works will be in accordance with: a) The Laws in the Country, and b) The documents forming the Contract, as altered, or modified by Variations.
TECHNICAL STANDARDS AND REGULATIONS	23.4	The design, the Contractor's Documents, the execution, and the completed Works shall comply with the Country's technical standards, building, construction and environmental Laws, Laws applicable to the product being produced from the Works, and other standards specified in the Engineer's Requirements, applicable to the Works, or defined by the applicable Laws. All these Laws shall, in respect of the Works and each Section, be those prevailing when the Works or Section are taken over by the Engineer under Clause 10 (Engineer's Taking Over). References in the Contract to published standards shall be understood to be references to the edition applicable on the Base Date, unless stated otherwise. If changed or new applicable standards come into force in the Country after the Base Date, the Contractor shall give notice to the Engineer and (if appropriate) submit proposals for compliance. In the event that: a) The Engineer determines that compliance is required, and b) The proposals for compliance constitute a variation, then the Engineer shall initiate a Variation in accordance with Clause 13 (Variations and Adjustments).
TRAINING	23.5	The Contractor shall carry out the training of Engineer's Personnel in the operation and maintenance of the Works. If the Contract specifies training which is to be carried out before taking-over, under Sub-Clause 10.1 (Taking Over of the Works and Sections) until this training has been completed.
AS-BUILT DOCUMENTS	23.6	The Contractor shall prepare, and keep up to date, a complete set of "as-built" records of the execution of the Works, showing the exact as-built locations, sizes and details of the work as executed. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-Clause. Two copies shall be supplied to the Engineer prior to the commencement of the Tests on Completion. In addition, the Contractor shall supply to the Engineer as-built drawings of the Works, showing all Works as executed, and submit them to the Engineer for review under Sub-Clause 5.2 (Contractor's Documents). The Contractor shall obtain the consent of the Engineer as to their size, the referencing system, and other relevant details. Prior to the issue of any Taking-Over Certificate, the Contractor shall supply to the Engineer the specified numbers and types of copies of the relevant as-built drawings. In accordance with the Engineer's Requirements. The Works shall not be completed for the purposes of taking-over under Sub-Clause 10.1 (Taking Over of the Works and Sections) until the Engineer has received these documents.
OPERATION AND MAINTENANCE MANUALS	23.7	Prior to commencement of the Tests on Completion, the Contractor shall supply to the Engineer provisional operation and maintenance manuals in sufficient detail for the Engineer to operate, maintain, dismantle, reassemble, adjust, and repair the Plant. The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 (Taking Over of the Works and Sections) until the Engineer has received final operation and maintenance manuals in such detail, and any other manuals specified in the Engineer's Requirements for these purposed.

C1.4 - PART 2B: SPECIAL PROVISIONS

DESIGN ERROR

23.8

If errors, omissions, ambiguities, inconsistencies, inadequacies, or other defects are found in the Contractor's Document, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under the Clause.

Note: The Contractor is advised to extend the liability for penalties to equipment manufacturers in order to cover the Contractor's liability if the project is delayed due to delayed manufacturing.

C1.4.1. ANNEXURE TO PCC – RAINFALL

No extension of the completion time will be granted in respect of normal rainfall. Extension will only be granted in respect of abnormal rainfall or abnormally wet conditions in accordance with the formula set out hereunder:

In the event of an extension being granted in accordance with the formula, no additional payment will be granted in respect of the "time related" items scheduled in Section 6:

Preliminary and General of the Schedule of Quantities nor for any other costs incurred.

$$V = (N_w - N_n) \frac{R_w}{R_n}, \text{ if } N_w > N_n \text{ and where}$$

V = Extension of time in calendar days in respect of any particular month

N_w = Actual number of days during the corresponding month during which precipitation exceeds 10 mm

N_n = Average number of days during the corresponding month during which precipitation exceeded 10 mm

R_w = Actual rainfall during the corresponding calendar month

R_n = Average rainfall recorded during the corresponding calendar month

Calculations will be done for each month. Calculations for part of a month are carried out using pro rata figures for N_n and R_n . If R_w / R_n is greater than 2,5, its value shall be taken as 2,5.

If any month N_w is smaller than N_n , no extension of time will be granted for that month.

The following values of N_n and R_n shall be used for this Contract. They are based on figures supplied by the Weather Bureau, for the Meyerton area.

Table 3: Average monthly rainfall

MONTH	AVERAGE NUMBER RAIN DAYS	N_n AVERAGE NUMBER OF DAYS EXCEEDING 10 MM	R_n AVERAGE RAINFALL IN MM
JANUARY	13	4	127,3
FEBRUARY	9	2	72,5
MARCH	9	3	74,6
APRIL	7	2	54,0
MAY	3	0	16,7
JUNE	1	0	9,1
JULY	1	0	8,6
AUGUST	1	0	8,2
SEPTEMBER	3	1	22,7
OCTOBER	9	3	66,5
NOVEMBER	12	3	100,3
DECEMBER	11	3	103,4

AVERAGE PER YEAR: 663,9

C1.4.2. ANNEXURE TO PCC – SCHEDULE OF SUB-CONTRACTORS

The Tenderer shall list below any Sub-Contractors he wishes to employ to carry out part(s) of the work.

The acceptance of this tender shall not be construed as being approval of all or any of the listed Sub-Contractors. Should any or all of the Sub-Contractors not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding even in the event of a Sub-Contractor not listed below being approved by the Employer.

Table 4: Schedule of Sub-contractors

PART OR TYPE OF WORK	PROPOSED SUB-CONTRACTOR	WORK RECENTLY EXECUTED BY SUB-CONTRACTOR

**This table must correspond with Table 2 in Section T2.2 Returnable Schedules*

.....
SIGNED ON BEHALF OF TENDERER

DATE:

C1.5 – FORM OF SECURITIES

C1.5. FORM OF SECURITIES

C1.5.1. EXAMPLE - PERFORMANCE SECURITY/SURETY BOND

Name of Contract / Contract No.:

Name and address of Beneficiary (the “Employer”):

.....

We have been informed that
[*insert name of the Contractor*] (hereinafter called the “Principal”), is your Contractor under such Contract, which requires him / her to obtain a Performance Security.

By this Bond,

.....

[*insert name and address of Contractor*]

(Who is your Contractor under such Contract) as Principal and:

.....

[*insert name and address of Guarantor*] as Guarantor are irrevocably held and firmly bound to the Beneficiary in the total amount of

..... (10%)

.....

[*insert in figures and words the maximum amount payable and the currency in which it is payable*]
(the “Bond Amount”) for the due performance of all such Principal’s obligations and liabilities under the above-named Contract.

[Such Bond Amount shall be reduced by 50 % upon the issue of the Taking-Over Certificate for the whole of the Works under Clause 10 of the Conditions of Contract.]

This Bond shall become effective on the Commencement Date defined in the Contract.

Upon Default by the Principal to perform any contractual obligation, or upon the occurrence of any of the events and circumstances listed in Sub-Clause 15.2.1 of the Conditions of Contract, the Guarantor shall satisfy and discharge the damages sustained by the Beneficiary due to such Default, event, or circumstances [*and shall not be entitled to perform the principal’s obligations under the Contract.*]. However, the total liability of the Guarantor shall not exceed the Bond Amount.

The obligations and liabilities of the Guarantor shall not be discharged by any allowance of time or other indulgence whatsoever by the Beneficiary to the Principal, or by any variation or suspension of the Works to be executed under the Contract, or by any amendments to the Contract or to the

C1.5: FORM OF SECURITIES

constitution of the Principal or the Beneficiary, or by any other matters, whether with or without the knowledge or consent of the Guarantor.

Any claim under this Bond must be received by the Guarantor on or before

.....
[insert the date six months after the expected expiry of the Defects Notification Period for the Works]
(the “Expiry Date”), when this Bond shall expire and shall be returned to the Guarantor.

The benefit of this Bond may be assigned subject to the provisions for assignment of the Contract, and subject to the receipt by the Guarantor of evidence of full compliance with such provisions.

The Bond shall be governed by the law of [insert the law governing the Bond] being the same country (or another jurisdiction) as that which governs the Contract. This Bond incorporates and shall be subject to the Uniform Rules for Contract Bonds, published as number 524 by the International Chamber of Commerce, and words used in this Bond shall bear the meanings set out in such Rules.

Whereas this Bond has been issued by the Principal and the Guarantor on [date]

Signatures for and on behalf of the Principal:

.....
(signature)

.....
(signature)

.....
(name)

.....
(name)

Date:

Signatures for and on behalf of the Guarantor:

.....
(signature)

.....
(signature)

.....
(name)

.....
(name)

Date:

NOTE: Payment shall be executed within 30 days of receiving instruction from the Engineer.

C1.5: FORM OF SECURITIES

Instruction to be addressed to the following person's attention:

Name :

Telephone :

E-mail :

The address for submission of the Engineer's instruction to call upon the bond for payment:

Name :

Telephone :

E-mail :

Address :

C1.5: FORM OF SECURITIES

C1.5.2. EXAMPLE RETENTION GUARANTEE

Guarantee No.: *[insert guarantee reference number]*

The Guarantor:
[insert name and address of place of issue, unless indicated in the letterhead]

Name of Contract / Contract No.:
[insert reference number or other information identifying the contract between the Applicant and the Beneficiary on which the guarantee is based]

The Beneficiary (the “Employer”):
.....
[insert name and address of the Beneficiary]

We have been informed that*[insert name and address of the Contractor]* (hereinafter called the “Applicant”) is your Contractor under such Contract and wishes to receive an early payment of [part of] the retention money, for which the Contract requires him / her to obtain a guarantee?

At the request of the Applicant, we*[insert name of Guarantor]* hereby irrevocably undertake to pay you, the Beneficiary/Employer, any sum or sums not exceeding in total the amount of

.....
.....

[insert in figures and words the maximum amount payable and the currency in which it is payable] (the “Guaranteed Amount”) upon receipt by us of your demand in writing and your written statement that the Applicant has failed to carry out his / her obligation(s) to rectify the following defect(s) for which he / she is responsible under the Contract *[state the nature of the defect(s)]*.

At any time, our liability under this guarantee shall not exceed the total amount of retention money released to the Applicant by you, as evidenced by interim payment certificates issued under Sub-Clause 14.6 of the Conditions of Contract with a copy being submitted to us.

Any demand for payment must contain your signature(s) which must be authenticated by your bankers or by a notary public. The authenticated demand and statement must be received by us at the following office

.....
..... *[insert address of office]*

on or before *[insert the date 70 days after the expected expiry of the Defects Notification Period for the Works]*, (the “Expiry Date”), when this guarantee shall expire.

C1.5: FORM OF SECURITIES

We have been informed that the Beneficiary may require the Applicant to extend this guarantee if the Performance Certificate under the Contract has not been issued by the date 28 days prior to such Expiry Date. We undertake to pay you the Guaranteed Amount upon receipt by us, within such period of 28 days of your demand in writing and your written statement that the Performance Certificate has not been issued, for reasons attributable to the Applicant, and that this guarantee has not been extended.

The party liable for the payment of any charges:

..... *[insert the name of the party]*.

This guarantee shall be governed by the laws of *[insert the law governing the guarantee]* and shall be subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

SIGNED by:

.....
(signature)

.....
(name)

SIGNED by ⁽¹⁾:

.....
(signature)

.....
(name)

Date:

⁽¹⁾ Whether one or more signatories for the bank are required will depend on the bank and / or applicable law.

C1.5: FORM OF SECURITIES

C1.5.3. EXAMPLE SITE HANDOVER CERTIFICATE – BEGINNING OF THE WORKS

PROJECT : [Insert Project Name]

CONTRACT NO : [Insert Project Number]

SCOPE OF WORKS : [Insert Project Description]

The site for the works, as stated above, is herewith handed over by the Employer/Local Authority namely:
to the appointed Contractor for the works, namely,

The Contractor shall become “*the Mandatory*” when the Occupational Health and Safety Agreement is signed, with regards to Section 37(2) of the OHS Act 85 of 1993.

The Contractor shall take full responsibility for all aspects related to the above works and all portions thereof. The Employer/Local Authority shall remain responsible for related aspects and areas not affected by the Scope of Works. All infrastructure established as part of the works shall remain the responsibility of the Contractor until the site/works is handed over to the Employer / Local Authority.

Should the Contractor remove from site due to any contractual obligations not being met by the Employer/Local Authority, the Contractor shall notify the Employer/Local Authority that the Employer/Local Authority shall take over responsibility of the site until the relevant contractual obligations are met by the Employer/Local Authority.

SECTION OF WORK: [Insert Project Scope/Section of Work]

CONTRACTOR'S REPRESENTATIVE : (Full names)

CONTRACTOR'S FIRM : (Company)

EMPLOYER / LOCAL AUTHORITY'S REPRESENTATIVE : (Full Names)

EMPLOYER / LOCAL AUTHORITY'S : (Company)

CONSULTING ENGINEER'S REPRESENTATIVE : (Pr. xx.)

CONSULTING ENGINEER'S FIRM : **LYON AND PARTNERS (PTY) LTD**

DATE : 20

.....
SIGNATURE (LOCAL AUTHORITY/CLIENT)

.....
SIGNATURE (CONTRACTOR)

.....
SIGNATURE (CONSULTING ENGINEER)

.....
WITNESS



MIDVAAL LOCAL MUNICIPALITY

P O Box 9
MEYERTON
1960

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION
OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING
STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND
WHEN REQUIRED BASIS FROM DATE OF AWARD TO
30 JUNE 2028**

**SECTION 4:
C2 – BILL OF QUANTITIES**

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C2.1 – PRICING INSTRUCTION

C2.1 PRICING INSTRUCTION

C2. BILL OF QUANTITIES

C2.1. PRICING INSTRUCTION

C2.1.1. PREAMBLE

1. This Schedule of Quantities forms part of the Contract Documents as listed in the Schedule of Documents and shall be read in conjunction with the General Conditions, the Specifications and the Drawings and must be submitted, duly completed, on the closing date of Tenders.
2. The short description of items in the Bill of Quantities are for identification purposes only, the work covered by the items being fully specified in the relevant clauses in the Specifications. The Tenderer must therefore allow in the unit price for ordering, obtaining, supplying, delivering to site, installation, and commissioning of the relevant equipment with their accessories.
3. Except where Sum Amounts are required or where Provisional Amounts have been indicated, the Tenderer shall enter an applicable rate in the Rate Column of the Schedule of Quantities for each scheduled item. He shall also enter an applicable sum in the Amount Column for each scheduled item. Should the Schedule not be completed in the manner herein specified, the tender may either be rejected, or the Contractor will not be paid for items against which rates or sum amounts, as applicable, have not been entered. In the event of the latter procedure items not paid for will be regarded as covered by other rates entered in the Schedule of Quantities.
4. Tenderers must complete the Schedule of Quantities and fill in the unit rates for material and labour as well as total amount for each item. The unit rate is for a single item only. Errors of the arithmetic calculation to calculate the total amount, as entered in the Schedule may be corrected by the Employer but rates will be binding.

An example of the calculations are as follows:

ITEM	DESCRIPTION	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1	Supply and install a 9 m wood pole	No	100	R20,00	R100,00	R12 000,00
2	Excavate pole hole	m ³	100	R50,00	R0,00	R5 000,00
3	Supply and install 10 mm ² , 3-core cable	m	50	R5,00	R20,00	R1 250,00
4	Head office overhead cost	Sum	1	-	-	R15 000,00
TOTAL CARRIED FORWARD TO SUMMARY						R33 250,00

5. Tenderers are advised to check their items extensions and total additions as too many arithmetical errors occurring in the priced Schedule of Quantities will disqualify the Tenderer. Under no circumstances shall the Tenderer be permitted to change the specified quantities in the QTY column which will result in rejecting the tender or changing the quantity to the initial value and correcting the arithmetic's. If the Tenderer disagree with the quantity, he must do so by means of an accompanied letter with full description and reference to the particular item.
6. The quantities reflected in the Schedule of Quantities are approximate only and do not necessarily represent the actual amount of work to be done. Allowance for off-cuts and scrap shall be allowed for in the unit rates. The Contract Price for the completed Contract shall be computed from the actual quantities of authorised work done to the satisfaction of the Engineer valued at the prices

C2.1 PRICING INSTRUCTION

tendered against the respective items in the Bill of Quantities and shall include such authorised provisional amounts and items of extra work as have become payable in terms of the Contract Documents. Extra material shall not be paid for and shall be removed from site.

7. The Contractor shall submit equipment technical data sheets and measured quantities for approval prior to placing any equipment orders. This information shall be submitted by the Contractor to the Engineering within 14 days of being appointed.
8. Unit prices quoted in the Schedule of Quantities must include for such small installation materials as are required for the complete installation in accordance with the Specifications.
9. Payment based on the rates tendered in the Schedule shall cover all the services and incidentals included in the works covered by the Contract and shall be made in accordance with the General Conditions, the Specifications and the Agreement pertaining to the Contract.
10. Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Documents, all costs shall be deemed to have been provided for and included in the unit rates and sum amounts tendered for the items scheduled in the Schedule of Quantities and separate additional payment will not be made.
11. Writing in the Schedule must be done in black to facilitate clear photocopying.
12. The Contractor shall keep record of all material delivered to site and shall submit such record to the Engineer at every site inspection. Material not installed shall be kept in the site yard or store and the material shall be kept readily available for inspection.
13. Application for payment, accompanied by supporting documentation, shall be submitted to the Engineer on a predetermined date which date shall be a suitable date in each month, agreed upon by all parties concerned with the payment. Claims for additional work in a particular month, for which no written instruction has not yet been issued, if applicable, must also accompany the monthly application for payment. Late claims will not be considered.
- 14. All unit rates and sum amounts shall exclude Value Added Tax, as applicable from 1 October 1991 and in accordance with the ruling rate as laid down by the Government, and all prices shall be quoted in South African currency.**
15. The Contractor's attention is drawn to the fact that the allowance for PROVISIONAL AMOUNTS/SUMS for escalation in costs and allowance for contingencies shall only be spent at the discretion of the Engineer and will fall away in part or in whole if not required. It is emphasized that prior to any variation, official approval must be granted.
16. Bidders must keep a copy of the completed excel spreadsheet BOQ which may be required during the evaluation processes. Failure to comply with the above-mentioned terms and conditions will deem your bid disqualified.

SIGNATURE:

SIGNED BY:

DATE:

C2.2 – BILL OF QUANTITIES

C2.2. BILL OF QUANTITIES

BILL OF QUANTITIES**SAVANNA CITY 88kV SWITCHING STATION - ESKOM****LIST A: PRELIMINARY AND GENERAL**

Note: No tender will be considered if the provided bill of quantities is not fully completed. The quantities provided are estimated figures and are subject to change. Ensure all rates are priced. Contractor to confirm quantities and submit an ordering schedule to the Engineer before any equipment orders are placed.

ITEM	DESCRIPTION	REF.	UNIT	QTY	RATE	TOTAL
1.	PRELIMINARIES AND GENERAL					
	Amount allowed for all expenses, regarding the following:					
1.1	CONTRACTUAL REQUIREMENTS - FIXED AMOUNT	SANS 1200A				
1.1.1	Nett price for the fulfilment of the Tender Requirements, Conditions of Contract and Performance Security/Security Bond. Performance					
	Security to remain valid until date of issue of the Final Completion Certificate or within 28 days after expiry Defects Notification Period.	8.3.1	Sum	1		
1.1.2	Insurance of the Works in the <u>joint</u> names of the Employer and Contractor, Insurance of the Construction Plant to its full replacement					
	value and Third Party Insurance	8.3.1	Sum	1		
1.1.3	Site establishment, which includes site office, site store, laydown area, temporary housing, security fence, sanitary, toilets, obtaining					
	water, electrical connection, etc.	8.3.2.2a)	Sum	1		
1.1.4	Site survey / Setting out of works by a qualified land surveyor i.e. substation yard, access roads, buildings, cable routes inc. multiple					
	reinstating of pegs during construction and reinstating of pegs following completion	5.1.1	Sum	1		
1.1.5	Reinstating of missing S.G. pegs prior to construction of any works and obtaining Surveyors Certificate of Compliance by a					
	Professional Land Surveyor	5.1.2	Sum	1		
1.1.6	Determining and locating of existing services as well as management of wayleaves throughout the delivery of the works	8.3.3	Sum	1		
1.1.7	Erecting of temporary obstructions and barricades	8.3.3	Sum	1		
1.1.8	CONSTRUCTION NOTICE BOARD (mm. 2600 X 1600)	8.3.2.1c)	Each	2		
1.1.9	Cleaning of the site, removal of all refuse, rubble, rock, etc. prior to handing over of every phase	8.3.4	Sum	1		
1.1.10.1	Obtaining access to the Eskom Website (//scot.eskom.co.za) for access to the relevant Eskom Standards and compile a site manual					
	complete with all relevant Eskom DT drawings.	8.3.3	Prov Sum	1		
1.1.10.2	Overheads, charges and profit on above (Maximum of 10 % allowed)		%	10%		
1.1.11	Tools, material, safety clothing, and the appropriate PPE for the labourers (incl. local labourers) to conduct					
	their work in accordance with safety requirements	8.3.2.2f)	Sum	1		
1.1.12	Medical evaluation and induction cost for all staff	8.3.3	Sum	1		

BILL OF QUANTITIES**SAVANNA CITY 88kV SWITCHING STATION - ESKOM****LIST A: PRELIMINARY AND GENERAL**

Note: No tender will be considered if the provided bill of quantities is not fully completed. The quantities provided are estimated figures and are subject to change. Ensure all rates are priced. Contractor to confirm quantities and submit an ordering schedule to the Engineer before any equipment orders are placed.

ITEM	DESCRIPTION	REF.	UNIT	QTY	RATE	TOTAL
1.1.13	As built drawings and manuals (5 x sets). As built to include surveying of the works by a qualified surveyor, i.e. MV and LV					
	conductors, equipment positions and any relevant site information (drawings to be issued in CAD format)	8.3.3	Sum	1		
1.1.14	Removal from site following completion of the Works.	8.3.4	Sum	1		
1.1.15	Temporary removal from site for an undetermined period following completion of a section of the work and re-establishment to complete					
	the remainder of the Works	8.3.3	Sum	1		
1.1.16	Compile a detailed Quality Control Program for construction activities.	8.3.3	Sum	1		
1.1.17	SEQUENCE OF WORK					
	Allow adequately to adhere to Eskom / Municipalities switching procedures, obtaining and signing of permits, arranging outages, giving notices	8.3.3	Days	5		
1.1.18	Provide all required PPE's to local labour on project	8.3.2.2f)	Sum	1		
1.2	COMPLY WITH THE FOLLOWING SAFETY, HEALTH, ENVIRONMENTAL AND					
	QUALITY (SHEQ) REQUIREMENTS - FIXED AMOUNT					
1.2.1	Compile a Health and Safety Plan (H & S Plan)	Section 5 C3.1.11.10	Sum	1		
1.2.2	Compile a Risk Assessment for activities (RA)	Section 5 C3.1.11.10	Sum	1		
1.2.3	Comply with Environmental Management Plan (EMP), including Eskom Specifications	Section 5 C3.1.11.10	Sum	1		
1.2.4	Submit proof of calibration of equipment e.g. Crimper, HV test apparatus etc.	Section 5 C3.1.11.10	Sum	1		
1.2.5	Compile a SHEQ File to also include all the above distinct sections	Section 5 C3.1.11.10	Sum	1		
1.2.6	Construction work notification and permit application (assist the Employer to obtain a construction permit)	Section 5 C3.1.11.10	Sum	1		
1.3	TOTAL TIME RELATED COST BASED ON MONTHLY EXPENDITURE - ADJUSTABLE					
	WITH CONTRACT PERIOD		Sum	1		
	The running cost of the project related to the contract period, which will also be used to adjust the cost if an event occurs that becomes the					
	Employers Risk:					
1.3.1	Head office overhead cost and contractual obligations	8.4.4	Month	12		

BILL OF QUANTITIES**SAVANNA CITY 88kV SWITCHING STATION - ESKOM****LIST A: PRELIMINARY AND GENERAL**

Note: No tender will be considered if the provided bill of quantities is not fully completed. The quantities provided are estimated figures and are subject to change. Ensure all rates are priced. Contractor to confirm quantities and submit an ordering schedule to the Engineer before any equipment orders are placed.

ITEM	DESCRIPTION	REF.	UNIT	QTY	RATE	TOTAL
1.3.2	Site overhead cost	8.4.3	Month	12		
1.3.3	Material-store cost on site	8.4.2.2a)	Month	12		
1.3.4	Material-store cost off site	8.4.2.2a)	Month	12		
1.3.5	Maintenance of setting out of the works by a qualified surveyor	8.4.5	Month	12		
1.3.6	Contracts Manager/ Contractor's Representative : Office and Site based	8.4.4	Month	12		
1.3.7	Health, Safety and Environmental Officer	8.4.3	Month	12		
1.3.8	Site Supervisor / Planner : Office and Site based	8.4.3	Month	12		
1.3.9	Site Agent and SHE Representative: Site based	8.4.3	Month	12		
1.3.10	Comply with SHEQ requirements by Safety Officer e.g. regular review and update of Health and Safety File	8.4.3	Month	12		
1.3.11	Site offices cost , including ablution facilities, site administration, transport, accommodation etc.	8.4.2.2a)	Month	12		
1.3.12	Periodic medical, fitness and induction costs	8.4.5	Month	12		
1.3.13	Security for site camp and work on site	8.4.5	Month	12		
1.3.14	Local labour management cost for:	8.4.5	Month	12		
1.3.14.1	Overhead cost to manage SMME's that will execute a portion of the contract (30% portion)	8.4.5	Month	12		
1.3.14.2	Community Liaison Officer (R 5 500.00 p/month)	8.4.5	Month	12		
1.3.14.3	Overheads, charges and profit on item 1.3.14.2 (Maximum of 10 % allowed)		%	10%		
1.3.14.4	Community liaison and communication (R 500/month)	8.4.5	Month	12		
1.3.14.5	Overheads, charges and profit on item 1.3.14.4 (Maximum of 10 % allowed)		%	10%		
1.3.14.6	Employment of EPWP workers for the duration of the project (10 EPWP Workers at R 140.85 p/day per worker)	8.4.5	Month	12		
1.3.14.7	Overheads, charges and profit on item 1.3.14.6 (Maximum of 10 % allowed) (Management of EPWP workers).		%	10%		
1.3.14.6	Training of semi-skilled labourers	8.4.5	Month	12		
1.4	COMPLY WITH THE FOLLOWING SHEQ REQUIREMENTS- TIME RELATED					
1.4.1	Monthly review and update the Health and Safety Plan (H & S Plan)	Section 5 C3.1.11.10	Month	12		

BILL OF QUANTITIES

SAVANNA CITY 88kV SWITCHING STATION - ESKOM

LIST A: PRELIMINARY AND GENERAL

Note: No tender will be considered if the provided bill of quantities is not fully completed. The quantities provided are estimated figures and are subject to change. Ensure all rates are priced. Contractor to confirm quantities and submit an ordering schedule to the Engineer before any equipment orders are placed.

ITEM	DESCRIPTION	REF.	UNIT	QTY	RATE	TOTAL
1.4.2	Monthly review and update the Risk Assessment for activities (RA)	Section 5 C3.1.11.10	Month	12		
1.4.3	Monthly review and update the Environmental Management Plan (EMP)	Section 5 C3.1.11.10	Month	12		
1.5	ITEMS NOT COVERED ELSEWHERE					
1.5.1	Provisional Amount allow for additional works instructed by the Engineer and Employer		Prov Sum	1	R 2 000 000.00	R 2 000 000.00
1.5.2	Supply a temporary Miniature Substation (MSS) and remove following completion. Cut into existing 300mm² 11kV cable and terminate					
	to the temporary MSS to supply auxiliary LV power to all construction activities including other contractors.	8.4.2.2g)	Sum	1	R 100 000.00	R 100 000.00
1.5.3	Construction lights to be provided prior to starting of the civil works for security purposes. All equipment and labour to be provided for					
	by the contractor including the temporary lights which shall be sufficient enough to light up the entire proposed site. Temporary fencing to					
	to be installed around the site, fence and lights to be removed following completion.	8.4.2.2g)	Sum	1		
	SUBTOTAL CARRIED TO ITEM 1 OF SUMMARY					

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST C: EARTHMAT

ITEM	DESCRIPTION	REF.	UNIT	Eskom QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
3	INSTALLATION OF EARTH GRID	D-DT					
	METHOD: Earth grid to be excavated and installed when the terrace / platform is 700 below finished level (i.e. 300 mm soil above earth grid). Grid to be clearly marked with beacons following the installation. Tails to be excavated and installed following completion of the terrace.						
3.1	Setting out and maintaining of longitudinal and transverse stakes indicating earth grid layout & level		Sum	1			R -
3.2	Supply and install complete earth grid as per earth grid drawing.	5240					
	Note: Copper quantified is for the earth grid only, and not for the earthing of the hold-down bolts. Copper for holding down bolts to be priced and allowed for with the foundations.						
3.2.1	10 mm dia. round Copper main earth grid 1m below final level - excavation after terrace completion not allowed.	6044	m	0			R -
3.2.2	10 mm dia. Copper equivalent CAMO CCS		m	0			R -
3.2.3	150 mm² Copper Equivalent CAMO CCS		m	10			R -
3.2.4	50 mm x 3 mm flat copper for earth tails connected to the earth grid and equipment foundation.	6045	m	320			R -
3.2.5	50 mm x 3 mm flat copper for earth tails to the fence and fence corner gate post (CGP).	6045	m	46			R -
3.2.6	50 mm x 3 mm flat copper for earthing and earth-tails for building earthing of panels. This earthing should run in the cable trench / cable rack.	6045	m	25			R -
3.2.7	Sacrificial earth anode	5240s11	Each	2			R -
3.2.8	1 x 16mm dia, 2m deep earth spike		Each	0			R -
3.2.9	2 x 16mm dia, 2m deep earth spike in a 100mm predrilled hole and backfilled with conductive concrete		Each	0			R -
3.2.10	2 x 16mm dia, 30m deep earth spike in a 100mm predrilled hole and backfilled with conductive concrete		Each	0			R -
3.2.11	1 x 10mm dia, 5m deep earth rod in a 200mm predrilled hole and backfilled with a Bentonite slurry mixture		Each	0			R -
3.2.12	Transformer earthing						
	a) Plinth reinforcing steel bound to earth mat	5240s10	Each	0			R -
	b) Transformer earthing bars. To be done after the transformer is installed to confirm the correct size and shape	5231	m	0			R -
	c) 80 mm x 6 mm galvanised steel earth strap (to be measured and bent on site)	5232	Each	0			R -
3.2.13	Building reinforcing and gate ramp reinforcing bonded to main earth grid	5240s10	Each	5			R -
3.2.14	Equal potential foot plates		Each	10			R -
3.2.15	Insulated Earth 10 mm Round to earth bar inside buildings (to pass through Roxtec)		m	0			R -
3.2.16	HV control room & control panels' earthing		Sum	1			R -
3.2.17	Load control, MV control room & MV switch rooms earthing		Sum	0			R -
3.3	Joints and bonding - all foundation copper to main earth grid						
3.3.1	Main earth grid bonding 10 mm round to 10 mm round.	5240	Each	0			R -
3.3.2	Main earth bonding to earth tails diameter 10 mm to 50 x 3 mm flat.		Each	320			R -

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST C: EARTHMAT

ITEM	DESCRIPTION	REF.	UNIT	Eskom QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
3.3.3	Flat tail bonding 50 x 3 mm to 50 x 3 mm (foundations)	5240s1-2	Each	31			R -
3.3.4	Flat tail bonding 50 x 3 mm to equal potential foot plates	5240s1-3, 5, 6, 7, 8	Each	20			R -
3.3.5	Flat tail bonding 50 x 3 mm to fence and corner gate post.		Each	23			R -
3.3.6	Earthing of VT's to be 40 mm x 3 mm Flat Mild Steel Straps	5240s1-2,9	Each	18			R -
3.3.7	Bonding of Eskom grid to Midvaal grid at the separation fence (10 mm to 10 mm)		Each	19			R -
3.4	Excavation						
3.4.1	Excavate, backfill and compaction of trenches for earthmat (1000 mm below finish level and 450 mm wide) for:						
	i) 10 mm round copper.		m	0			R -
	ii) 50 mm x 3 mm flat copper		m	391			R -
	Note: Excavation and backfill for earthing after completion of the substation terrace must be approved in writing by the Engineer.						
3.4.2	Tails to be excavated and installed following completion of the terrace		m	391			R -
3.5	Design and Testing						
	It is the responsibility of the Substation Contractor to test the earth grid resistance on completion of the earth mat.						
3.5.1	The results shall be certified by an independent third party and compared to the design values.		Sum	0			R -
3.5.2	Investigation and recommendation by specialist if earth resistance measures > 1 Ω		Sum	0			R -
	SUBTOTAL CARRIED TO ITEM 3 OF SUMMARY						R -

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST D: SUBSTATION FENCING

ITEM	DESCRIPTION	REF.	UNIT	Eskom QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
4	SUBSTATION FENCING						
	Supply and install new welded-mesh and electrical substation fence						
4.1	Posts, 3.4m Taper Locking Post (85mm-45mm, depth:85mm) Including Locking Recess Mechanism, Posts sealed with a UV stabilized polymer cap, Galvanized coating	VE1201-SUB-STL	Each	94			R -
4.2	Posts for safety fence (1.8m)	VE1201-SUB-STL	Each	87			R -
4.3	Welded mesh Panels - 3.305m (w) x 2.4m (h), 4mm Ø as specified	VE1201-SUB-STL	m	169			R -
4.4	Shark Tooth Spike 100mm x 1.65m length Galvanized	VE1201-SUB-STL	m	169			R -
4.5	Welded mesh sliding gate 5 m opening	VE1201-SUB-STL	Each	0			R -
4.6	Welded mesh sliding gate 5.5 m opening	VE1201-SUB-STL	Each	4			R -
4.7	Welded mesh pedestrian gate 1.2 m	VE1201-SUB-STL	Each	1			R -
4.8	5.00m Single Safety Sliding Gate as specified	VE1201-SUB-STL	Each	0			R -
4.9	5.50m Single Safety Sliding Gate as specified	VE1201-SUB-STL	Each	0			R -
4.10	1.20m Single Safety Swing Gate as specified	VE1201-SUB-STL	Each	0			R -
4.11	Post top electric fence above see-through fence - all auxiliary equipment to be included	VE1201-SUB-STL	m	169			R -
4.12	Piggyback Electric fence behind see-through fence panels from ground to top - all auxiliary equipment to be included (gates, etc.)	VE1201-SUB-STL	Sum	1			R -
4.13	Energizer, light / flasher and alarm output for ground-to-top and extended electric fence (separate Midvaal and Eskom)		Each	1			R -
4.14	Supply and install new 1.8m diamond mesh (safety) separation / barrier fence c/w all auxiliary equipment	5237	m	204			R -
4.15	Unit Rate: Additional cost (+) or saving (-) to use Eskom Standard Galvanized Palisade fencing in place of see-through fence		Sum	1			R -
4.16	Fence anti-tunnelling		m	169			R -
4.17	Supply and install a lockable diamond mesh personnel gate including dual locking system for access from both Eskom and Midvaal yard		Each	1			R -
4.2	Labels						
	Supply and install the following signs on the security fence:						
4.2.1	Unauthorised Entry and Interfering	6072 / 5016	Each	6			R -
4.2.2	In case of fire	6073 / 5015	Each	1			R -
4.2.3	Prohibitive	6074 / 5017	Each	1			R -
4.2.4	Hard hat area	6075 / 5018	Each	1			R -
4.2.5	Gate number 1 to 4 (Midvaal) and 5 - 8 (Eskom)	5047	Each	4			R -
4.2.6	Battery room	6112 / 5022-1	Each	0			R -
4.2.7	Battery cabinet	6112 / 5022-2	Each	0			R -
4.2.8	Combined battery room	6113 / 5022-3	Each	0			R -

BILL OF QUANTITIES

SAVANNA CITY 88kV SWITCHING STATION - ESKOM

LIST D: SUBSTATION FENCING

ITEM	DESCRIPTION	REF.	UNIT	Eskom QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
4.2.9	Substation name & owner at all gates i.e. "Eskom - Savanna City S/S", "Midvaal - Savanna City S/S"		Each	6			R -
4.2.10	Danger signs to be installed on every second panel of fencing	5274	Sum	1			R -
	SUBTOTAL CARRIED TO ITEM 4 OF SUMMARY						R -

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST E: CIVIL WORKS

ITEM	DESCRIPTION	REF.	UNIT	ESKOM QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
5	CIVIL WORKS	SANS1200					
5.1	General						
5.1.1	Before starting the work the Contractor is to satisfy himself as to the accuracy of the Engineer's drawing. All calculations will be based on this unless notified prior to site clearance and excavations commencing.	1200 A	Sum	1.0			R -
5.2	Earthworks - Site Preparation	1200D					
	Construct base with material from commercial sources:	8.3.4					
5.2.1	Crushed dolomite in 150mm layers, 25mm maximum size		m ³	545.0			R -
5.3	Precast concrete kerbing						
	Excavate, supply, transport to site and install complete concrete kerbing (SABS 927 fig 7c kerb to edges of earthworks platform)	8.2.1	m	0.0			R -
5.4	7M Wide Concrete Gate Entrance						
	Excavation	1200D					
5.4.1	Note: Contractors are to note that the prices for the bulk excavations are to include for the formation of buttered banks required for lateral support and for ramps for the removal of excavated material and shall also include for all tests required.						
5.4.2	Excavation and stockpile for use as backfill or embankment or dispose within a free haul distance of 5km, in all materials	8.3.2.1d	m ³	8.0			R -
5.4.3	Backfill from stockpile	8.3.4					
5.4.4	Rip and compaction of ground surface including scarifying for a depth of 150mm, breaking down oversize material where necessary and compacting to 90% Mod AASHTO		m ²	50.0			R -
	Importing of Materials from commercial sources	8.3.4					
5.4.5	Selected Grade G5 material compacted in layers 150mm thick to 96% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval		m ³	8.0			R -
5.4.6	Selected Grade G6 material compacted in layers 150mm thick to 93% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval		m ³	8.0			R -
	Construct subbase with material from commercial sources:	1200ME					
5.4.7	Selected Grade G5 material compacted in layers 150mm thick to 98% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval	8.3.3	m ³	8.0			R -
	Construct base with material from commercial sources:	1200MF					
5.4.8	Selected Grade G5 material stabilized with and including 3% cement, compacted in layers 150mm thick to 98% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval	8.3.3d	m ³	8.0			R -
	Concrete	1200G					
	Rates for concrete to include for taking concrete samples and obtain test certificates for: (7, 14 & 28 days)						
5.4.9	Rough formwork to edges	8.2.1	m	7.0			R -
5.4.10	Type 617 high tensile welded mesh	8.3.2	m ²	100.0			R -
5.4.11	35MPa concrete in roads	8.4.3.3a	m ³	15.0			R -
5.4.12	Wood float finish	8.4.4a	m ²	50.0			R -

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST E: CIVIL WORKS

ITEM	DESCRIPTION	REF.	UNIT	ESKOM QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	Precast concrete						
5.4.13	450 x 300mm Concrete culvert underneath runway as per drawing	2-WT-1362	Each	10.0			R -
5.5	12M Wide Concrete Gate Entrance (to be cast continuous with the Midvaal contractor)						
	Excavation	1200D					
	Note: Contractors are to note that the prices for the bulk excavations are to include for the formation of buttered banks required for lateral support and for ramps for the removal of excavated material and shall also include for all tests required.						
5.5.1	Excavation and stockpile for use as backfill or embankment or dispose within a free haul distance of 5km, in all materials	8.3.2.1d	m³	6.5			R -
5.5.2	Backfill from stockpile	8.3.4					
5.5.3	Rip and compaction of ground surface including scarifying for a depth of 150mm, breaking down oversize material where necessary and compacting to 90% Mod AASHTO		m²	42.0			R -
	Importing of Materials from commercial sources	8.3.4					
5.5.4	Selected Grade G5 material compacted in layers 150mm thick to 96% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval		m³	6.5			R -
5.5.5	Selected Grade G6 material compacted in layers 150mm thick to 93% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval		m³	6.5			R -
	Construct subbase with material from commercial sources:	1200ME					
5.5.6	Selected Grade G5 material compacted in layers 150mm thick to 98% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval	8.3.3	m³	6.5			R -
	Construct base with material from commercial sources:	1200MF					
5.5.7	Selected Grade G5 material stabilized with and including 3% cement, compacted in layers 150mm thick to 98% Mod AASHTO to a moisture content of +2% of optimum, including MOD tests on the material to be used and submitted for the engineer's approval	8.3.3d	m³	6.5			R -
	Concrete	1200G					
	Rates for concrete to include for taking concrete samples and obtain test certificates for: (7, 14 & 28 days)						
5.5.8	Rough formwork to edges	8.2.1	m	3.5			R -
5.5.9	Type 617 high tensile welded mesh	8.3.2	m²	84.0			R -
5.5.10	35MPa concrete in roads	8.4.3.3a	m³	12.5			R -
5.5.11	Wood float finish	8.4.4a	m²	42.0			R -
	Precast concrete						
5.5.12	450 x 300mm Concrete culvert underneath runway as per drawing	2-WT-1362	Each	3.5			R -
5.6	Cable Trench Ramps	D-DT-5254					
	Excavation	1200D					
	Note: Contractors are to note that the prices for the bulk excavations are to include for the formation of buttered banks required for lateral support and for ramps for the removal of excavated material and shall also include for all tests required.						
5.6.1	Excavation and stockpile for use as backfill or embankment or dispose within a free haul distance of 5km, in all materials	8.3.2.1d	m³	12.0			R -
5.6.2	Backfill from stockpile	8.3.4					

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST E: CIVIL WORKS

ITEM	DESCRIPTION	REF.	UNIT	ESKOM QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
5.6.3	Rip and compaction of ground surface including scarifying for a depth of 150mm, breaking down oversize material where necessary and compacting to 90% Mod AASHTO		m ²	36.0			R -
	Concrete	1200G					
	Rates for concrete to include for taking concrete samples and obtain test certificates for: (7, 14 & 28 days)						
5.6.4	Rough formwork to edges	8.2.1	m	48.0			R -
5.6.5	Type 617 high tensile welded mesh	8.3.2	m ²	72.0			R -
5.6.6	25MPa concrete in Ramps	8.4.3.1a	m ³	12.0			R -
5.6.7	Wood float finish	8.4.4a	m ²	36.0			R -
	Miscellaneous items:	8.8					
5.6.8	30 x 30 x 5mm Galvanised mild steel angle section and lugs cast in	8.8.12a	kg	56.0			R -
5.6.9	16mm Galvanised mild steel plate, cut to 850mm lengths (Type 1)	8.8.12b	m ²	12.0			R -
5.6.10	16mm Galvanised mild steel plate, cut to 1050mm lengths (Type 3)	8.8.12c	m ²	0.0			R -
5.7	Foundations / Plinths	1200LC					
	General rules applicable to casting of concrete: cast below 35°C; use wood shuttering as far as possible; use slow curing concrete; use low shrinkage concrete.						
	Concrete maximum shrinkage, stress and modulus of elasticity obtainable from the Civil Engineer's drawing / specification.						
	Excavate, supply, dispose of waste and cast complete concrete foundations with holding down bolts, fdn, internal earthing and earth connections detailed in the drawings:						
	Rates for concrete to include for taking concrete samples and obtain test certificates for: (7, 14 & 28 days)						
5.7.1	132kV Circuit breaker support foundation	D-DT-5200s1A	Each	4.0			R -
5.7.2	132kV Isolator support & surge arrestor foundation	D-DT-5202s1A	Each	2.0			R -
5.7.3	132kV Isolator support foundation	D-DT-5202s1A	Each	8.0			R -
5.7.4	22kV Isolator support foundation	D-DT-5205s1A	Each	0.0			R -
5.7.5	Medium equipment support foundation (current transformer)	D-DT-5206s1A	Each	12.0			R -
5.7.6	Medium equipment support foundation (voltage transformer)	D-DT-5206s1A	Each	6.0			R -
5.7.7	Medium equipment support foundation (power VT)	D-DT-5206s1A	Each	3.0			R -
5.7.8	Single lattice busbar support foundation	D-DT-5206s1A	Each	6.0			R -
5.7.9	NECRT support foundation	D-DT-5207s1A	Each	0.0			R -
5.7.10	MV cable end support foundation	D-DT-5213s1A	Each	0.0			R -
5.7.11	14m Lightning/lighting mast foundation	D-DT-5217s1B	Each	6.0			R -
5.7.12	22kV Road crossing foundation	D-DT-5221s1A	Each	0.0			R -
5.7.13	Twin busbar support foundation (per column)	D-DT-5225s1A	Each	8.0			R -

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST E: CIVIL WORKS

ITEM	DESCRIPTION	REF.	UNIT	ESKOM QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
5.7.14	88/11kV 20MVA Transformer plinth	D-DT-5232s2	Each	0.0			R -
5.7.15	Fence foundations, 400 x 400 x 600mm deep	D-DT-5237	Each	181.0			R -
5.7.16	132kV Standard steelwork column foundation	D-DT-5252s1A	Each	4.0			R -
5.7.17	AC yard board	D-DT-5276s1A	Each	1.0			R -
5.7.18	Eskom / Midvaal interface box	D-DT-5276s1A	Each	1.0			R -
5.9.19	Sump Controller	D-DT-5276s1A	Each	0			R -
5.9.20	Wooden templates for the above holding down bolts - to be approved prior to foundation construction		Sum	1.0			R -
5.9.21	Transformer bay fire brick wall	D-DT-5275	Each	0.0			R -
5.8	Cable Ducts and Rovers	1200LC					
	Excavate in all material, supply, dispose of waste and cast/erect complete concrete walls c/w covers detailed in the drawings:						
	NOTE: Brick built trench walls will not be considered or accepted, 1.2m.K/W bedding to be used for power cables						
5.8.1	Complete 750 mm wide cable trenches as per drawing	5254	m	85.0			R -
5.8.2	Complete 1500 mm wide cable trenches as per drawing	5254	m	14.0			R -
	Extra over 750mm wide cable trench for						
5.8.3	90 Degree bend		Each	1.0			R -
5.8.4	T-Intersection		Each	0.0			R -
5.8.5	Closed end		Each	2.0			R -
	Extra over 1500mm wide cable trench for						
5.8.6	90 Degree bend		Each	1.0			R -
5.8.7	T-Intersection		Each	1.0			R -
5.8.8	Closed end		Each	1.0			R -
5.8.9	Bedding test certificate		sum	1.0			R -
5.9	Sewers						
	Earthworks - Pipe trenches	1200LC					
	Excavate in all material for pipe trenches, backfill, compact and dispose of surplus material for pipes up to 125 mm dia for depths						
5.9.1	Up to 1,0 m		m	0.0			R -
5.9.2	Over 1,0 m up to 2,0 m		m	0.0			R -
	Extra over excavations for:						
5.9.3	Intermediate excavation		m ³	0.0			R -
5.9.4	Hard rock excavation		m ³	0.0			R -

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SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST E: CIVIL WORKS

ITEM	DESCRIPTION	REF.	UNIT	ESKOM QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	Supply, lay, joint, bed on bedding for flexible pipe and test pipe						
	SABS 966 Part 1, uPVC Class 12 Pipe						
5.9.5	110mm Diameter		m	0.0			R -
5.9.6	Manholes, etc.	1200LE					
5.9.7	Breaking into existing manhole and connecting new sewer, including all fittings etc.		each	0.0			
	Precast concrete manholes	1200LD					
5.9.8	900mm Diameter manhole with a depth of 1,0 to 1,5m	8.2.3.2	each	0.0			R -
5.10	Storm water Drainage						
	Earthworks - Pipe trenches	1200DB					
	Excavate in all material for pipe trenches, backfill, compact and dispose of surplus material for pipes over 450 mm dia up to 700 mm dia for depths:						
5.10.1	Up to 1,0 m		m	56.0			R -
5.10.2	Over 1,0 m up to 2,0 m		m	14.0			R -
	Extra over excavations for:						
5.10.3	Intermediate excavation		m ³	9.0			R -
5.10.4	Hard rock excavation		m ³	5.0			R -
	Excavate in all materials for pipe trenches, backfill, compact and dispose of surplus material for pipes over 125 mm dia up to 200 mm dia for depths:						
5.10.5	Up to 1,0 m		m	21.0			R -
5.10.6	Over 1,0 m up to 2,0 m		m	57.0			R -
	Extra over excavations for:						
5.10.7	Intermediate excavation		m ³	11.0			R -
5.10.8	Hard rock excavation		m ³	6.0			R -
	Excavate in all materials for surface drains, backfill, compact and dispose of surplus material for surface drains of width more than 600 mm for depths:						
5.10.9	Up to 1,0 m		m	310.0			R -
	Extra over excavations for:						
5.10.10	Intermediate excavation		m ³	37.0			R -
5.10.11	Hard rock excavation		m ³	19.0			R -
	Excavate in all materials for surface channels, backfill, compact and dispose of surplus material for trenches for precast channels of width less than 600 mm for depths:						
5.10.12	Up to 1,0 m		m	310.0			R -
	Extra over excavations for:						
5.10.13	Intermediate excavation		m ³	37.0			R -

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LIST E: CIVIL WORKS

ITEM	DESCRIPTION	REF.	UNIT	ESKOM QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
5.10.14	Hard rock excavation		m ³	19.0			R -
	Storm water pipes	1200LE					
	Supply, lay, and bed as per Engineer's details, complete Concrete Pipe Culverts on class A bedding: Type SC 100 -D-load pipes with ogee joints:						
5.10.15	450mm Diameter		m	70.0			R -
5.10.16	Pipes in subsurface drains:						
	Supply, lay, and bed as per Engineer's details, complete perforated Pipes including geofabric						
	Normal duty uPVC pipes complete with couplings:						
5.10.17	160mm Diameter perforated including stone bedding and bidim wrapping		m	78.0			R -
5.10.18	Supply and Lay Portal and Rectangular Culverts						
	Supply, lay, and bed as per Engineer's details, complete precast portal culverts						
5.10.19	300mm Half round Rocla channel		m	310.0			R -
	Supply and Install Manholes, Catch pits, etc.						
5.10.20	Storm water outlet and wing wall		each	12.0			R -
	SUBTOTAL CARRIED TO ITEM 5 OF SUMMARY						R -

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SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6	ESKOM BUILDINGS						
6.1	FOUNDATIONS - EXCAVATION, FILLING, ETC						
6.1.1	EXCAVATIONS						
	Excavation in earth not exceeding 2m deep						
6.1.1.1	Reduced levels under floors		m³	4			
6.1.1.2	Trenches		m³	27			
6.1.1.3	Service trenches		m³	0			
6.1.1.4	Cable entry trenches		m³	0			
6.1.1.5	Sumps		m³	0			
	Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density						
6.1.1.6	Not exceeding 500mm deep for placing and removing formwork to walls etc.		m²	0			
6.1.1.7	Exceeding 500mm and not exceeding 1000mm deep for placing and removing formwork to walls etc.		m²	0			
6.1.1.8	Exceeding 1000mm and not exceeding 1500mm deep for placing and removing formwork to walls etc.		m²	0			
	Extra over trench and hole excavations in earth for excavation in						
6.1.1.9	Soft rock		m³	3			
6.1.1.10	Hard rock		m³	1			
	Extra over all excavations for carting away						
6.1.1.11	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor		m³	0			
	Risk of collapse of excavations						
6.1.1.12	Sides of trench and hole excavations not exceeding 1,5m deep		m²	96			
	Keeping excavations free of water						
6.1.1.13	Keeping excavations free of all water other than subterranean water		Item	1			
6.1.2	FILLING ETC						
	Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 93% Mod AASHTO density						
6.1.2.1	Under floors, steps, paving's, etc.		m³	21			
6.1.2.2	Backfilling to trenches, holes, etc.		m³	10			
	Selected Grade G6 filling material supplied by the contractor, compacted in layers of 150mm to 93% Mod AASHTO density						
6.1.2.3	Under floors, steps, paving's, etc.		m³	1			

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LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.1.2.4	Backfilling to trenches, holes, etc.		m ³	1			
	Selected Grade G4 filling material supplied by the contractor, compacted in layers of 150mm to 93% Mod AASHTO density						
6.1.2.5	Under floors, steps, paving's, etc.		m ³	1			
	Coarse river sand filling supplied by the contractor						
6.1.2.6	Clean, washed river sand layer evenly spread over filling (elsewhere), levelled, watered and rammed to receive waterproof membrane (elsewhere) under solid floors		m ³	5			
6.1.2.7	In floor ducts and service channels		m ³	0			
	Compaction of surfaces						
6.1.2.8	Compaction of ground surface under floors etc. including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density		m ²	92			
6.1.2.9	Ditto, to trenches		m ²	20			
	Prescribed density tests on filling						
6.1.2.10	"Modified AASHTO Density" test		No	2			
6.1.3	SOIL POISONING						
	Soil insecticide in accordance with SANS 5859						
6.1.3.1	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming		m ²	92			
6.1.3.2	To bottoms and sides of trenches etc.		m ²	20			
6.1.4	CONCRETE						
	UNREINFORCED CONCRETE						
	25MPa/19mm concrete						
6.1.4.1	Ramps to cable entries		m ³	0			
	REINFORCED CONCRETE						
6.1.4.2	<u>25MPa/19mm concrete</u>						
6.1.4.3	Strip footings		m ³	6			
6.1.4.4	Bases		m ³	0			
6.1.4.5	Walls (See details for cable entries)		m ³	0			
	TEST CUBES						
6.1.4.6	Making and testing 150 x 150 x 150mm concrete strength test cube		No	1			

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LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.1.5	ROUGH FORMWORK (DEGREE OF ACCURACY II)						
	Rough formwork to sides						
6.1.5.1	Walls		m ²	0			
	Rough formwork to form						
6.1.5.2	Opening not exceeding 1m girth through 100mm wall for "Roxtec" seals (seals measured elsewhere)		No	0			
6.1.6	REINFORCEMENT						
	Mild steel reinforcement to structural concrete work						
6.1.6.1	8mm Diameter bars		Ton	0.1			
6.1.6.2	10mm Diameter bars		Ton	0.07			
	High tensile steel reinforcement to structural concrete work						
6.1.6.3	12mm Diameter bars		Ton	0.1			
6.1.6.4	16mm Diameter bars		Ton	0.15			
6.1.7	BRICKWORK						
	Brickwork of NFP clay bricks in class II mortar						
6.1.7.1	Piers		m ³	1			
6.1.7.2	115mm Brick walls		m ²	0			
6.1.7.3	230mm Brick walls		m ²	10			
6.1.7.4	280mm Solid walls		m ²	44			
6.1.8	BRICKWORK SUNDRIES						
6.1.8.1	Splayed mortar fillets one course high in 50mm cavities		m	25			
	Joint forming material in movement joints						
6.1.8.2	10mm Expanded polystyrene (density 33kg per m3) built in vertically between brick skins		m	0			
	2,5mm Brickwork reinforcement						
6.1.8.3	75mm Wide reinforcement built in horizontally		m	5			
6.1.8.4	150mm Wide reinforcement built in horizontally		m	114			
	Prestressed fabricated concrete lintels including necessary temporary supports						
6.1.8.5	100 x 75mm Lintels in lengths not exceeding 3m		m	0			

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SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	Galvanised hoop iron cramps, ties, etc.						
6.1.8.6	30 x 1,6mm Wall tie 500mm long built into brickwork		No	0			
6.1.9	FACE BRICKWORK						
	External face brickwork pointed with square recessed horizontal and vertical joints						
6.1.9.1	Extra over ordinary brickwork for facing and pointing in stretcher bond		m ²	12			
6.2	CONCRETE, FORMWORK AND REINFORCEMENT						
6.2.1	UNREINFORCED CONCRETE						
	20MPa/19mm concrete						
6.2.1.1	Steps		m ²	0.1			
6.2.2	REINFORCED CONCRETE						
	25MPa/19mm concrete						
6.2.2.1	Aprons		m ³	2			
6.2.2.2	Ramps		m ³	0			
6.2.2.3	Bottoms and sides of floor ducts		m ³	0			
6.2.2.4	Bottoms and sides of sumps		m ³	0			
6.2.2.5	Wall beams		m ³	3			
	35MPa/19mm concrete						
6.2.2.6	Surface beds		m ³	6			
6.2.2.7	Slabs over service channels		m ³	0			
	50MPa/19mm concrete						
6.2.2.8	Structural screed 50mm thick		m ²	1			
	TEST CUBES						
6.2.2.9	Making and testing 150 x 150 x 150mm concrete strength test cube		No	2			
	CONCRETE SUNDRIES						
	Finishing top surfaces of concrete smooth with a wood float						
6.2.2.10	Surface beds, slabs, etc.		m ²	32			
6.2.2.11	To tops of walls, beams, etc.		m ²	7			

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LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	Finishing top surfaces of concrete smooth with a steel trowel						
6.2.2.12	To tops of walls, beams, etc.		m ²	0			
	Finishing top surfaces of concrete smooth with a power float with a.b.e. ® cron non-metallic, dry shake floor surface hardener curing compound applied at a rate of 5kg/m², curing with duracure SBC compound at a rate of 7-9m²/l, subsequently removing curing compound and sealing with suitable sealer at a rate of 7m²/l all in in accordance with a.b.e. ® Construction Chemicals						
6.2.2.13	Surface beds, slabs, etc. with tolerances of surfaces finished to Degree of Accuracy I		m ²	0			
6.2.2.14	Surface beds, slabs, etc. with tolerances of surfaces finished to Degree of Accuracy II		m ²	60			
6.2.3	ROUGH FORMWORK (DEGREE OF ACCURACY II)						
	Rough formwork to sides						
6.2.3.1	Walls of service ducts, etc.		m ²	0			
6.2.3.2	Wall beams		m ²	21			
6.2.3.3	Edges, risers, ends and reveals not exceeding 300mm high or wide		m	24			
	Boxing out rough formwork to form						
6.2.3.4	110 x 120mm High horizontal projection to sides along bottom edges		m	24			
6.2.4	SMOOTH FORMWORK						
	Smooth formwork (Degree of Accuracy II) to soffits						
6.2.4.1	Slabs with sloping soffits over service channels		m ²	0			
6.2.5	PERMANENT FORMWORK						
	1mm Galvanised steel permanent decking system to soffits						
6.2.5.1	Decking for slabs over service ducts, etc.		m ²	0			
6.2.6	MOVEMENT JOINTS						
	Two layers of 375 micron damp-proof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed						
6.2.6.1	Not exceeding 300mm wide		m	49			
	Expansion joints with 10mm closed cell expanded polystyrene between vertical concrete and brick surfaces						
6.2.6.2	Not exceeding 300mm high to edges of surface beds		m	25			
	Expansion joints with 10mm closed cell expanded polystyrene between vertical concrete surfaces						
6.2.6.3	Not exceeding 300mm high to edges of surface beds		m	0			

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ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.2.6.4	Not exceeding 300mm high to edges of slabs		m	0			
	Saw-cut joints						
6.2.6.5	3 x 40mm Saw-cut joints in top of concrete		m	4			
	Horizontal construction joints through concrete including thick cement slurry to one face						
6.2.6.6	Surface beds not exceeding 300mm thick		m	4			
6.2.7	REINFORCEMENT						
	Mild steel dowel bras						
6.2.7.1	10mm Diameter bars 1 025mm long		Ton	0.02			
	Mild steel reinforcement to structural concrete work						
6.2.7.2	8mm Diameter bars		Ton	0.1			
6.2.7.3	10mm Diameter bars		Ton	0.07			
	High tensile steel reinforcement to structural concrete work						
6.2.7.4	12mm Diameter bars		Ton	0.1			
6.2.7.5	16mm Diameter bars		Ton	0.1			
6.2.7.6	20mm Diameter bars		Ton	0.02			
	Fabric reinforcement						
6.2.7.7	Type 193 fabric reinforcement in concrete surface beds etc.		m ²	92			
6.2.7.8	Type 311 fabric reinforcement in concrete surface beds etc.		m ²	0			
6.2.7.9	Type 311 fabric reinforcement in pre-bent cages in concrete walls		m ²	0			
6.2.7.10	Type 395 fabric reinforcement in concrete surface beds etc.		m ²	0			
6.3	CAST-IN ITEMS						
	"Unistrut"						
6.3.1	41 x 41mm Single channel concrete insert (Type P 3270) complete with electroplated spring nuts and bolts etc.		m	0			
6.3.2	50 x 50 x 3mm Galvanized mild steel angle section cast into concrete with and including 20 x 5mm thick flat section anchors, each anchor 100mm long and welded to angle iron at 300m centres		kg	4			
	Mild steel cast-in items for steel floors						
6.3.3	50 x 75 x 6mm Mild steel angle section cast into concrete with and including 25 x 6mm thick flat section anchors, each anchor 75mm long and welded to angle iron at 200m centres		kg	0			
6.4	CORE CUTTING						

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LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	Drilling or Core cutting horizontal, vertical or inclined holes in reinforced cement concrete						
6.4.1	Vertical core cutting 250 to 300mm diameter holes		m	0.3			
6.5	SUNDRY ITEMS						
	Supply and install "Roxtec" knock-out-sleeves and seals, all in accordance with manufacturer's details and specifications						
6.5.1	Type "KOS 200/200 UG" knock-out-sleeve		No	0			
6.5.2	Type "H3-200 UG" seal		No	0			
6.4	PRECAST CONCRETE						
	150mm Hollow core precast concrete slabs with reinforcing wires finished smooth from the mould on all exposed surfaces and placed in position.						
	Rates shall include transport to site, placing in position on brick walls and any additional temporary support required						
6.4.1	Slabs in 3,64m lengths		m ²	30			
6.4.2	Slabs in 6,42m lengths		m ²	0			
6.5	PRECAST CONCRETE WINDOW AND DOOR SURROUNDS						
	Prices are to include for building into brick walls as single units or combinations of two or more units and for bedding solid all round in mortar and pointing on both sides with square recessed joints						
	Purpose made precast concrete window and door surrounds etc. finished smooth on exposed surfaces, including bedding, jointing and pointing						
6.5.1	280mm Wide door surround, 1 273 x 2 505mm high overall (D2)		No	0			
6.5.2	280mm Wide door surround, 2 060 x 2 980mm high overall (D1)		No	1			
6.6	MASONRY						
	BRICKWORK						
	BRICKWORK OF EXTRA HARD BURNT CLAY BRICKS IN CLASS II MORTAR						
6.6.1	Piers		m ³	1			
6.6.2	115mm Brick walls		m ²	1			
6.6.3	230mm Brick walls		m ²	3			
6.6.4	230mm Brick walls in beam filling		m ²	3			
6.6.5	280mm Hollow walls of two half brick skins including wire ties		m ²	70			
	BRICKWORK OF EXTRA HARD BURNT CLAY BRICKS IN CLASS II MORTAR IN LINTELS						

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LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.6.6	280mm Solid walls		m ²	13			
	BRICKWORK SUNDRIES						
6.6.7	Closing 50mm cavities of hollow walls vertically with brickwork half brick wide		m	5			
6.6.8	Closing 50mm cavities of hollow walls horizontally with one course of brickwork		m	2			
	Joint forming material in movement joints						
6.6.9	10mm Fibre board built in vertically between brick skins		m	0			
	2,5mm Brickwork reinforcement						
6.6.10	75mm Wide reinforcement built in horizontally		m	374			
6.6.11	150mm Wide reinforcement built in horizontally		m	16			
	Prestressed fabricated concrete lintels including necessary temporary supports						
6.6.12	100 x 75mm Lintels in lengths not exceeding 3m		m	5			
	Turning pieces to lintels etc.						
6.6.13	230mm Wide turning pieces		m	2			
	Galvanised hoop iron cramps, ties, etc.						
6.6.14	30 x 1,6mm Wall tie 500mm long built into brickwork		No	0			
	Air bricks, etc.						
6.6.15	Set of two 229 x 152mm clay vermin proof air bricks		No	4			
6.7	FACE BRICKWORK						
	External face brickwork with a PC amount of R 5 000,00 (Five Thousand Rand) per thousand bricks delivered to site excluding VAT pointed with square recessed horizontal and vertical joints						
6.7.1	Extra over ordinary brickwork for facing and pointing in stretcher bond		m ²	85			
	Brick-on-edge header course copings, sills, etc. of approved face bricks, pointed with recessed joints on all exposed faces						
6.7.2	Flat lintel 230mm wide on soffit, in whole face bricks pointed on soffit and two sides		m	2			
6.7.3	180mm Wide sill set sloping and slightly projecting		m	0			
6.8	WATERPROOFING						
	DAMP-PROOFING OF WALLS AND FLOORS						
	One layer 375 micron embossed polyethylene damp-proof course (SANS 952-1985 type B)						
6.8.1	In walls		m ²	7			
6.8.2	In windows		m ²	0			

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape						
6.8.3	Under surface beds		m²	92			
6.9	WATERPROOFING TO ROOFS, BASEMENTS, ETC						
	4mm "Derbigum SP" fully bonded waterproofing applied in strict accordance with the manufacturer's specifications under a ten year written guarantee						
6.9.1	On bottoms and sides of floor ducts, channels, etc.		m²	0			
6.10	SEALING STRIPS, JOINT SEALANTS, ETC						
	"ABE Flexothane CTW" polyurethane sealing compound including backing cord, bond breaker, primer, etc.						
6.10.1	8 x 12mm In saw cut joints in floors		m	4			
6.10.2	10 x 15mm In isolation joints in floors including raking out expansion joint filler as necessary		m	0			
6.10.3	10 x 15mm In vertical expansion joints in walls including raking out expansion joint filler as necessary		m	0			
6.10.4	10 x 10mm In expansion joints in floors including raking out expansion joint filler as necessary		m	25			
6.11	ROOF COVERINGS						
	PROFILED METAL SHEETING AND ACCESSORIES						
	SAFINTRA SAFLOK 700 PROFILED SHEETING AND ACCESSORIES						
	0,55mm Saflok 700 interlocking roof covering and accessories, with Traffic Green COLORPLUS® AZ150 finish on one side, fixed to timber purlins all in accordance with manufacturer's details and specifications						
6.11.1	Roof covering with pitch not exceeding 25 degrees		m²	53			
6.11.2	Ridge capping		m	9			
6.11.3	Gable trims 380mm girth		m	11			
6.11.4	Counter flashings		m	18			
6.11.5	Moulded narrow and broad rib polyethylene filler blocks		m	18			
6.12	ROOF VENTILATORS						
	CURVENT INTERNATIONAL PINNACLE TURBINE VENTILATORS						
6.12.1	Z275 Spelter Galvanised steel slope mounted turbine type ventilator (Model: CP250) with Chromadek finish (Colour: Traffic Green), including isolation trimmers, fixed through roof sheeting to timber purlins including watertight joints, sealing strips, fixing accessories etc., installed in accordance to the manufacturer's details and instructions		No	2			

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.13	CARPENTRY AND JOINERY						
	ROOFS, ETC						
	<i>SUPPLEMENTARY PREAMBLES</i> Trusses are at maximum 600mm centres Roof coverings are on 50 x 76mm purlins						
	Engineer's Certificate						
6.13.1	Provide an engineer's certificate covering the design of the plate nailed timber roof structure		Item	1			
	Plate nailed timber roof truss construction						
6.13.2	Design, manufacture and supply double pitched roof, approximately 37m2 overall on plan, including trusses, bracing, hangers, wall plates, purlins, hurricane clips, nails, and all sundry bracing and timbers, etc. complete		m²	37			
6.13.3	Design, manufacture and supply double pitched roof, approximately 42m2 overall on plan, including trusses, bracing, hangers, wall plates, purlins, hurricane clips, nails, and all sundry bracing and timbers, etc. complete		m²	0			
6.13.4	Design, manufacture and supply double pitched roof, approximately 291m2 overall on plan, including trusses, bracing, hangers, wall plates, purlins, hurricane clips, nails, and all sundry bracing and timbers, etc. complete		m²	0			
6.13.5	Erecting double pitched roof		m²	53			
6.14	EAVES, VERGES, ETC						
	Wrought meranti						
6.14.1	19mm Quadrant beads		m	58			
	High density plain fibre-cement flat sheets						
6.14.2	12mm Eaves soffit covering including 38 x 38mm sawn softwood branders along edges, along centre and at 450mm centres across sheets		m²	11			
6.14.3	12mm Verge soffit covering including 38 x 38mm sawn softwood branders along edges, along centre and at 450mm centres across sheets		m²	2			
	"Everite FC77" pressed fibre-cement						
6.14.4	12 x 225mm Fascia board countersunk screwed to roof timbers (elsewhere) with two brass screws and jointed with and including galvanised H-section cover strips at all joints		m	18			
6.14.5	12 x 225mm Barge board countersunk screwed to roof timbers (elsewhere) with two brass screws and jointed with and including galvanised H-section cover strips at all joints		m	11			
6.15	HINGES, BOLTS, ETC						
	"Brass"						
6.15.1	200mm Chromium plated barrel bolt with keep fixed to metal		No	1			
6.15.2	200mm Chromium plated barrel bolt with keep let into concrete		No	1			
6.16	CATCHES, CABIN HOOKS, ETC						

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	"Dorma" or similar and approved						
6.16.1	150mm "CH150" cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged		No	2			
6.17	LETTERS, NAMEPLATES, ETC						
	"Dorma" or similar and approved						
6.17.1	150 x 150mm Stainless steel plate with "Male" symbol, code DSS-130 M		No	0			
6.17.2	150 x 150mm Stainless steel plate with "Female" symbol, code DSS-131 F		No	0			
6.17.3	150 x 150mm Plate with directional fire escape symbol		No	1			
6.17.4	150 x 150mm Plate with fire extinguisher symbol		No	1			
	Clear perspex numeral plate reverse engraved and enamelled in numerals and/or letters, twice countersunk holed for and tap-screwed to steel door frames or gate framing with chromium plated dome-headed self tapping screws						
6.17.5	3mm Thick x 50mm wide plate with two numerals and/or letters		No	1			
6.18	SUNDRIES						
	"Dorma" or similar and approved						
6.18.1	Stainless steel hat and coat hook code DHC-SS-031B plugged		No	0			
	"Raven" or similar and approved						
6.18.2	"RP55" Perimeter seal strips fixed to inner edges of door frames of 813 x 2030mm single door		No	0			
6.18.3	"RP55" Perimeter seal strips fixed to inner edges of door frames of 1600 x 2400mm double door		No	1			
6.19	WALL MOUNTED WRITING BOARDS						
	PINNING BOARDS						
	"Vitrex" or similar and approved						
6.19.1	Vitrex Model 2300D standard wall mounted pinning board, size 2400 x 1200 mm high, reference 2309B. Pinning surface to be Flortime Premier, colour Stone. Pinning boards supplied complete with fixing components and secured to brickwork		No	1			
6.20	FURNITURE, ETC						
	"Sundrychem" or similar and approved						
6.20.1	465 x 310 x 150mm Steel wall mounted first aid box		No	0			
	"Omnisurge" or similar and approved						
6.20.2	Standard Regulation 3 Government compliant First Aid refill kit		No	0			
	As per "Walton's" catalogue						

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.20.3	1800 x 800mm Desk (product code 543327)		No	1			
6.20.4	1800 x 900 x 450mm Stationary cupboard with four (4) shelves (product code 54070IK)		No	1			
6.20.5	Chair (product code 540220)		No	1			
6.20.6	554 x 487 x 1167mm standing desk		No	0			
6.21	GALVANISED STEEL GATES, SCREENS, ETC (LOAD CONTROL)						
	Not applicable to Eskom portion						
6.22	GALVANIZED STEEL FLOORS						
	Framing for floor channels						
6.22.1	50 x 50 x 6mm Angle section bearers		Kg	0			
6.22.2	12mm Expansion bolt		No	0			
	38 x 38 x 38 "Fibregrate®" Heavy duty industrial grade floor grating, fixed to steel with and including standard fixing clips						
6.22.3	Floor grating of unbanded panels in 1 000mm widths and suitable lengths		m²	0			
6.23	GALVANISED PRESSED STEEL TRANSFORMER ROOM DOORS, FRAMES AND GRILLES						
	"Bitcon Industries" transformer room doors and frames of 1,6mm pre-galvanized mild steel material with and including one-and-a-half pair 100mm heavy duty brass hinges, padlatch and weather capping to head of frame						
6.23.1	Type "A" single door 815 x 2 030mm high with double rebated frame suitable for one brick wall (D2)		No	0			
6.23.2	Type "A" single door 815 x 2 030mm high with double rebated frame suitable for one brick wall (D3)		No	0			
	"Xpanda Roll-a-Door" Sub station doors and frames of pre-galvanized mild steel with and including 3 bullet hinges per door leaf, solid steel slats, cabin hooks, earth strap, shooting bolt housing and Xpanda 3 Point locking system for padlock, 100mm diameter lock concealing pipe section, with perimeter framing plugged and screwed to face at maximum 300mm centres to concrete or brickwork using Xpanda concealed rivets						
6.23.3	"Switch Room" type double door 1 600 x 2 400mm high with double rebated frame suitable for one brick wall (D1)		No	1			
6.24	STEEL WINDOWS, DOORS, ETC						
	Standard residential windows						
6.24.1	Window type NE1, 533 x 654mm high		No	0			
6.24.2	Window type NG9, 1511 x 359mm high		No	0			
6.24.3	Window type ND9, 1511 x 1245mm high		No	0			

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.25	PLASTERING						
	SCREEDS						
	Screeds wood floated, on concrete						
6.25.1	Average 50mm thick on floors with upper surface to falls		m²	0			
6.26	GRANOLITHIC						
	Untinted granolithic, on concrete						
6.26.1	30mm Thick on floors and landings		m²	0			
6.27	INTERNAL PLASTER						
	Cement plaster steel trowelled, on brickwork						
6.27.1	On walls		m²	87			
6.27.2	On narrow widths		m²	4			
6.28	EXTERNAL PLASTER						
	Cement plaster wood floated, on concrete						
6.28.1	On ceilings and beams		m²	11			
6.29	TILING						
	WALL TILING						
	Ceramic tiles (P.C. R 100,00/m2 excluding VAT) fixed with Tal professional adhesive to plaster (elsewhere), including joints flush pointed with approved grouting						
6.29.1	On walls in isolated panels, splashbacks, etc.		m²	0			
6.30	PLUMBING AND DRAINAGE						
	RAINWATER DISPOSAL						
	0,6mm Galvanised sheet iron with "Chromadek" finish on one side						
6.30.1	100 x 150mm Box section eaves gutters		m	18			
6.30.2	Ditto, for outlet for 75 x 75mm pipe		No	4			
6.30.3	75 x 75mm Rainwater pipes		m	14			
6.30.4	Extra over rainwater pipe for shoe		No	4			

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
6.30.5	Ditto, for 600mm eaves offset		No	4			
6.31	FIRE APPLIANCES						
	Extinguishers						
6.31.1	4,5kg DCP(fe) dry powder portable fire extinguisher on and including wrought Meranti backboard size 520 x 100 x 22mm 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	0			
6.31.2	9kg DCP (fe) dry powder portable fire extinguisher on and including wrought Meranti backboard size 520 x 100 x 22mm 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			
6.32	GLAZING						
	GLAZING TO STEEL WITH PUTTY						
	4mm Clear float glass						
6.32.1	Panes exceeding 0,1m2 and not exceeding 0,5m2		m²	0			
	4mm Obscure glass						
6.32.2	Panes exceeding 0,1m2 and not exceeding 0,5m2		m²	0			
6.33	PAINTWORK						
	<u>SUPPLEMENTARY PREAMBLES</u> <u>PAINT SPECIFICATIONS</u> <i>All painting shall be done in accordance with "Dulux" specifications unless otherwise described</i>						
6.33.1	PAINTWORK ON INTERNAL FLOATED PLASTER SURFACES						
	One coat "Dulux Plaster Primer", one coat "Dulux Primer Sealer" and two full coats "Dulux Wash n Wear Luxurious Silk" for interior use						
6.33.1.1	On walls and columns		m²	91			
6.33.2	PAINTWORK ON EXTERNAL FLOATED PLASTER SURFACES						
	One coat "Dulux Plaster Primer", one coat "Dulux Primer Sealer" and two full coats "Dulux Weather guard Ultra smooth" extremely durable UV-resistant water based mica reinforced fine textured acrylic paint						
6.36.1	On ceilings and beams		m²	11			
6.37	PAINTWORK ON SMOOTH CONCRETE SURFACES						
	One coat "Dulux Plaster Primer", and two full coats "Dulux Acrylic PVA" for interior use						
6.37.1	On precast concrete ceilings		m²	30			

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST F: BUILDINGS

ITEM	DESCRIPTION	REF	UNIT	QUANTITY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	One coat "Dulux Plaster Primer", one coat "Dulux Primer Sealer" and two full coats "Dulux Weather guard Ultra smooth" extremely durable UV-resistant water based mica reinforced fine textured acrylic paint						
6.37.2	On precast concrete surrounds		m ²	6			
6.38	PAINTWORK ON FIBRE CEMENT SURFACES						
	Prepare, stop and apply one coat "Dulux" Trade alkali resistant primer and two coats "Dulux" Acrylic PVA						
6.38.1	Ceilings and cornices, including priming metal cover strips and nail heads		m ²	13			
6.38.2	Fascia's and barge boards, including priming metal jointing strips		m ²	14			
6.38.3	On duct covers		m ²	0			
6.39	PAINTWORK ON METAL SURFACES						
	One coat alkyd based zinc phosphate primer, one coat alkyd based universal undercoat and two coats superior quality universal enamel paint, on steel						
6.39.1	Windows		m ²	0			
6.39.2	Gates, grilles, burglar screens, balustrades, etc. (both sides measured over the full flat area)		m ²	0			
	SUBTOTAL CARRIED FORWARD TO ITEM 6 OF SUMMARY						

BILL OF QUANTITIES
SAVANNA CITY 88kV SWITCHING STATION - ESKOM
LIST G: STEELWORK

ITEM	DESCRIPTION	REF.	UNIT	ESKOM QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
7	ERECTION OF STEELWORK						
7.1	Equipment Support						
	Manufacture, supply and install equipment support for the following:						
7.1.1	132kV Steelwork 132/C Column & anti climbing	DT5252-2A&F	Each	4			R -
7.1.2	132kV Steelwork 132/40/1 Beam	DT5252-2D	Each	2			R -
7.1.3	132kV Steelwork Earth wire Support	DT5252-2E	Each	4			R -
7.1.4	132 kV Isolator support with equal potential foot plates for switching (surge arrestors)	5202s2A	Each	2			R -
7.1.5	132 kV Isolator support surge arrestor extension arm	5219s4	Each	2			R -
7.1.6	132 kV Isolator support with equal potential foot plates for switching	5202s2A	Each	8			R -
7.1.7	132 kV CT - 2.5m Medium Equipment Lattice Support	5206s2C	Each	12			R -
7.1.8	132 kV CT - Medium Equipment Lattice Support Cap "M1"	5206s2H	Each	12			R -
7.1.9	132 kV Circuit Breaker Support	5200s2A	Each	2			R -
7.1.10	88 kV VT & Power VT - 2.5m Medium Equipment Lattice Support	5206s2C	Each	9			R -
7.1.11	88 kV VT - Medium Equipment Lattice Support Cap "M1"	5206s2H	Each	9			R -
7.1.12	Busbar - 132/66kV Tubular BB Twin Supports	5225s2	Each	4			R -
7.1.13	Busbar - 6m Medium Equipment Lattice Support	5206s2G	Each	6			R -
7.1.14	Busbar - Medium Equipment Lattice Support Cap "M1"	5206s2H	Each	6			R -
7.1.15	132 / 11kV PI/CE Support		Each	0			R -
7.1.16	11 kV NECRT Support	5207s2A	Each	0			R -
7.1.17	22kV Road Crossing lattice support	5221s2	Set	0			R -
7.1.18	22kV Isolator lattice support	5205s2A	Each	0			R -
7.1.19	MV Cable Sealing End lattice support	5213s3	Each	0			R -
7.1.20	14 m Lighting / Lighting mast including lighting attachment	5217s2B	Each	6			R -
7.1.21	Power transformer cable rack - position is offer dependant and to be determined on site	5231s1C	Each	0			R -
7.1.22	Sump Control box 1800x120mm - steel pole, fixtures & kiosk	5276s2A	Each	0			R -
7.1.23	Oil Holding Dam Cover and trap door - size to vary	5234s1B rev	Each	0			R -
7.1.24	Yard AC Distribution board and interface box - steel supports & kiosks	5276s2A	Each	2			R -
7.1.25	Control cable racks in buildings - Cable ladders with brackets	6065	Sum	1			R -
	SUBTOTAL CARRIED TO ITEM 7 OF SUMMARY						R -

BILL OF QUANTITIES - SUMMARY

ESKOM WORKS

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1	LIST A: PRELIMINARY AND GENERAL	R -
3	LIST C: EARTHMAT	R -
4	LIST D: SUBSTATION FENCING	R -
5	LIST E: CIVIL WORKS	R -
6	LIST F: BUILDINGS	R -
7	LIST G: STEELWORK	R -
	SUBTOTAL A	R -
	Plus: Amount allowed for contingencies (10 % x Subtotal A)	
	SUBTOTAL B	
	Plus: 15 % VAT	
	TOTAL TENDER PRICES (Incl VAT) (Carried forward to Page 2.2 of tender document)	
F:_Midvaal\VE 1201-0 Savanna City SwS (Eskom)\T - TENDER\1 TENDER\4B - BILL OF QUANTITIES 2025-07-09.xlsx\SUMMARY		



MIDVAAL LOCAL MUNICIPALITY

P O Box 9
MEYERTON
1960

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION
OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING
STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND
WHEN REQUIRED BASIS FROM DATE OF AWARD TO
30 JUNE 2028**

**SECTION 5:
C3 – SCOPE OF WORKS / SPECIFICATIONS
C4 – SITE INFORMATION**

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C3 – SCOPE OF WORKS

C3. SCOPE OF WORKS

This scope of work institutes information that specifies and describes the goods, services, or engineering and construction works which are to be provided and any other requirements and constraints relating to the manner in which the contract work is to be performed.

The Scope of Works includes four distinct sub-sections namely:

- C3.1 – Project Specifications
- C3.2 – General Specifications
- C3.2 – Technical Schedules

The Contractor must allow in his tender price, for the supply, delivery of material on site, installation and commissioning of the works as specified in this document. The onus is on the Contractor to ensure that he received a complete document as indicated in the Index.

Any discrepancies shall be clarified by the Tenderer prior to the enquiry closing date.

It shall be noted that this project follows the Eskom self-build process. **Only Eskom approved Contractors shall be accepted to carry out the works and only Eskom approved suppliers / manufacturers shall be allowed to provide equipment.** No equipment will be free-issued by Eskom or the Employer.

DESCRIPTION OF THE WORKS

Establish a new 88 kV Switching Station for Savanna City Developments to be taken over by ESKOM SOC. The new Eskom 88 kV Sw/S will distribute power to the municipal 88/11 kV S/S.

The Savanna City Switching Station and Substation will be established as a bulk electrical infeed to provide power to the Savanna City Township development situated on the farm Doornkuil. The projects will be funded by Savanna City Developments and will, after completion, be handed over to the respective authorities to maintain and operate.

For establishment of the bulk electrical infeed to the Savanna City development, Midvaal Municipality applied to Eskom for a new 88kV line bay at Ironside substation.

To establish the new Savanna City substation a new 88 kV line from Ironside substation must be built to the new Eskom Savanna City 88 kV Switching Station.

At Ironside Substation an 88 kV line bay will be established by Eskom.

The interdependent overhead power line, 88 kV Switching Station and 88/11 kV Substation projects aligns with the Vaal Eskom Master Plan to loop Savanna City substation in and out on the proposed 88kV Tern line between Ironside substation and the planned future Jaguar substation.

The planned Jaguar substation is currently not on the Eskom rolling plan. The interim solution is to loop in and out the proposed Savanna City substation with 88 kV Tern conductor between Ironside substation and the closing span of the line between Roshnee and Ironside substations. This solution executes part of the Eskom Master Plan solution, and will allow the end state to be realised when the planned Jaguar substation becomes part of the Eskom rolling plan.

The Eskom portions of the Savanna City bulk electrical supply projects follows the Eskom Self-Build process.

C3 – SCOPE OF WORKS: GENERAL

The developer viz. Savanna City Developments has attended to all environmental related issues.

All the material shall be supplied by the tenderer which includes the manufacturing, according to Eskom Specification, transporting to site, installation and commissioning will all be undertaken by the successful tenderer.

The work can therefore be summarised as follows:

- a) Construct a substation terrace according to Eskom Standards.
- b) Construct an earthmat according to Eskom Standards.
- c) Construct plinths and erect foundations according to Eskom Standards.
- d) Construct an Eskom 88 kV control room.
- e) Erect steelwork according to Eskom Standards.
- f) Spread yard stone over the substation yard according to Eskom Specifications.
- g) Erect a fence around the substation yard with the relevant signs all in accordance with Eskom Standards.
- h) Establish 2 x 88 kV overhead line feeder bays using 132 kV specifications in the Eskom Section. (two lines from Ironside) – excluded from this scope.
- i) Establish 2 x 88 kV feeder bays supplying Midvaal using 132 kV specifications in the Eskom Section.
- j) Bay equipment shall include the relevant power voltage transformers, voltage transformers, current transformers, circuit breakers, isolators, isolators with surge arrestors etc. according to Eskom standards and specification.
- k) Install an 88 kV 120 x 4 mm dia. tubular busbars using 132 kV specifications.
- l) Install and test all control plant (final control plant commissioning by Eskom).
- m) Commission and energise the new Switching Station and Substation.
- n) Commission and energise the new SCADA / Telecontrol system
- o) Submit 5 sets of as-built drawings and manuals of the new substation.

Prior to energizing, commissioning certificates must be submitted by the OEM for the 88 kV Power Voltage Transformers, 88 kV Voltage Transformers, 132 kV Circuit Breakers, 132 kV Current Transformers and 132 kV Isolators.

Preparation of all details designs, manufacturing drawings and documentations for approval specified throughout the enquiry document shall initiate once the successful Contractor has received a Letter of Acceptance.

The combined Eskom Switching Station sequence of events is outlined below

Table 1: High level primary plant sequence of events

1.	Install an earthmat.
2.	Install plinths, concrete work and erect foundations.
3.	Establish an Eskom control room.
4.	Spread yard stone over the substation yard.
5.	Erect steelwork and install yard lighting.
6.	Erect a fence around the substation yard with the relevant signs.
7.	Commission and energise the Eskom Switching Yard.
8.	Submit 5 sets of as-built drawings and manuals of the new substation.

CONSTRAINTS WITH EXECUTION OF THE WORKS

- a) Any variation or modification with a cost implication must be approved by the Engineer and Employer before work can commence. No late claim will be entertained.
- b) The Contractor must adhere to Safety Requirements. Further safety requirements are as follows:
- Only harnesses and no safety belts must be used in alleviated positions.
 - No labourers will be allowed to stay on site. A night watch shall be appointed to guard the site at night.
 - No short pants will be allowed on site.
 - Safety clothes suitable for the specific task must be always worn.
 - Toilet facilities are available on site; no temporary toilets will be allowed.
 - Day visitors will be able to enter with a visitor's card.
 - Hard hats and safety boots are compulsory on the construction site.
 - All operators must be trained and competent.
 - All equipment must be in a good working order.
 - The Contractor must have a first-aid kit on site and all injuries must be reported.
 - The Contractor must keep complete record of all man hours.
- c) The tenderer shall provide three complete sets of all special tools for the equipment supplied. The tenderer shall further provide a list of spare parts which it is recommended and should be kept by the Employer. Spares, which the employer decides to order, shall be delivered simultaneously with the rest of the equipment and shall be separately packed and appropriately marked.

The spares must be handed over to the Client before the issuing of the Taking Over Certificate and may not be used by the Contractor for maintenance or for replacement of components which must be replaced due to defects during the Defects Liability Period or for the replacement of any item which is still under guarantee.

C3.1 – PROJECT SPECIFICATIONS

C3.1. PROJECT SPECIFICATIONS

This specification deals with the technical installation aspects relating to this project. Any discrepancy between the Particular Specification, Bill of Quantities and Drawings must be reported to the Engineer who will clarify such contradiction before closing of tender.

If any discrepancies exist between parts of this document, the following order of preference will take place:

- a) Drawings
- b) Bill of Quantities
- c) Project Specifications
- d) Technical Schedules
- e) General Specifications
- f) SANS/IEC/Eskom Specifications

C3.1.1. DEFINITIONS

For the purposes of this document, terms used herein or in accompanying documents shall have the following meaning:

“Agreement” shall mean the agreement entered between the Employer and the Contractor for the execution of the accepted Tender Price or accepted quotation. Under this contract this means the FIDIC Condition of Contract and other contract documents.

“Bills of Quantities” or **“Schedule of Quantities”** or **“Pricing Schedules”** shall mean the document attached to a Tender Document or Quotation in which the quantities of work, labour, materials, and articles required for the execution of the contract will be entered, together with the rates or prices for such items.

“Calendar Days” means twenty-four (24) hour days commencing at midnight (00:00) which include working and non-working days.

“Certificate of Final Completion” means a certificate issued by the Engineer to the Contractor stating the date on which final completion of the works was achieved.

“Certificate of Practical Completion” means a certificate issued by the Engineer to the Contractor stating the date on which practical completion of the works was achieved.

“Certificate of Works Completion” means a certificate issued by the Engineer to the Contractor stating the date on which works completion of the works was achieved

“Contractor” shall mean the Employer has accepted the person or persons, partnership, firm or company, whose tender for the work referred to in the Contract or who has or have signed the contract and shall include his or their heirs, executors, administrators, judicial managers, trustees, successors in title and duly appointed representatives.

“Contract” or **“Contract Documents”** shall mean and include the Conditions of Tender, General Conditions of Contract, Special Conditions of Contract, Project Specifications, Schedules of Quantities or Pricing Schedules or Bills of Quantities, Schedule of Prices for Variations, Drawings, Form of Tender, Letter of Acceptance and the Agreement to follow thereon and shall include such printed

matter or explanatory memorandum submitted by a Tenderer with his tender as may be acceptable to the Employer;

“Contract Price” or “Contract Sum” shall mean the amount entered in the Form of Tender for the whole of the Works done or materials supplied for the Works, subject to additions or deductions as may be made in terms of the Contract.

“Construction Equipment” shall mean all the materials, machinery, implements, tackle, vehicles, barrows, tools, etc. provided by the Contractor, for the due performance of the Contract, but not essentially forming part of the Contract.

“Drawings” shall mean the drawings, sketches, diagrams, maps, plans, sections and other delineations which accompany or are referred to in the Contract Documents, and which have been signed by the Engineer and such further drawings as may be issued or approved by the Engineer relating to the works, whether such further drawings indicate variations of the Works, whether by way of addition, alteration or omission, or merely elaborate the signed Drawings in greater detail.

“Employer” or the **“Client”** shall mean the Owner of the completed Works or the official body who acts as the representative of the Owner and shall include their duly appointed representatives.

“Engineer” shall mean the Engineer duly appointed by the Employer to act on his behalf for the purpose of a Contract. Under this contract the Engineer might act as the Principle Agent

“In writing” shall mean type written script or printed communication matter transmitted via land mail or via e-mail, or delivered by hand, to the Engineer.

“OEM” shall mean the Original Equipment Manufacturer for any product or equipment required as part of this project.

“Order in Writing” shall mean any printed, typewritten, or written document or letter signed by the Engineer and addressed to the Contractor for the purpose of his guidance and directions.

“Plant”, “Work” or “Works” shall mean all equipment, plant, materials, articles, matters and items comprised by, described in, or referred to in the Contract Documents and which are to be manufactured and/or delivered, constructed, erected, and completed. These shall include all those details which are not particularly mentioned in the aforesaid Documents, nor shown upon the Drawings, but which are requisite for the perfect completion of each and every one of the several parts, and all additional Works that may be ordered to be executed according to the true intent and meaning of the Contract plus the maintenance for the prescribed period.

“Schedule of Prices for Variations” shall mean the schedules attached to a Contract Document or Quotation in which the amounts to be added to or deducted from the Contract Amounts are entered according to whether the items mentioned in the said schedule are extra to or omitted from the Contract as may be provided for in the General Conditions of Contract.

“Site” shall mean the land and/or place to which Works is to be delivered or where work is to be executed or carried out under a Contract and any other land and/or place acquired or used by the Contractor in connection therewith, and includes any place wherever anything is manufactured, excavated or stored for the purpose of carrying out a Contract, together with so much of the area surroundings the said place or places as the Contractor shall with the consent of the Engineer actually

use in connection with the Works otherwise than merely for the purpose of access to the said place or places.

“Specification” shall mean the section in the Contract document in which the detail method and standard of executing the Work and the nature of the materials to be used or supplied are described.

“Standard Practice” shall mean the methods and means of working normally as employed by the Employer.

“Sub-Contractor” shall mean the person or persons, partnership, firm or company named in the Contract for any part of the Work or to whom any part of the Contract has been sublet with the consent in writing of the Engineer and the legal representatives, successors and assigns of such person or persons, partnership, firm or company and all specialists, merchants, tradesmen or others executing any Work or supplying any goods for which prime cost prices or provisional sums are included in the Specification or Bill of Quantities and Prices who may at any time be nominated, selected or approved by the Engineer;

“Tests on Completion” shall mean such tests as are prescribed by the Specification to be made by the Contractor before the Works is taken over by the Employer.

Words imparting the singular only shall also include the plural and vice versa where the context so requires. The headings or notes in these General Requirements shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

C3.1.2. SITE ESTABLISHMENT

The specific Contractor shall supply, transport, and off-load his own facilities such as sheds, water, electricity, lighting, etc. on the site. The Contractor shall also be responsible for removing all facilities established on site after his work is completed.

It shall be expected from the Electrical Contractor to erect a site office with surrounding fence. The surrounding fence to be 1,8 m high, with Y shape frame on top and equipped with barbed wired. Lockable gates must form part of the surrounding fence. This site yard must therefore provide adequate security to all material stored, even if it means that the Contractor must provide for a trench alongside the fence. The site office must be equipped with furniture for meeting purposes and the Contractor must decide to have a full-time security guard, keeping close watch over all material stored in this yard. Pin boards shall be provided in site facilities to accommodate all project and construction drawings.

Contractor must make arrangements to have a full-time security guard, keeping close watch over all material stored in this yard. The Contractor must also provide for all the necessary sanitary toilets, water, rain gauge etc.

The Contractor shall cater for his own water, electricity, and sanitation requirements.

The Contractor must also erect a name board, with a size of 2 800 mm x 3 222 mm, at a suitable place to be pointed out by the Engineer. For further details, refer to the drawing of the name board which forms part of this project specification.

The Engineer will indicate the preferred site; the onus is on the contractor to verify if the proposed site is suitable. If applicable, the Contractor shall submit a Site Establishment application to the Building

and Land Use Department on the prescribed application form of the Municipality which can be obtained from the Building and Land Use Department.

C3.1.3. SITE INSTRUCTION BOOK

The Contractor shall make provision for a site instruction book (triplicate pages) which shall be always kept in the site office. All instructions and variations shall be written in this site instruction book by the Engineer while attending the site. The onus will be on the Contractor to confirm such instructions and variations in writing, if the Engineer neglects to do so within 14 days after the issuing of this instruction, especially if it has a cost implication.

C3.1.4. SECURITY

The Contractor must arrange 24-hour security with a reputable security company to protect the construction works. The Contractor must take cognisance that he will be responsible for any material theft and the replacement thereof until the date of signing of the Handing Over Certificate.

C3.1.5. DRAWINGS

The tenderer shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. A marked-up set of drawings shall also be kept and updated by the tenderer. This information shall be supplied to the Engineer's Representative on a regular basis. All information in possession of the tenderer required by the Engineer and/or the Engineer's Representative to complete the as built/record drawings, shall be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

C3.1.6. REQUIREMENTS FOR THE PROGRAMME

It is essential for the tenderer to refer to the General Conditions of Contract for certain requirement for the programme.

This tender must be accompanied by a detailed programme based on prior experience and accounting for site conditions. The programme must also make provision for delivery dates of material as quoted by their suppliers. The Contractor must take cognisance of the fact that he/she will be responsible for late delivery of material, except if the supplier can prove that late delivery was beyond their control. The Engineer and the Employer reserves the right to alter the programme to meet the priorities of the Client. These amendments will be such, that the Contractor will still be able to complete the works within the tendered construction time.

Based on the above, the tender must be accompanied by a cash flow report. This information is required for adjudication of the tender and to determine the escalation on the project when applicable. This will also assist the Contractor in putting his/her tender together and finalizing his/her tender price.

When compiling the project programme attention shall be given to the Health and Safety file which may require a permit application before the construction can initiate. Adequate allowance for this process shall be included in the programme if needed.

The Engineer and his Clerk of Works (if applicable) will have full access to the site and the Clerk of Works (if applicable) is expected to visit the site once a week. A formal site meeting or site inspection will be conducted every second week on a rotational basis.

It shall be expected from the Contractor to forward a weekly progress report to the Engineer which must be emailed to his office every Friday.

The Contractor must also indicate his/her labour force and equipment on site in this report.

The Contractor must submit a progress report at each monthly, scheduled site meeting based on this original program. The actual and scheduled progress must be clearly indicated in the report. The Contractor must also indicate his/her labour force and equipment on site in this report.

The programme must be, based on the following anticipated dates:

Commencement date - 1 October 2025

Completion date - 30 June 2027

1. Commencement date.
2. Date for right of access to, and possession of, the site.
3. Preparation and submission of the Contractor documents
4. Time for site establishment.
5. Time for obtaining H & S permit (if required)
6. Procurement.
7. Construction / Erection.
8. Installation.
9. Handover.
10. "Float" for unforeseen delays

The Contractor must take cognisance that time is of the essence must also allow for normal rainfall during this period in his programme.

Expected delivery date of long lead material must be recorded in the section of this document containing forms to be completed.

C3.1.7. TIME FOR COMPLETION

The Contractor must allow sufficient time in his/her contract working period for delays due to climate and weather according to the average rainfall for this area, as indicated in the special conditions of contract.

Extensions of time will only be granted if evidence can be provided that the delays were caused by abnormal weather conditions. Claims for rework will not be considered and is an issue for insurance. The Contractor shall however allow slack in the construction programme to cater for any unforeseen circumstances.

The penalty for late completion of the works is indicated in the contract conditions and it is emphasized that time is of the essence. Commencement of the contract will be as indicated in the acceptance letter.

The Taking Over Certificate will not be signed prior to receipt of all as-built information as detailed in this specification. This may result in penalties.

C3.1.8. SURVEY

The Contractor must appoint a qualified Land Surveyor to peg the substation centre lines according to the issued construction drawings. The Land Surveyor shall also peg the four corners of the cadastral boundaries of the substation property.

Prior to commencement of any phase of the project as indicated on the drawings, the Contractor must do a thorough survey to ensure that all pegs applicable to this project are installed. Missing pegs must be reported in writing to the Engineer. The Contractor will be responsible for re-installing all missing pegs, not reported, at his/her own expense on the day of handover of a particular phase.

Any cadastral pegs, where applicable, which are removed accidentally or intentionally by the Contractor in the course of his/her activities, shall immediately be reported to the Engineer.

The Employer's land surveyor shall re-install such pegs at the expense of the Contractor, or the Contractor shall appoint a Professional Land Surveyor to reinstate these pegs. The Contractor must issue a certificate obtained from a professional land surveyor to verify that all pegs are installed to correctly set out the works. A CAD drawing indicating all pegs set out shall be submitted to the Engineer to overlay on the construction drawings in order to confirm the correctness of the pegs set out.

The Contractor shall, after completion of the contract, employ a land surveyor acceptable to the Engineer and Employer to certify the correctness of the constructed infrastructure. This certificate must be submitted to the Engineer.

C3.1.9. FINAL INSPECTION

After completion of each section of the project, the Tenderer must perform an internal, thorough inspection on all the work done, to satisfy himself that the work complies with the specifications, and then apply in writing to the Engineer for a final inspection.

The application for the final inspection must be accompanied by the as-built drawings. The installation will not be approved before submission of the as-built drawings.

The Tenderer will be liable to pay the Engineer a penalty fee of R 20 000,00 excluding VAT for each re-inspection.

C3.1.10. QUALIFIED PERSONNEL

The Tenderer must submit a list of the staff allocated to this project with proof of their qualifications and experience in the construction and erection of HV switching yards.

The Tenderer shall also submit a certificate issued by the Inspector of Occupational Health and Safety, indicating that he is fully competent performing electrical construction work and will therefore be fully responsible for the construction of the works. No work will be allowed before submission of these documents.

The Tenderer shall provide the Employer and Engineer with the names of the supervisory personnel on site before commencement of the contract works.

If the Contractor, during any stage of the contract and for whatever reason, desires to change the supervisory personnel on site, he will do so in writing to the Employer and Engineer. Failure to do this will result in the Engineer halting the contract works until such time the necessary documentation is provided. Any such delays will not be considered by the Engineer for late completion of the contract.

C3.1.11. CONTRACTOR'S RESPONSIBILITY

C3.1.11.1. GENERAL

Until the Contract Works have been completed or deemed to have been completed, the Contractor shall be responsible (subject to the Memorandum of Agreement and the Conditions of Contract) for the Contract Works, whether under construction, during tests, or in use for service.

The handling and storage of materials and equipment near the erection site prior to installation shall be done in a tidy and safe manner. The Contractor shall at his own expense, keep the site area allocated to him, and the erection area of the Contract Works, reasonably clean and shall remove all waste material as it accumulates, and as directed by the Engineer from time to time. There shall be no Safety, Health, Environmental or Quality impact due to the installations carried out and the Contractor shall take full responsibility for all construction methodologies.

Storage of materials shall not be permitted without prior approval, and the Contractor shall take all necessary steps to protect any materials stored on the site.

When the work is completed, the Contractor shall remove all rubbish and debris, unused materials, temporary erections, and plant and shall leave the site of the work clear. The Contractor shall also make good at his own expense, any damage caused to buildings, plant or property belonging to the owner of the works.

Except for site management and specialised labour such as operators for plant and equipment, the Contractor is encouraged to use "local" labour on a temporary basis for all manual tasks.

The Contractor will attend all site meetings as arranged by the Employer.

All Construction work shall be carried out in accordance with all the statutory requirements applicable to the area, specifications, standards and regulations.

The Contractor will be given access to the proposed site and the Contractor must comply with Provincial and Local environmental policies and laws.

The onus is on the Contractor to obtain the latest revision of standards applicable.

The Employer reserves the right to alter the scope of the works and programme.

The Employer reserves the right to remove certain sections from the detailed scope of works as described in this contract.

C3.1.11.2. ORDERING OF MATERIAL AND EQUIPMENT

All the material shall be supplied by the tenderer, which includes fabrication, according to the relevant standards and specification, transporting to site, off-loading on site, installation and commissioning which will all be undertaken by the successful tenderer.

The offloading and safekeeping of material off-site is the responsibility of the Contractor.

The successful Tenderer shall attend meetings at venues and at times, as may be arranged by the Engineer, after having been advised that his/her Tender has been accepted, for the purpose of coordinating the technical requirements and the time frame of the project, so that orders can be placed for the correct materials.

Contractors must note that materials and equipment on long delivery shall be ordered well in advance as late deliveries will be the Contractors sole responsibility. Any applicable escalation on equipment or materials ordered late will be calculated using indices as specified by the Employer. If, for some reason, late deliveries are found to be to the advantage of the Employer, the Contractor will be instructed in writing regarding the delay in ordering of such materials.

Unless otherwise indicated or stated, all units of measurement indicated in the Pricing Schedules, Schedule of Quantities or Bills of Quantities are metric units.

The linear quantities of wire, conduit, trunking, cables, switchgear, fittings etc. as given in the Pricing Schedules, Schedule of Quantities or Bills of Quantities a measured from drawings for Contract document compiling purposes. Contractors can thus not accept that such quantities are accurate when materials are ordered. Before ordering any equipment, materials and cables, the measurements must be finalised on site and must be confirmed with the Engineer. The accuracy or inaccuracy of the Bill of Quantities will not influence the validity of the tender.

At the end of the Contract period a final re-measurement, based on actual quantities, will be done. Any excess cable or material will be for the account of the contractor and payment for excess cable or material will not be considered.

If such measurements cannot be taken at the onset of the Contract, the Contractor shall obtain approval from the Engineer to order the required materials that may cause delays or additional cost due to escalation before ordering such materials as allowed for in the Pricing Schedules, Schedule of Quantities or Bills of Quantities.

C3.1.11.3. WORKSHOP ASSEMBLY

To avoid problems with the erection and installation activities on site, components, equipment, and sub-assemblies must be pre-assembled in the place of manufacture to ensure proper fitting and operation on site.

Such pre-assemblies which are to be tested in the place of manufacture, shall be set up in a simulated mode, using the specified peripheral equipment as far as possible in a temporary connected condition to simulate site conditions as accurately as possible. This requirement is applicable to field equipment for electrical and electronic installations.

The purpose of such preliminary testing, shall further be done to check whether the equipment complies with predetermined set values and shall produce certain predetermined set results, as set out in the various parts of the document.

Measurements of equipment shall be taken into consideration to ensure that such equipment and materials can be handled on site and can be placed into the specified positions.

Additional costs or delays resulting from failure on the part of the Contractor to check access conditions, positions, openings, etc., will be for the Contractors account.

Individual units of equipment shall be clearly marked by employing an identification code in such a manner that actual re-assembly, erection, and installation on site can be done in the minimum of time with a minimum of fitting and adjusting on site.

Equipment should be delivered to site in the largest sub-assemblies that are practical.

Equipment of the same type shall all be obtained from one manufacturer and sub-components shall be changeable. Prior to manufacture, the Contractor shall ascertain the critical dimensions of points of entry to the building.

The Engineer may, upon request by the Contractor, inspect existing installations of prototype assemblies in the factory to determine whether the extent and workmanship of such units are of the required standard for the particular Contract. This may be done to obviate the possibility of having to replace unacceptable equipment already installed.

C3.1.11.4. DELIVERY OF EQUIPMENT

The Contractor shall make the necessary arrangements to get all equipment delivered to site in accordance with the Programme of the Works and in an undamaged condition.

The Contractor shall pack equipment and material for transport and delivery in soundly constructed crates or other packages fitted with removable lids or openings for inspection.

All parts of the equipment prior to packaging, shall have been thoroughly protected to preclude damage during transport and storage.

Any damage that may occur in transit or storage must be repaired, corrected, or replaced by the Contractor before such materials or equipment is installed. Any parts of items found to be defective after installation on site, shall be replaced or repaired at the Contractor's expense, to the Engineer's approval

The Contractor shall be responsible for the acquisition of any insurance cover that may be required for equipment in transit and temporary storage on and off site.

All the lifting and erection equipment required by the Contractor to off-load, install, or erect equipment on site is deemed to have been allowed for by the Contractor in the Contract price, as no assistance in this regard will be provided by the Employer or other Contractors.

If no item has been measured in the Pricing Schedules, Schedule of Quantities or Bills of Quantities for such handling equipment, the rate of the item to be handled shall include such handling costs.

Materials stored off-site must be repacked or protected, after inspection, to provide the necessary protection thereof for transport to site.

C3.1.11.5. MATERIAL MANAGEMENT

The Contractor will be fully responsible for the transporting of all materials and equipment to the off-site storage facility or on-site and will provide the off-loading, rigging, lifting, handling and placement

thereof into the permanent position as planned for the equipment. The Employer will not provide any assistance or equipment for the placing of equipment into position or materials

The Contractor shall administer this material according to store bookkeeping system by means of computer aid. A stock taking report shall be submitted to the Engineer on a two-weekly basis.

It will at all times be assumed that the Contractor has ensured upon issue of material that no visible damage has occurred to it. In the case of damaged material, acceptance will be refused. If a dispute arises, the Executive Director: Engineering Services of Midvaal Local Municipality shall be called in for a decision. Damage material found on site will be replaced at the cost of the Contractor and no extension of the contract time will be granted for the extra delivery time.

All material must comply with the requirements of the latest revised SANS or IEC Standards.

In the event that offered material do not comply or fails the specified tests, the contractor shall at his cost replace the material or equipment that do not comply or has failed the specified tests. All replacement equipment or material shall comply with the relevant specifications.

C3.1.11.6. OFF-SITE HANDLING OF MATERIALS AND SAFETY

Equipment and materials stored off-site shall be stored in a safe, dry, and clean environment and shall be protected against damage, from the elements and theft. Electrical and electronic equipment shall not be assembled, stored, or tested in areas where grinding, welding, or painting work takes place. Damaged equipment and materials, stored in factories or stores of the Contractor, will be rejected upon inspection.

Areas in stores or places of manufacture for testing or inspections of equipment and materials by the Engineer shall be clean and safe for the purpose of testing or inspections. Floors must be free of loose materials, dirt, and debris.

Equipment and materials will not be inspected in noisy or dirty environments and not in areas where welding, grinding, and painting or any other manufacturing processes are underway. Testing or inspections will not be undertaken in hazardous or explosive atmospheres.

Materials stored in the stores of the Contractor or in alternate storage space, and which is acceptable to the Engineer for off-site certification for payment, shall only be certified for payment under the conditions as laid down in this document.

C3.1.11.7. ON-SITE HANDLING OF MATERIALS AND SAFETY

Equipment and materials stored on site shall be stored in a safe, dry, and clean environment and shall be protected against damage, from the elements and theft.

Heavy materials shall be stored in a manner as not to create a danger to other Contractors or to the Employer or the Engineer.

Small materials shall not be left lying around on site. Expensive, small items such as instrumentation or electronic components shall be kept under lock and key until the installation thereof.

Storerooms used by the Contractor shall be kept locked to prevent unnecessary loss of materials.

Redundant material, which is the property of the Employer, shall be removed from site and either be reused elsewhere or returned to the Employer through the relevant processes. If clear directions are not available in this regard, the Contractor shall obtain instructions for the removal of the equipment from the Engineer. No redundant material shall become the property of the Contractor or any other party and shall remain the property of the Employer unless decided otherwise by the Employer.

C3.1.11.8. RE-LABELLING

The Contractor shall be responsible to attend to all labelling requirements that arise with any system installation. All labelling requirements shall be allowed for in the unit rates of the Contractors priced bill of quantities. A schedule of labels shall be compiled by the Contractor and submitted to the Engineer for approval.

C3.1.11.9. CONSTRUCTION METHODS

Before initiating any construction, the Contractor shall compile a list of all defects per sectional area and verify such defects alongside a duly authorized representative. The repair of any damage not listed shall be the full responsibility of the Contractor, the Employer shall under no circumstances be held responsible for payment of damages done by the Contractor or damages not listed prior to initiating construction.

Where the Contractor will perform trench work, it shall be the Contractor's responsibility to request that the employer scans the trench for any existing services, especially cables at substations. The Contractor shall mark the trench positions clearly by means of chalking.

The Contractor shall ensure that all wayleaves are approved prior to commencement of any work and shall be responsible for maintaining any pre-approved wayleaves.

C3.1.11.10. SITE SAFETY

NOTE: Tenderer's and Contractors must ensure that they have read and understood the requirements of this document.

The requirements of the Occupational Health and Safety Act, Act 85 of 1993 and the requirements of SANS 10142-1 (or the latest edition thereof) shall be complied with as far as site safety is concerned. Excavations shall be barricaded, backfilled, and compacted as soon as possible after excavating to allow safe passage for persons and traffic on site.

Contractors shall not allow any workers to work in excavations deeper than 1m, unless the sides of the excavations are properly shored and supported, especially in sandy or wet soil conditions.

Open manholes shall be barricaded.

Deep waterlogged excavations shall be pumped empty as soon as possible after flooding or shall be solidly barricaded until pumped dry.

Open, live, or unsafe power connections shall not be left unguarded or unprotected.

The construction site shall be kept clean and tidy on a daily basis.

Off-cuts and rubbish shall be removed from the site and deposited in the designated dumping place on a daily basis.

The Contractor shall adhere to all safety rules and regulations as may be in existence on a site or as may be required by the Employer or the Engineer. The Contractor shall also ensure that their workforce on site adhere to safety rules.

Contractor shall not drive or allow a vehicle or machine to be driven close to excavations. Contractor shall keep all power connections and/or live equipment with voltages above 50V, temporary or permanent, in a good and safe condition and shall keep all doors, shutters and covers closed on such equipment, during construction, testing and commissioning and shall take all steps to prevent accidental contact of live equipment by any person.

The Contractor shall take control over any power cable or power circuit connected from equipment installed by him, or under his control and which operates at a voltage higher than 50V. The Contractor shall not energise such a cable or circuit and shall not grant permission to any other person on the site to energise such a cable or circuit without first having made sure that such action does not create a dangerous situation.

The Contractor shall not connect any portion of an installation to the point of supply of a Supply Authority without first having complied with the requirements and regulations of such an Authority as far as tests, certification or clearance from the Authority is concerned and not until permission is obtained from the Engineer in this regard.

Any damage to equipment of other contractors or the Employer due to equipment being supplied by such an unauthorized power connection shall be for the account of the Contractor for this Contract.

The Contractor shall not energise any portion of an installation until the earth points of power equipment in such installation have been properly bonded and earthed to a known good earth point with a value of 5 ohm or less, referred to zero, as tested with a null balance megger.

C3.1.11.11. EXISTING SERVICES

The tenderer should take note of existing cables and other services. The services may be buried and cannot be accurately pinpointed. Therefore, all excavations must be done with care.

The tenderer shall acquaint himself with the position of all the existing services such as storm water pipes, water mains, sewer mains, gas pipes, telephone cables, etc. before any excavations are commenced. For this purpose, he shall approach the Engineer's representative, the local municipal authority, and any other authority, which may be involved, in writing.

The Electrical Contractor shall accept full responsibility for any damage caused by excavation work, whether caused directly or indirectly and whether written permission has been granted for machine excavation or blasting, or not.

Repair of damaged services undertaken by the Electrical Contractor shall be to the satisfaction of the owner of the service. The cost of repair work undertaken by the owners of the service as well as consequential losses due to the damaging of the service will be recovered from payments due to the Electrical Contractor without notice unless proof of direct payment to the owners can be produced.

The Contractor shall report any damaging of existing services immediately to the Engineer as well as the owner of the service, irrespective of whether the damage is considered a minor damage or not. Apart from reporting damage, an entry shall be made in the site diary, indicating the time of occurrence, extent of the damage, time reported, and names of the persons reported to at the Consulting Engineers as well as Owners of the service.

Penalties shall be levied for damage caused to existing services caused under the following circumstances:

- a) Damage due to machine excavation or blasting without the written permission of the Engineer.
- b) Damage which the Contractor failed to report to the Engineer as well as the owners of the service, or which the Contractor failed to enter comprehensively in the site diary.
- c) The penalties referred to above, shall be 100 % of the cost of repair work carried out by the owner of the service as well as 100 % of the value of consequential losses as calculated by the owners of the service. Any such penalties shall be recovered from any payments due to the Contractor

C3.1.11.12. DESIGN RESPONSIBILITY

Preparation of all detail's designs, manufacturing drawings and documentations for approval specified throughout the enquiry document shall initiate once the successful tenderer has received a Letter of Acceptance.

The tenderer shall be responsible for furnishing all equipment detailed designs as well as the protection schemes based on the specification. The tenderer shall submit the initial design drawings to the Engineer for a design review and the allowed duration for the design review by the Engineer shall be 10 working days and excluding the day when the designs are submitted for approval. The design freeze will be only granted after approval by the Engineer. The tenderer shall submit all outline drawings and design details including requested supporting documents within a reasonable time frame and prior to the commencement of the equipment manufacturing.

C3.1.12. PAYMENTS

Payment application will be assessed once a month and the claim must be agreed to and approved by the Engineer. The claim must reach the Engineer's office 7 calendar days prior to the agreed invoice submission date.

The Engineer will not issue any certificate for interim payment of any equipment and material that is stored on or off site in such a way as to hinder inspection thereof.

The Employer reserves the right to be under no obligation to pay for material delivered to or off site and shall take preference for payment to the Contractor after commissioning of the works. The Contractor shall price the preliminary and general section if the bill of quantities adequately allowing for all overhead costs during the construction period.

Materials or equipment stored on or off site and packed in crates or boxes must be opened for inspection and the serial numbers, types or quantities must be easily identifiable by the Engineer before payment for such materials will be processed.

Payment will further not be certified for small materials such as short pieces of cable, conduit, wire, conduit boxes, saddles, screws, etc., that are stored on or off site. Payment for such materials will only be certified once the materials have been built in, installed, or commissioned. In special cases, 80% payment for material on site may be considered subject to approval.

Interim payment will only be considered subject to the following conditions:

- a) The equipment must be complete and in a ready state for installation or commissioning. Loose components which are not yet built into, or which will form part of the large materials mentioned in the previous paragraph, will not be considered for payment. (An example hereof is, for instance, instruments that must be fitted in a cabinet and are still in separate storage.)
- b) The materials which are to be type tested, performance tested, or safety tested should have already passed inspections and/ or tests by the Contractor and/or the supplier of the equipment.
- c) The Contractor shall, prior to submitting interim payment claims, procure financial assurance by means of the guarantee from a registered bank, on the form provided by the Engineer, and equal to the total amount of payments to be made to the Contractor.
- d) The total value of such guarantee, provided by the Contractor to the Employer, may be varied by the Contractor, with the consent of the Employer, from time to time provided that the Employer will be covered at all times to the total amount paid by the Employer to the Contractor for items not yet built into the Works.

The guarantee will lapse 24 months after signed acceptance without reservation by the Engineer and Employer and all the said equipment and/or materials have been built into the permanent Works.

The material must be stored in a cordoned off area in the stores of the Contractor and a notice must be affixed to this area stating that the materials stored in that area are the property of the Employer. The area must be safe and not near flammable liquids or explosive equipment and must be kept clean and dry.

C3.1.13. DESIGN DOCUMENTS

Design documents approved by Eskom are made available to the contractor in soft copy format, strict compliance with these documents are compulsory. Should any discrepancy arise between the enquiry / tender / specification document and design document, then the contractor shall notify the Engineer in writing and request clarification. Quantities as measured in the tender document shall take precedence over those of the design document.

C3.1.14. PRIMARY PLANT

The Eskom contractor will be responsible for all aspects of the Eskom control plant installation and so will the Midvaal contractor be responsible for all aspects of the Midvaal control plant installation. This will require the Midvaal contractor to work on the Eskom side of the yard and vice versa for the Eskom contractor to work on the Midvaal side of the yard (i.e. overlapping bus-zone protection).

The contractor shall deliver all material and works in accordance with Eskom standards and specifications. With the contractor being Eskom approved conversancy with Eskom requirements shall be the contractor's responsibility.

C3.1.15. PROJECT SPECIFICATION

The following project specifications are integral parts to this project specification, some of which may be included under separate cover:

Eskom Material and Work Specifications
PSE 16 – HV Control Room Building
PSE 23 – Substation Foundations and structural work
PSE 54 – Substation mesh and electrical fence
PSE 100 – Using of Manpower

I / We, the undersigned hereby acknowledge that copies of the above documents are included in the tender document and confirm that I / We fully understand them and the consequences of non-compliance.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

NAME:

SIGNATURE:

CAPACITY:

C3.1.16. ESKOM MATERIAL AND WORK SPECIFICATIONS

It is therefore required that all tenderers must have access to the Eskom specification, via the Eskom Web at <https://scot.eskom.co.za/>. Please note that a fee is payable to Eskom for this service.

Application can be made to:

- Mrs Brenda Morrison
- Assistant Officer
- Tel: (011) 629 5266
- Fax: (086) 662 6387
- E-mail: Brenda.morrison@eskom.co.za

Note: Unless otherwise specified the material shall be in accordance to Eskom specifications.

C3.1.16.1. PRELIMINARIES

WORK SPECIFICATION

SPECIFIC REQUIREMENTS

The Contractor shall allow for the following specific requirements of Eskom:

- a) Office accommodation for meetings held on site.

PRELIMINARY AND GENERAL:

In addition to the specific requirements of Eskom, detailed above, the Contractor shall allow for his own preliminaries and/or overhead costs as required for the execution of the contract. It shall be divided into the following two sections:

- b) Fixed-charge items such as: (SANS 1200A - 8.3)
 - Contractual requirements.
 - Establishment of facilities on site such as plant, sheds, water,
 - Electricity, lighting, etc.
 - Removal of facilities from site after completion of work.
 - Any other fixed-charge items.
- c) Time related items such as: (SANS 1200A - 8.4)
 - Contractual requirements.
 - Operation & maintenance of facilities on site.
 - Supervision.
 - Company and head office overhead costs.
 - Other time related items.

MATERIAL SPECIFICATION

The specific Contractor shall supply, transport and off-load his own facilities such as sheds, water, electricity, lighting, etc. on the site. The Contractor shall also be responsible for removing all facilities established on site after his work is completed

C3.1.16.2. SITE WORKS

The Contractor shall remove all vegetation and neutralise the site before construction can begin.

The bulk earth works portion of the contract to establish the substation platform is included under the Eskom contract in full. The Eskom Contractor will be responsible to hand over and certify the setting

out and levels of the bulk earth works to the Midvaal Contractor, however the Midvaal Contractor shall be responsible to verify these levels and setting out done by the Eskom Contractor. This shall be a holding point on the Midvaal works and no work shall proceed without the above verification or if discrepancies arise. No Contractor may not proceed without the above verification.

The external access road works portion of the contract to establish access to the Eskom switching station and Midvaal substation is included under the Midvaal contract in full. The Midvaal Contractor shall be responsible to hand over and certify the setting out and levels of the access road works to the Eskom Contractor, however the Eskom Contractor shall be responsible to obtain and verify these levels and setting out done by the Midvaal Contractor. This shall be a holding point on the Eskom works and no work shall proceed without the above verification or if discrepancies arise. No Contractor may not proceed without the above verification. All gate ramps will be constructed under the respective Eskom or Midvaal contracts and is therefore excluded from the above mentioned external access road works.

The gate ramps for the two sets of entrances adjacent to each other at the separation line between the Eskom and Midvaal 88 kV yards shall be cast as a single unit – it is therefore emphasized that the Eskom and Midvaal Contractor shall carefully coordinate these tasks in order to cast the ramps simultaneously.

BULK EARTH WORKS AND ROADS

The bulk earth works comprises of:

- Site Survey
- Herbicides and Pesticides application

The following road works are defined as internal:

- Concrete gate entrances
- Cable trench ramps

WORK SPECIFICATION

DISPOSAL OF EXCAVATED MATERIAL SHALL INCLUDE:

- a) Removal of excavated Black Turf or any other soil unsuitable for backfilling and transporting it to borrow pits.
- b) The excavated material shall be disposed of in borrow pits or a suitable place, indicated by the Engineer or his site representative or the Employer's environmental representative.
- c) The Contractor shall make his own arrangements for the provision to dispose of the excavated material on such a disposal place.
- d) Free haul shall be the distance within a radius of 1,5 km from the substation position.
- e) Limited haul shall be the first 1 km beyond the end of the free haul distance via the shortest practicable route.
- f) Long haul shall be the remainder of the distance beyond the limited haul by the shortest practicable route.

IMPORTING SOIL SHALL INCLUDE:

- a) Transporting imported soil from borrow pits to substation position.
- b) In areas where the excavated soil is Black Turf, imported soil shall be used for the soil / cement mixture.
- c) The Contractor shall make his own arrangements for the provision of a suitable borrow pit for the importing soil.

- d) Free haul shall be the distance within a radius of 1,5 km from the substation position.
- e) Limited haul shall be the first 1 km beyond the end of the free haul distance by the shortest practical route.
- f) Long haul shall be the remainder of the distance beyond the limited haul by the shortest practical route.

TRANSPORTATION SHALL INCLUDE:

- a) Transporting all material and equipment from the construction camp to the substation position.
- b) Free haul shall be the distance within a radius of 1,5 km from the substation position.
- c) Limited haul shall be the first 1 km beyond the end of the free haul distance by the shortest practicable route.
- d) Long haul shall be the remainder of the distance beyond the limited haul by the shortest practicable route.
- e) If the Contractor is planning to use a batching plant not located in the construction camp, the cost due to transporting the concrete from the batching plant to the construction camp shall be at the expense of the Contractor.

MATERIAL SPECIFICATION

DISPOSAL OF EXCAVATED MATERIAL:

- a) The Contractor shall be responsible for disposing of excavated soil not used for backfilling.
- b) The Contractor shall transport all the excavated soil not used for backfilling to the suitable borrow pit.

IMPORTING SOIL:

- a) The Contractor shall be responsible for supplying imported soil. If not otherwise specified, the imported soil shall be in accordance to
- b) SANS 1200.
- c) The imported soil shall not contain notable quantities of organic matter or stones of average dimension exceeding 150 mm.
- d) The Contractor shall transport all the imported soil from the borrow pit to the substation position.

TRANSPORTATION:

- e) The Contractor shall transport the concrete from the batching plant to the substation position.

C3.1.16.3. INSTALLATION OF EARTH GRID

It is preferred that due to the Midvaal portion of the substation platform being in fill, that no more than 300 mm of the new backfill is excavated for installation of the earthing system. This will require detail coordinated between the platform construction and earthing installation.

WORK SPECIFICATION

NOTES:

- a) The earth grid shall be installed in accordance to Eskom Earthing Standard D-DT5240 and to the Earth grid Layout drawing.
- b) All labour and transport cost must be included in the quoted rate.

EXCAVATE EARTH GRID TRENCHES SHALL INCLUDE:

- a) Excavating in all material 450 mm wide trenches.
- b) The main earth grid shall be laid in 1000 mm deep trenches.
- c) Risk of collapse and keeping excavations free of water shall be included in the quoted rate.

INSTALLING THE EARTH GRID SHALL INCLUDE:

Horizontal earth electrode:

- a) Round annealed copper rod with a 10 mm diameter, is to be used for the earth electrode.
- b) A 200 mm layer of imported soil with a resistivity less than 100 Ωm shall be compacted at the bottom of the trench before placing the copper conductor in the trench.
- c) The copper conductor shall be placed on this bed of compacted soil.
- d) The main earth grid trenches shall be back filled and compacted with imported soil with a resistivity less than 100 Ωm , in layers not exceeding 150 mm.
- e) Copper rods shall be installed under the switch house foundation and welded to the main substation earth grid.

Vertical Earth Electrode:

- f) Round annealed copper rod with a 10 mm diameter, is to be used for the earth electrode.
- g) Holes with an inside minimum diameter of 100 mm must be drilled to the required depth. The vertical copper electrodes (two rods per hole) will be positioned in the hole, which will then be filled with conductive concrete. It must be poured as slurry into the holes.

WELDING OF JOINTS, CROSSINGS AND EARTH TAILS SHALL INCLUDE:

- h) All copper rod crossings and joints shall be welded according to Earthing Standard D-DT-5240. This includes the vertical electrodes welded to the horizontal electrodes.
- i) At positions indicated on Earth grid drawing, earth tails shall be welded to the earth grid.
- j) These earth tails shall protrude above the substation floor level, long enough for bonding to the substation fence and steel support footings.
- k) No joint in earth tails shall be made above the ground level.
- l) The earth tails for the switch house shall be welded to the main substation earth grid.
- m) Bonding of the earth tails to the steelwork, equipment and substation fence is covered in the documents handling the installation of the relevant parts.
- n) Earth tails for bonding to the terminal towers shall be installed as shown on the Earth grid Layout drawing. The line Contractor shall do the bonding to the terminal tower.

Testing of earth grid shall include:

- a) The earth resistance of the earth grid shall be tested before and after the terminal tower is connected to the earth grid.
- b) The earth resistance of the earth grid shall be tested before the earth wires of the line are connected to the earth grid.
- c) The preferred method for testing the earth grid resistance is the 'Wiener Bridge' method.
- d) The test shall be done from one of the corners of the main substation earth grid.
- e) The measurements shall be carried out and logged by the Project Engineer.

Additional earthing shall include:

- a) The total earth resistance of the earth grid before the terminal tower is connected should be less than [the resistance calculated in CDEGS].
- b) If the values for the earth resistance for any are above the mentioned values, additional vertical earthing should be installed, after the project Engineer has been notified.
- c) The additional vertical electrodes shall be welded to the existing horizontal grid according to Earthing Standard D-DT-5240.
- d) The earth resistance shall again be measured as described
- e) If the value for the earth resistance is still above the mentioned values, the Project Engineer shall be notified once again.

MATERIAL SPECIFICATION

Unless otherwise specified, The Contractor shall supply the copper and all the material necessary for installing the earth grid. The Contractor shall further be responsible for the safekeeping of the copper.

All earthing outside the substation perimeter fence shall be the Copper Cladded Steel (CAMO type) equivalent to the copper earthing specified.

Installing the earth grid:

- a) 10 mm Diameter annealed copper rods shall be used for the main earth grid conductors as well as for the counter poise conductors.
- b) The resistivity of the imported soil shall be less than 100 Ωm for the soil to be back filled in the earth grid trenches.

Welding of joints:

- a) Unless otherwise specified the earth tails shall be 50 mm x 3 mm flat copper strips.

Testing earthing resistance:

- a) The Contractor / Project Engineer shall carry out the tests.

Additional earthing:

- a) 10mm Diameter annealed copper rods shall be used for the additional counter poise conductors.
- b) All material for the additional earthing shall be supplied by the Contractor.

Conductive concrete for vertical electrodes:

- a) The conductive concrete must have a resistivity of less than 0.01 Ωm . It must be made from high quality (99% Carbon) petroleum coke with a closely graded particle size. The mixture of the conductive concrete should be 7 parts carbon, one-part cement.

C3.1.16.4. FACILITIES

A whirly bird shall be installed in the control room as indicated on the drawings and Bill of Quantities. The ventilation airbricks and the gauze wired vents should be sealed off if any exist. Vents/Filters shall be installed on all doors with louvres – refer to the door schedule.

All door, windows, ceilings, cable entrances etc. shall be sealed to prevent dust ingress.

WORK SPECIFICATION

Building the Control Room shall include:

- a) Building of control room according to Eskom standard drawings.
- b) The control room shall be built and equipped according to SANS 1200.
- c) The power and control cables shall be installed on cable trays on the inside of the control room.
- d) The control cable shall enter the control panels from the bottom.
- e) All gutters and corrugated iron shall be bonded to the control room earthing with earth tails.
- f) The earth tails shall be installed in the foundations as indicated in drawing D-DT 5240.
- g) The earth tail shall be fixed to the floor according to Eskom Earthing Standard D-DT 5240.
- h) The equipment and panels shall be bonded.

Attaching warning signs:

- a) Warning signs shall be attached to the outside of each door of the control room.
- b) On the doors the following signs shall be attached:
 - Unauthorised entry and interfering prohibited.
 - Warning of electrical shock
 - Procedure in case of fire
 - First aid treatment of electrical accidents

Install cable trays:

- a) All cable trays and accessories are based on the O-line product range.
- b) The cable trays shall be installed as shown on the project drawings.
- c) All cable trays shall be 600mm wide GRIDSPAN GS50.
- d) The cable trays shall be attached to surface mounted OLISTRUT channels on the outside of the switch house.
- e) The cable trays shall be supported by a 600 mm cantilever support arm (OLCA01) attached to surface mounted OLISTRUT channels on the inside of the switch house.
- f) The cable trays above the switchgear shall be supported by OLISTRUT channels and threaded rods hanging from the roof.
- g) The cable tray supports shall be spaced approximately 2 m from one another.
- h) All cable trays on the inside of the switch house shall be on the same level.
- i) The cable trays shall be installed so that there will be at least 400 mm between the cable tray and the control panels.
- j) The cable trays shall not be lower than 2.4 m from the floor level.
- k) The control cables going down from the cable tray to the switchgear shall be vertically supported with 101 mm wide light duty cable trays (PT19).
- l) These vertical trays shall be bolted to the horizontal tray.
- m) A cable support bracket as shown on the project drawings shall support the power cables.
- n) The power cables shall be clamped to the cable support bracket with
- o) 78 mm wide OLUC cable clamps.

MATERIAL SPECIFICATIONS:

The Contractor shall supply, transport and offload all material and equipment necessary for building the control room according to the project drawings based on Eskom standard drawing D-DT 5239.

Building of the Control Room:

- a) The material for the control room shall be as specified on the drawings.
- b) External bricks shall be face bricks and samples shall be submitted for approval to the Project Manager prior to commencement.

Warning Signs:

- a) The signs shall be made of durable UV stabilised plastic. (Supplied by the Contractor).

C3.1.16.5. CIVIL WORKS

WORK SPECIFICATION

NOTES:

- a) All foundations shall be erected according to Eskom's standard foundation drawings.
- b) All work shall be in accordance the relevant SANS 1200 documents and the latest revision of drawing D-DT 5240.
- c) All labour and transport costs shall be included in quoted rate.
- d) Risk of collapse and keeping excavations free of water shall be included in the quoted rate.

Foundations:

- a) Supply and erect complete foundations to standard Eskom drawings including formation, reinforcing, holding down bolts, back filling and compaction around the foundations.
- b) A steel template shall be used for setting all holding down bolts.
- c) Formation shall be extended to at least 100 mm below the natural ground level.

Transformer plinths:

- a) Supply and erect complete transformer plinths and runways according to the foundation drawing including formation and reinforcing. A sump, leading to the oil holding dam shall be established inside all bund walls.

Cable trenching and kerbing:

- a) Supply and install complete cable trench as shown on the Foundation Drawing including back filling and compaction around the trenches.
- b) The substation kerb shall enclose the substation as shown on the Foundation Drawing.
- c) All ramps shall be a concrete slab reinforced with mesh as shown on Foundation Drawing.
- d) Excavate, supply and construct 300 mm concrete pipes from the bund wall of each transformer to the oil holding dam.
- e) Construct three concrete manholes with covers, in accordance with the foundation drawings. The foundation drawing also indicates the orientation of the manholes.
- f) Excavate, supply and construct an oil holding dam as per design drawings. Supply and install an oil holding dam. The outlet of the oil trap (bag filter) shall be connected to the bat wall.

Yard stoning:

- a) The 25 mm - 38 mm yard stone shall be spread over the entire substation yard to a thickness of at least 150 mm.
- b) The yard stone shall be lightly compacted to set levels.

Herbicides, insecticides, etc. shall include:

- a) Treating of yard surface with Eskom approved herbicides, insecticides, etc.
- b) Forming of V-grooves along foundation walls and treating with additional insecticides approved by Eskom.
- c) Herbicides shall be applied after completion of the substation terrace, during commissioning of the substation and before the 12 month maintenance and guarantee period lapses.

MATERIAL SPECIFICATIONS

The Contractor shall supply, transport and offload all material and equipment necessary for completing all the civil works.

Foundations:

- a) All material used for the foundations shall be in accordance to the relevant foundation drawings and SANS documents mentioned on these drawings.
- b) All holding down bolts complete with nuts. The Contractor shall supply washers.
- c) All holding down bolts shall be galvanised to SANS 1461 or ISO 1461 for all foundations.
- d) All holding down bolts shall be in accordance to SANS 135 with a strength grade of 4.6.

Cable trenching and kerbing:

- a) The concrete used for the cable trench walls shall be in accordance to the Foundation Drawings.
- b) The concrete covers shall be reinforced with mesh reinforcing in accordance to Foundation Drawings.
- c) The sand on the inside of the cable trench shall be river sand.

Yard stoning:

- a) The stone shall be clean, hard, sound crushed stone having a nominal size not less than 25 mm as approved by Eskom.

Herbicides, insecticides, etc.:

- a) All herbicides, insecticides, etc. and the application thereof shall be in accordance to Eskom's latest corporate Environmental Policy.
- b) A guideline for selecting herbicides used in substations shall be acquired from the Eskom's Environmental Department.
- c) Prior to the use of any herbicides, insecticides, etc. approval from Eskom's environmental representative shall be obtained.
- d) Consultation on herbicides and the effectiveness thereof, as well as advice on any other aspect of herbicides, can be obtained from Eskom's Environmental Department.

C3.1.16.6. STEELWORK

WORK SPECIFICATION

NOTES:

- a) Unless otherwise specified, all steelwork shall be standard equipment supports according to Eskom's standard equipment support drawings.
- b) All labour and transport cost must be included in quoted rate.

Erecting steelwork shall include:

- c) Supply and erect all steelwork shown on Steelwork Schedule and according to standard Eskom drawings.

MATERIAL SPECIFICATION

Unless otherwise specified, the Contractor shall supply all material necessary for installing the steelwork.

Erecting steelwork:

- a) The steel for the supporting structures shall be in accordance to the specific support structure drawings.
- b) The steel shall be hot dipped galvanised to SANS 1461 or ISO 1461

C3.1.16.7. INSTALLATION OF EQUIPMENT

For the primary plant installation, the Eskom contractor shall supply and install the busbars of the Eskom Incomer 1 and Eskom Incomer 2 to Midvaal. The Midvaal Contractor shall be responsible for providing the post insulators for the above mentioned busbar installation and the Midvaal Contractor shall also be responsible for the jumpers, clamps etc. from the Eskom Incomer busbars for the Midvaal portion of works.

WORK SPECIFICATION

NOTES:

- a) All work shall be in accordance to Eskom's standards and specifications.
- b) Unless otherwise specified, all installed equipment shall be labelled.
- c) All equipment shall be positioned and all necessary stringing and earth bonding shall be done according to the following drawings:
 - Station electrical diagram.
 - General Arrangement diagram.
 - Sections diagram
- d) All labour and transport costs must be included in quoted rate.

New Equipment:

- e) Establish a new substation as per drawings.

Equipment bonding:

- a) Bonding of all steelwork to 50 mm x 3 mm earth tails in accordance to the Earthing Standard D-DT 5240.
- b) The steel support bolts shall be used to bond the earth tail to the equipment support footings.
- c) Where connections are made painted steelwork the paint shall be removed over a minimum area to allow good contact between surfaces.
- d) The earth tails shall be fixed to the steelwork according to the Earthing Standard D-DT 5240.
- e) Where connections are made onto painted steelwork the paint shall be removed over a minimum area to allow good contact between surfaces.
- f) A 50 mm x 50 mm area around the hole on the earth tail used for bonding shall be cleaned before the earth tail is bonded to the steel support.
- g) A non-oxidising paste, approved by Eskom, shall be put between the cleaned earth tail surface and the steel support before it is bonded.
- h) After bolting any scraped area not covered by the copper connection shall be painted using original types and colours of paints.
- i) No joints shall be made above the ground level.
- j) All visible copper earth tails protruding above the ground shall be painted using the same type and colour paints as the equipment or the equipment support to which it is bonded.

Equipment labelling:

- a) Equipment labels shall be attached according to the Eskom specification to the relevant equipment support steelwork.
- b) The label shall be attached to the supporting steelwork with a minimum of two M10 galvanised bolts with nuts and washers.
- c) All labelling shall be in accordance with Eskom's latest labelling standards.
- d) The outdoor breaker and isolator labels shall be fitted so that it is visible from the operating points.

Lightning/lighting masts:

- a) Lighting/lightning masts (with spikes) shall be installed according to D-DT 5217 and the lamps attached at 6 m with a support platform at 4 m. Refer to substation layout drawing for the orientation of the lamps on masts.

MATERIAL SPECIFICATION

The Contractor shall supply all the equipment necessary to install the material.

If material is supplied by the Contractor, then those products will be in accordance with Eskom standards and specifications and the Eskom buyers' guide. All materials shall be approved by Eskom and be marked with the manufacturers' logo/trade mark and specific part number.

An ordering schedule with SAP numbers shall be provided by the Contractor for approval prior to placing any material orders.

New Equipment

- a) The holding down bolts for the equipment shall be supplied by the Contractor.
- b) All holding down bolts with nuts and washers shall be hot dipped galvanised to SANS 1461 or ISO 1461.
- c) All holding down bolts shall be in accordance to SANS 135 with a strength grade of 4.8

Equipment labelling:

- a) The Contractor shall supply all fixing bolts with nuts and washers for the labels.
- b) All bolts nuts and washers shall be hot dipped galvanised to SANS 1461 or ISO 1461.
- c) All bolts shall be in accordance to SANS 135 with a strength grade of 4.8.
- d) Eskom shall supply all labels.
- e) The supports for the labels shall be supplied by the Contractor according to 0.54/400 and 0.54/402 (Including concrete foundations if required), unless otherwise indicated on the design drawings and Bill of activities.
- f) All labels shall be in accordance with Eskom's latest labelling standards.

Equipment Bonding:

- a) All bolts with nuts and washers used for bonding shall be hot dipped galvanised to SANS 1461 or ISO 1461 and shall be supplied by the Contractor.
- b) All bolts shall be in accordance to SANS 135 with a strength grade of 4.6.

Lighting/lightning masts:

- a) All bolts shall be in accordance to SANS 135 with a strength grade of 4.6.

C3.1.16.8. SUBSTATION FENCING

WORKS SPECIFICATION

NOTES:

- a) All work shall be in accordance to Eskom's standards and specifications.
- b) All labour and transport cost must be included in quoted rate.

Fencing shall include:

- a) Installing the complete security fence (welded mesh (high security)
- b) / palisade fencing) on the perimeter of the substation extension as shown on the Foundation and Steelwork drawings including excavations, foundations and erection of the fence.
- c) Earth tails shall be bonded to the security fence at all strain, corner posts in accordance to Eskom Earthing Standard D-DT 5240.
- d) Where indicated a 1.8 m diamond mesh separation fence shall be installed.

Installing complete gates shall include:

- a) 4 gates (5 m wide) shall be installed.
- b) 1 m personnel wing gates shall be provided where indicated.
- c) All gates shall be bonded to the gate post with hot dipped galvanised bolts.

Installing signs shall include:

- a) Warning sign shall be installed on the security fence next to the gate.
- b) All signs and notices shall be in accordance to SANS 1186.
- c) The following signs shall be attached to the fence next to the gate:
 - Unauthorised Entry & interfering prohibited.
 - Procedure in case of fire.
 - Warning of electrical shock.
 - "No copper" where CCS is installed
- d) On the fence a warning of electrical shock sign must be attached.
- e) The signs on the fence shall not be more than 15 m apart

MATERIAL SPECIFICATION

The Contractor shall supply the fence, the gates and the signs as well as the necessary material for erecting the substation fence and attaching the signs.

C3.1.16.9. SUBSTATION LABELS

- a) All substation and feeder names shall be written out in full without abbreviation.
- b) All equipment names shall be abbreviated.
- c) The labelling shall provide positive identification of individual plant, which it controls; and the labelling of plant shall not conflict with any other labelling. Refer to Standard for Labelling of substation and networks.

MATERIAL MANAGEMENT

All materials shall be provided by the Contractor unless otherwise specified. The Contractor shall take full responsibility for this material received and shall administer this material according to store bookkeeping system by means of computer aid.

The contractor shall compile a material ordering list stating the supplied, order date and delivery date.

A stock taking report shall be submitted to the Project Manager on a two weekly basis.

C3.1.17. HV CONTROL ROOM BUILDING (PSE 16)

It shall be the responsibility of the contractor to obtain the relevant Surveyor General Drawings for the site on which the building is to be constructed. The building and fence position shall be set out by a suitably qualified professional land surveyor to be appointed by the Contractor. After setting out the pegs the site must be signed over to the contractor and the position of the pegs set out shall be submitted to the Engineer in “.dgn” or “.dwg” format for approval.

Refer to the General Specification Electrical GSE 16 for detail for the requirements of the Building. The Contractors attention is drawn to the following:

- Cable ladders and not cable racks shall be used, cable entry into the panels shall be top entry.
- The substation perimeter fence shall be same as or similar to Cochrane Welded Mesh with Razor or Shark tooth spikes or similar welded mesh fence. An additional electrical fence shall be installed behind the welded mesh fence and shall protrude above the mentioned spike fence topping.
- In order to prohibit dust ingress, the building shall be adequately sealed in order to obtain positive pressure within the building.

The site shall be left in a clean and neat condition.

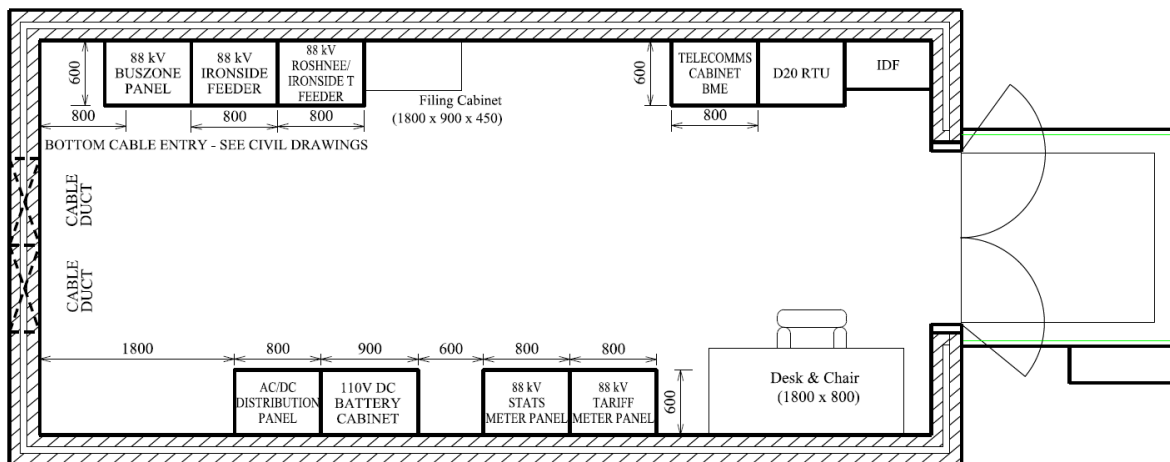


Figure 1: HV Control Room Layout

C3.1.18. SUBSTATION FOUNDATIONS AND STRUCTURAL WORK (PSE 23)

C3.1.18.1. FOUNDATIONS

All trench covers shall have the “vastrap” pattern to prevent slipping. All trenches shall be brick built or constructed by means of precast beams.

Standard Eskom D-DT5254 trenches shall be used throughout the Eskom site.

Building floor slabs / surface beds shall be earthed as specified.

Concrete ramps shall be provided at all gates and over cable trenches as indicated.

The level of the gate's sliding beams shall be coordinated in detail to prevent the yard stone level from being higher than any foundation top level.

Anti-tunnelling systems / kerbs shall be provided underneath the perimeter fence. The mesh must be anchored into/onto the centre of the anti-tunnelling and the bottom rail of the panels must be flush with the anti-tunnelling. The anti-tunnelling shall be 100mm (wide) x 600mm (deep) concrete (15MPa) between posts. The mesh must be anchored into/onto the centre of the anti-tunnelling.

Table 2: Foundation Schedule (88 kV)

DESCRIPTION	DRAWING NUMBER	QTY
132 kV STANDARD STEELWORK COLUMN FOUNDATION	D-DT-5252s1A	4
132 kV ISOLATOR SUPPORT & SURGE ARRESTOR FOUNDATION	D-DT-5202s1A	2
MEDIUM EQUIPMENT SUPPORT FOUNDATION (CURRENT TRANSFORMER)	D-DT-5206s1A	12
132 kV CIRCUIT BREAKER SUPPORT FOUNDATION	D-DT-5200s1A	4
132 kV ISOLATOR SUPPORT FOUNDATION	D-DT-5202s1A	8
MEDIUM EQUIPMENT SUPPORT FOUNDATION (VOLTAGE TRANSFORMER)	D-DT-5206s1A	6
TUBULAR MEDIUM EQUIPMENT SUPPORT FOUNDATION (POWER VT)	D-DT-5206s1A	3
TWIN BUSBAR SUPPORT FOUNDATION (PER COLUMN)	D-DT-5225s1A	8
SINGLE LATTICE BUSBAR SUPPORT FOUNDATION	D-DT-5208s1	6
88/11 kV 20MVA TRANSFORMER PLINTH	D-DT-5232s2	0
22 kV ROAD CROSSING FOUNDATION	D-DT-5221s1	0
NECRT SUPPORT FOUNDATION	D-DT-5207s1A	0
22 kV ISOLATOR SUPPORT FOUNDATION	D-DT-5205s1A	0
MV CABLE END SUPPORT FOUNDATION	D-DT-5213s1A	0
14m LIGHTNING/LIGHTING MAST FOUNDATION	D-DT-5217s1B	6
AC YARD BOARD	D-DT-5276s1A	1
ESKOM / MIDVAAL INTERFACE BOX	D-DT-5276s1A	1
FIRE BRICK WALL	D-DT-5275	0
FENCE FOUNDATIONS - WELDED MESH	D-DT-5237s7A	94
FENCE FOUNDATIONS - SAFETY	D-DT-5237s7A	87
OIL DRAINAGE DAM & OIL TRAP	D-DT-5234s1A&1B	0
CONCRETE GATE RAMP (SLIDING GATES)	ILIFA P16-064-01-104	4
RUNWAY	ILIFA P16-064-01-104	0
600 mm CABLE TRENCH (TYPE 1)	2-WT/1375	0m
900 mm CABLE TRENCH (TYPE 3)	2-WT/1375	0m
750 mm CABLE TRENCH	D-DT-5254	85m
1500 mm CABLE TRENCH	D-DT-5254	14m
ROAD CULVERT	ILIFA P16-064-01-103	0

DESCRIPTION	DRAWING NUMBER	QTY
CABLE TRENCH RAMPS	D-DT-5254s5O	4
SUMP CONTROL BOX	D-DT-5276	0

C3.1.18.2. STEELWORK

The following steelwork shall form part of the respective Eskom or Midvaal contracts:

Table 3: Steelwork Schedule (88kV & 11 kV combined)

DESCRIPTION	DRAWING NUMBER	QTY
132 kV STANDARD STEELWORK COLUMN	D-DT-5252s2A & E & F	4
132 kV STANDARD STEELWORK BEAM 11.45m	D-DT-5252s2D	2
132kV ISOLATOR SUPPORT & SURGE ARRESTOR STEELWORK	D-DT-5202s2A & 5219s4	2
MEDIUM EQUIPMENT SUPPORT STEELWORK (CURRENT TRANSFORMER)	D-DT-5206s2C	12
132kV CIRCUIT BREAKER SUPPORT STEELWORK	D-DT-5200s2A	2
132kV ISOLATOR SUPPORT STEELWORK	D-DT-5202s2A	8
MEDIUM EQUIPMENT SUPPORT STEELWORK (VOLTAGE TRANSFORMER)	D-DT-5206s2C & 2H	6
MEDIUM EQUIPMENT SUPPORT STEELWORK (POWER VT)	D-DT-5206s2C & 2H	3
BUSBAR SUPPORT STEELWORK	D-DT-5225s2A	4
LATTICE BUSBAR SUPPORT STEELWORK	D-DT-5208s2	6
22 kV ROAD CROSSING STEELWORK	D-DT-5221s2	0
NECRT SUPPORT STEELWORK	D-DT-5207s2A	0
22kV ISOLATOR SUPPORT STEELWORK	D-DT-5205s2A	0
MV CABLE END SUPPORT STEELWORK	D-DT-5213s3	0
14m LIGHTNING/LIGHTING MAST STEELWORK	D-DT-5217s2B	6
AC YARD BOARD STEELWORK SUPPORTS (AC2 & AC 3 SHARE STEELWORK)	D-DT-5276s2A	1
INTERFACE BOX (ESKOM - MIDVAAL)	D-DT-5276s2A	1
OIL HOLDING DAM COVER & TRAP DOOR (SIZE TO VARY)	D-DT-5234s1B	0
SUMP CONTROL BOX	D-DT-5276s2A	0
SIGNAL TOWER 36m	MP15 007	0
FENCE POST (WELDED MESH)	VE1201-2-SUB-STL	94
FENCE SCREEN (WELDED MESH)	VE1201-2-SUB-STL	169m
PERSONNEL GATES (WELDED MESH)	VE1201-2-SUB-STL	1
SLIDING GATES (WELDED MESH)	VE1201-2-SUB-STL	4
SAFETY FENCE POSTS	VE1201-2-SUB-STL	87
SAFETY FENCE (m)	VE1201-2-SUB-STL	204m
PERSONNEL GATES (SAFETY FENCE)	VE1201-2-SUB-STL	1
ELECTRIC FENCE	VE1201-2-SUB-STL	169m
SLIDING GATE 5 m (SAFETY)	VE1201-2-SUB-STL	4

C3.1.19. SUBSTATION FENCE (PSE 54)

The proposed Substation is divided into two sections for an Eskom portion and a Midvaal portion.

The substation fence consists of:

- High security welded mesh type perimeter fence with provision for –
 - i. Electrical fence extended above the welded mesh fence.
 - ii. Shark tooth type topping on the welded mesh panels.
 - iii. Electrical fence behind the see-through fence with sharing of support columns.
- Diamond mesh separation fence between the Eskom and Midvaal portion.
- All required sliding gates and personnel gates.

A mock-up of the welded mesh security fence with the spiked toppings and electrical fence shall be provided for evaluation and approval. The correct wire sizes shall be used with the correct specified finishing, coatings, and all auxiliary material.

The Eskom portion of the substation contract shall include the Eskom perimeter and electrical fence, the Eskom diamond mesh barrier fence and the separation fence between Midvaal and Eskom.

C3.1.19.1. WELDED MESH FENCE

This specification covers material requirements and installation of security fencing and gates, for the Substation project. The work included for the contractor is to furnish and install fences and gates, and accessories as required and shown.

The applicable reference codes and standards are CSIR, SABS, North Atlantic Treaty Organization (NATO) and International Aviation Authority Organization (ICAO) as indicate below:

Table 4: Reference codes and standards

CSIR Test	050036, 050056, T09998
SABS Test	2536/YM139
Nato Stock	5660-99-458-7414
ICAO	ICAO Security Manual

The following information shall be submitted to the Engineer for approval prior to placing any manufacturing orders –

Certificate of compliance for materials and coatings

- a) Shop drawing for gates
- b) Quality control program shall be submitted to the Engineer for review prior to commencement of any work.

The mesh must be anchored into/onto the centre of the anti-tunnelling and the bottom rail of the panels must be flush with the anti-tunnelling. The anti-tunnelling shall be 100 mm (wide) x 600 mm (deep) concrete (15 MPa) between posts.

With an electrical fence being fitted to the perimeter welded mesh fence attention shall be given to the detail gate designs and installation to allow adequate space for the gate to slide

behind the electric fence without causing a short circuit. Electrical fence insulators shall be fixed directly to the welded mesh perimeter fence posts without the use of spaces / adaptor plates etc.

C3.1.19.2. PRODUCTS

All steel materials shall be of good commercial quality, galvanized steel. All pipes / columns shall be galvanized, one piece without joints. Furnish moisture proof caps for all posts. Zinc coating shall be smooth and essentially free from lumps, globs, or points. Miscellaneous material shall be galvanized.

The fence shall be equal and similar to the product offered by Cochrane Steel.

All gates shall be provided with a concrete ramp in order for the gate to be at least 100 mm above the finished substation yard stone level.

C3.1.19.3. POSTS

- a) Post shall be 3 m long Taper Locking Posts.
- b) Post width shall be 85 mm - tapering to 45 mm with a depth of 85 mm.
- c) Post shall include 'Locking Recess Mechanism' to secure panel edge.
- d) Post shall be sealed with a UV stabilized polymer cap.
- e) Post finish shall be galvanized.

C3.1.19.4. PANELS

- a) Panel shall be of ± 3.0 to 3.5 width and 2.4 m ($\pm 1\%$) in height (shorter length only allowed for stepping purposes).
- b) Panel aperture size (centres) shall be 76.2 mm (± 2 mm) x 12.7 mm (± 1 mm) – or any alternative design that will make bridging more difficult.
- c) UTS: 500 MPa (prior to welding)
- d) Wire diameter will be 4 mm (± 0.06 mm).
- e) The panel shall be reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands (rigidity) Panel shall have 2 x 70° flanges along sides (internal fixtures- all fixtures shall be on the inside of fence line)
- f) Panel shall have 2 x 30° flange along top and toe (integrated rigid angle).
- g) Panel post shall have a flush panel post finish with no climbing aid.
- h) Panel shall be affixed to post over 48 line wires using 8 x double bolt comb clamps and 8 x single bolt comb clamps using 24 x Anti vandal bolts.
- i) Panel and fixtures shall be galvanized.
- j) Fence Corner Configuration: The fence configuration should not have any sharp corners and all angles at changes of direction should be a minimum of 130 degrees.

C3.1.19.5. EXECUTION

Install all fencing and gates in accordance with the drawings, specifications, instructions, and as specified, lines and grades indicated. **Line posts shall be spaced at equal length intervals.** Terminal posts shall be set at abrupt changes in vertical and horizontal alignment.

C3.1.19.6. POSTS

Post holes shall be cleared of loose material. Waste material shall be spread where directed by Engineer. The ground surface irregularities along the fence line shall be eliminated to the extent necessary.

Posts shall be set plumb and follow the indicated alignment. All posts shall be set to the depth indicated on the design documents. Concrete shall be thoroughly consolidated around each post, free of voids, and finished with a domed shaped surface, with the base of dome at grade elevation. Concrete shall be allowed to cure prior to installing any additional components to the posts.

Concrete footings shall be carried down to at least the depth indicated on the design documents and shall not be smaller than the dimensions shown. Where a rock layer is encountered within the required depth to which the post is to be erected, a hole of a diameter slightly larger than the largest dimension of the post may be drilled into the rock and the post grouted in. Then the regular concrete footing shall be placed between the top of the rock and the top of the footing elevation as shown on the design documents. Posts shall be approximately centred in their footings. All concrete shall be placed promptly and consolidated by tamping or other approved methods.

Where the ground is firm enough to permit excavation of the post hole to neat lines, the concrete may be placed without forms by completely filling the hole. Curing may be achieved by covering the concrete with not less than four inches of loose moist material immediately after placing concrete, or by using a curing compound. All excess material from footings, including loose material used for curing, shall be disposed of as directed by the Engineer

Where the ground cannot be satisfactorily excavated to neat lines, forms shall be used to place concrete for footings. Under these conditions the earth and forms coming in contact with the concrete shall be moistened and all ponded water shall be removed from the hole prior to placing concrete. When forms are removed, the footing shall be backfilled with moistened material, and thoroughly tamped. The top of the concrete shall then be covered with not less than 100 mm (4 in) of loose moistened material or use curing compound if the 7-days cure is not completed. All excess material from footings, including loose material used for curing, shall be disposed of as directed.

C3.1.19.7. ADJUSTING

Gate: Adjust gate to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range.

Confirm that latches and locks engage accurately and securely without forcing or binding.

Lubricate hardware and other moving parts.

C3.1.19.8. ELECTRICAL FENCE

The electrical fence shall be installed directly behind the welded mesh panels and shall extend above the welded mesh fence. The electrical fence shall be installed on the inside of the substation by sharing support columns.

A post top electric fence shall be provided comprising of 4 strands covering the perimeter inclined outwards to prevent climbing using ladder or any other support.

An offset electric fence shall be provided comprising of 22 strands on the inside of the perimeter fence and gates to access into the substation if the perimeter fence should be unlawfully opened or cut.

The minimum gap between the strands should be 100 mm and low resistance, **corrosion resistant** Aluminium Alloy wire should be used with operational life of over fifteen years.

Each strand should be tensioned at around 20 kgs each to prevent stretching the gaps between wires and avoid controlled electrical bypass.

Protection over the gates with gate status sensors shall be provided.

The perimeter shall be divided into detection zones to indicate tempering or intrusion location which will facilitate quick and accurate reaction by the guards. For shared substation sites each side shall have a dedicated electric fence and supply system. Share or separation fences shall therefore have dual electrical fences – one on each side in order to cover the circumference of both perimeters. Limits of each Zone shall be clearly defined.

When integrated with Climb Detection Systems or Seismic Sensors, each Zone shall have an alarm device installed per zone to indicate intrusion or fault on the perimeter.

The system shall be capable of providing minimum 5 joules of shock energy anywhere on the fence. For 4 joules energizers, this value will be 3-3.5 Joules.

An alarm mimic panel showing status of each zone equipped with visual and audio alarms shall be provided. Alarms shall also be interfaced into the substation SCADA systems.

A GSM modem shall be fully integrated with the fence energizer to SMS all alerts with details to multiple mobile subscribers on intrusions.

Management software must be compatible with surveillance cameras to activate, and pop-up display of cameras installed in the affected zone.

Other devices such as sirens, security lights can also be triggered through the fence controller. The system must allow for future Fibre Optic based Climb Detection Systems and Seismic Detectors to be integrated in order to detect wall scaling or tunnelling attempts even before the actual electrified wires are tampered.

C3.1.19.9. ENERGIZER

The energizer will be in accordance with IEC 60335-2-76

Standard Peak value of input voltage must be above 7.5 kV, but not exceeding 10 kV.

Maximum energy delivered to a load of 500 Ω must not be less than 7.5 Joule.

Minimum interval between impulses should not be less than 1.0 second.

Impulse duration must not exceed 50 ms.

Shock energy delivered anywhere on the fence should not be less than 3/5 Joules depending upon the energizer selected.

For multi-zone systems the energizer must be able to energize the fence from both ends. This will ensure that the fence will still be live and able to deliver shock when a fence wire is cut from any point on the perimeter.

Multiple energizers must synchronize their output in order to be regarded as one energizer with multiple outputs, all firing at the same time, as one single pulse.

In order to provide optimum protection against lightning, all energizers must be installed in a dedicated lockable room inside the control building

The energizer must have its own stand-by D.C. power and be programmable for up to 5 zones.

C3.1.19.10. FENCE WIRES

For larger perimeter and corrosive environment all conductor wires must be manufactured from aluminium with a diameter of 1.6 mm. This requirement shall apply to this project

For smaller compounds like medium voltage switching stations 1.0 mm Aluminium wire would be suitable.

Instances where higher tensile strength is desirable 1.6mm high tensile hot dipped galvanized steel wire is the option. This wire offers same electrical resistance as 1.0 mm Aluminium i.e. 100 Ω /Km but has >200 kg of tensile strength.

Each fence conductor wire must be pulled in position with a force of about 20kgs but not exceeding 25kg

C3.1.19.11. HIGH TENSION (HT) INSULATED CABLES

Double insulated HT cables must be used to connect the energizer output connectors to the fence conductor wires of the energized perimeter fence

Insulation of HT cables should be UV stabilized for outdoor installation

The HT cables must be run through a 32 mm conduit for added protection and facilitate future repairs

C3.1.19.12. CRIMP FERRULES /SPLIT BOLTS

The fence wire and the High-Tension cable should be connected with suitable aluminium crimp ferrules or Stainless-Steel split bolts. These components shall have the same material composition as the fence wire and the High-Tension cable.

C3.1.19.13. INSULATORS

The insulators should be made from a UV resistant material.

The insulator surface shall not be damaged by flash over.

The insulators shall retain their rated mechanical strength over the temperature range of -10 °C to +60 °C. The insulators should not become brittle or soft under any ambient temperature conditions.

The insulator shall be designed as such that the fence wire cannot be removed once installed.

Tested to withstand a minimum arcing voltage of min 15 kV when applied between the mounting screw and the 1.6 mm aluminium conductor wire. During the test, insulators must be soaked with a 2 % saline solution, in order to simulate coastal conditions. No arcing may occur during the test. Strain insulators when fastened to a fixed point with its standard attachment screw, must withstand a pulling force of 300 kg at 45 °C when applied to a 2.24 mm steel wire attached to the insulator.

C3.1.19.14. TENSIONING DEVICES

A non-metallic tensioning device should be used to tension the electric fence wires.

The tensioning devices should be able to withstand at least five times the maximum installed wire tension of 20 kg.

The tensioning device should allow for the accurate tensioning of the fence wires to the required tension. It should only be possible to tension the fence wires by means of a special made tool which should indicate the correct wire tension.

C3.1.19.15. STRAIN POSTS

Strain posts should be fully galvanized/powder coated. All holes shall be pre-drilled **before** galvanizing/coating

C3.1.19.16. INTERMEDIATE POSTS

Intermediate posts should be fully galvanized/powder coated. All holes shall be pre-drilled **before** galvanizing/coating

C3.1.19.17. LIGHTNING PROTECTION SPECIFICATIONS

The electric fence should be fitted with the appropriate lightning protection system in accordance with SANS 62305 Protection against lightning.

Protection should be provided on both the high voltage output as well as the 230V_{AC} input
A common earth point at the enclosure for both the high voltage and 230V_{AC} input lightning protection systems

C3.1.19.18. EARTHING

Earth pegs must be used at the beginning or end of each zone, at a maximum distance of 50m apart. Earth pegs must be connected to the main earth rod, the fence posts and earth conductors of the fence.

Three (3) earth pegs, 1.8m apart in a triangle layout, must be installed at both sides of the Access Control Building (ACB). The pegs must be connected to the main earth rod and the first post on each side of the fence.

C3.1.20. USING OF OWN MANPOWER (PSE 100)

It is a requirement of the Contract that the work be executed in such a manner as to maximize the use of labour in order to provide the local community with employment opportunities (where applicable) in accordance with the approved Council Policy and Guidelines.

It should be noted that the local labours can be from any area within the Midvaal Municipal area, which is within a reasonable distance from the construction site.

The Contractor shall only use skeleton staff and skilled staff for implementation of the project. The contractor shall appoint local labourers for all unskilled tasks. Should it prove to be impossible to identify people from the community to perform the expected tasks identified by the Contractor, written approval shall be obtained from the Engineer, or the community, prior to utilising his own manpower to complete the project. The Contractor's own personnel will be responsible for all specialised work. The Contractor shall therefore use only skilled labour of his own workforce. All other unskilled labour required shall be local labour.

The identification of the approved CLO to be appointed by the Contractor under the Contract shall be resolved by the Contractor, the particular Ward Councillors in collaboration with the Local Community in the form of a Project Steering Committee. It will be required, therefore, that the successful Tenderer (i.e. the Contractor) enter into a contract for the employment of the above-mentioned CLO, the parties to which will be the Contractor, the Local Authority and the CLO.

In order to achieve the recruitment of local labour, the Local Communities would establish, together with the Local Authority, a database of unemployed persons, indicating their specialized training, previous experience and employment, etc. The successful Tenderer will be required to follow the approved Council Policy and Guidelines and to liaise with the Member of the Mayoral: Engineering Services (MMC) in recruiting his/her workforce and will be required to produce weekly records suitably detailed to enable the Engineer/Employer, or his/her authorized representative, and the Local Communities to ascertain that the abovementioned labour requirements are achieved. The Contractor is required to provide informal skills training so that the required standard of workmanship is maintained. Any difficulty experienced by the Tenderer/Contractor in the procurement of the requirement percentages of local labour is to be referred immediately to the Engineer.

The contractor will also be required to report monthly on the amount of local labour in accordance with the EPWP program reporting formats which will be provided to the successful contractor.

C3.1.20.1. EXPECTED TASKS AND RESPONSIBILITIES

The different tasks and responsibilities are as follows:

C3.1.20.2. SERVICES REQUIRED

- a) 1 x CLO - Community Liaison Officer
- b) Unskilled labourers

The contractor shall provide for the necessary facilities for the workforce i.e. water, toilets, guard houses, stationary, PPE, identification etc.

C3.1.20.3. DUTIES, TASKS AND RESPONSIBILITIES

CLO

- a) Represent the local community in matters concerning the use of local labour on the works and to assist with and facilitate communication between the Contractor, the Engineer and the local communities.
- b) Ensure labourers obey Contractors instructions.
- c) Terminate, retrench, expel and discipline workers
 - Not obeying Contractor's instructions
 - Refuse to work
 - Not reporting for work without excuse
 - Misbehave, steel, drink, intimidating etc. during working hours etc.
- d) Settlement of disputes.
- e) Obtain way leaves.
- f) Any other reasonable instructions required by the Contractor, Engineer or Employer.

LOCAL LABOUR

- a) Perform and execute tasks such as:
 - Minor excavation work.
 - Excavation of cable trenches.
 - General unskilled labour.
- b) Any other reasonable instructions required by the Contractor, Engineer or Employer.

CONTRACTOR

- a) Employ the CLO, security officers and local labour.
- b) The period of appointment of the CLO shall be as stated in the Contract for Temporary Employment as a Community Liaison officer referred to below. The date of commencement of temporary employment of the CLO shall be as agreed with the Engineer.
- c) Provide and supply all clothing, tools and materials to perform the tasks required.
- d) Manage the workforce with the assistance of the CLO to ensure that the programme to carry out the work is met.
- e) Manage all material. The Contractor will be responsible for the management, issuing and verification of all material.
- f) Conduct and convene meetings on a daily base, to dish out work and tasks and to record progress.
- g) To ensure all safety requirements are met.
- h) Pay and remunerate the workforce once a month by means of a cash cheque and record all payments with relevant signatures.
- i) The Contractor will register all local labourers for unemployment insurance.
- j) Enter into written agreement with CLO and workforce and appoint workforce in writing in accordance with the relevant Midvaal Local Municipality procedure.

The contract shall be between the Contractor and the CLO and the local labour, all costs involved shall be borne by the Contractor and the tender shall be deemed to include for this.

C3.1.20.4. CONDITIONS OF EMPLOYMENT

- a) Obey Contractors instructions.
- b) Sign time sheets and report for work from Monday to Friday.
- c) Work overtime if required by Contractor.
- d) Working hours is 45 hours per week from 07:00 to 16:30 with 30 minutes lunch break from 12:00 to 12:30.
- e) Payment will be effected according to attendance register, with no work no pay policy.

- f) Payment will be done by means of a cash cheque once a month on the last Friday of the month at 14:00.
- g) Unemployment insurance funds will be deducted.
- h) Tax will be deducted if applicable and when deducted, IRP5 certificates will be issued.
- i) Payment categories:
 - CLO- Estimated R 7 500,00 per month or pro rata for days working
 - Labourers- Estimated R 180,00 per day

The above are estimated minimum amounts and shall be negotiated between the Contractor, Municipality relevant manpower. To prevent disputes arising any manpower shall not be paid more or paid less than the rates being used within the Municipal area.

- j) Overtime will be paid according to time plus a third.
- k) If the required progress is not met after actions taken by the CLO, the Contractor will have the right to strengthen his own workforce with the approval of the Engineer.

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C3.2 – TECHNICAL SCHEDULES

C3.2 TECHNICAL SCHEDULES

C3.2. TECHNICAL SCHEDULES

Not Applicable

C3.3 – GENERAL SPECIFICATIONS

C3.3. GENERAL SPECIFICATIONS

C3.3.1. PREAMBLE

Note:

Failure to duly complete Technical Schedules in full will result in the disqualification of the tenderer's offer.

No change in supplier is permitted without a written application by the contractor and written consent by the Engineer. Should any change in supplier be noted at any stage during implementation of the project the Engineer will instruct the Contractor to revert back to suppliers as per the tender offer with any time and cost implications for the Contractors account.

It shall be noted that specifications are for the general use of project construction, certain sections or paragraphs may not be relevant to this particular contract in which case such irrelevant items are to be considered as not applicable. Any uncertainties shall be communicated to the Engineer. Where equivalent South African standards (SANS / NRS) exist, such standards are to be used in preference to foreign standards quoted.

The documents referenced contain provisions that constitutes requirements of this specification. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

I / We, the undersigned hereby acknowledge that copies of the above documents are included in the tender document and confirm that I / We fully understand them and the consequences of non-compliance.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

NAME:

SIGNATURE:

CAPACITY:

Specification as listed below shall apply to this project:

C3.3 GENERAL SPECIFICATIONS

C3.3.2. LAW - NATIONAL AND INTERNATIONAL STANDARDS

All IEC, NRS, SANS, ASCE, ISO codes and National Law applicable to the disciplines listed below shall apply to this project:

1. Overhead Power Lines
2. Medium Voltage Cable Work
3. Medium Voltage Overhead Power Lines
4. Civil reinforced concrete works
5. Optical fibre communications

ACT 31 Fencing Act.

ACT 73 1989 Environmental Conservation act.

ACT 85 1993 Machinery and Occupational Safety Act 85 of 1993 with special reference to Section 1 (Act & Regulations), Section 2 (Administrative Regulations), Section 6 (Electrical Installation Regulations) and Section 16 (General Safety Regulations)

ACT OHS 1993 Occupational Health and Safety Act 1993

Standards are obtainable on the SABS Web store www.store.sabs.co.za.

C3.3.3. ESKOM SPECIFICATIONS / STANDARDS

In order to achieve a countrywide standard, the Eskom Specifications for outdoor substations will be applicable to this project. These listed specifications included on the Tender CD issued together with the Tender. It is the responsibility of the tenderer to ensure that he/she obtains the tender CD. In addition, these specifications are also available on the Eskom website (www.scot.eskom.co.za).

Table 5: Eskom Specifications/Standards

NO.	REV / YEAR	DESCRIPTION
240-75660336	2017-2022	Substation and network equipment label specification
240-83382076	2014-2019	Standard for operational floodlighting in substations
240-83382122	2015-2020	Emergency lighting in substations
240-86100853	0	Standard for Barricading prohibited area and live chamber
240-87605434	2015-2020	Quality control process for the checking of distribution substation construction before handing over for commercial operation
34-1241	2012-2017	Distribution group's specific requirements for the use of furniture in substations buildings
34-1245	Latest	Distribution Standard – Part 2: Earthing Section 3. Substation earthing
34-195	Latest	Distribution group's specific requirements for standard drawing practice for substation design layout
34-1985	Latest	Distribution Standard – Part 2, Earthing Section 1. MV and LV reticulation earthing
34-213	Latest	KIPTS Natural ageing test procedure for outdoor insulator products section 1 – particular requirements for post, long rod and stand-off insulators
34-224	Latest	KIPTS natural ageing and pollution performance test procedure for outdoor insulator products Section 0 - General Requirements

C3.3 GENERAL SPECIFICATIONS

NO.	REV / YEAR	DESCRIPTION
34-254	Latest	Manufacturing Specification for Distribution Equipment Labels
34-2057	2010-2015	Sweep frequency response analysis test procedure
34-304	2012-2017	Generic Substation Design
34-333	1	OHS act requirements to be met by principal contractors employed by Eskom Distribution.
DISASAAA0S	Latest	Standard for passive fire protection in distribution substation yards
DSP0030	1	Specification for non-lethal electrified fences for use at substations and buildings
ESKPBAAA9	Latest	Environmental impact assessment procedure
ESKPBAAD6	Latest	Environmental management policy
ESKPVAAL7	Latest	Environmental impact assessment procedure
ESKPVAAZ1	2	Environmental Management Programme (EMP) Procedure

C3.3.4. STANDARDS AND SPECIFICATIONS

The following National and International standards shall be adhered to and can be obtained through the SABS webstore.

C3.3.4.1. EARTHING AND LIGHTNING PROTECTION SYSTEM

- SANS 725/IEEE 80 - Guide for safety in AC Substation Grounding
 - IEEE 81 - Guide for measuring earth resistivity, ground impedance and earth surface potentials of a ground system
 - SANS 10199 - The design and installation of an earth electrode
 - IEC 62305 - Protection against lightning
 - SANS 10292 - Earthing of low-voltage (LV) distribution systems
 - SANSA 10313 - Protection against lightning – Physical damage to structures and life hazards
 - NRS 060 - Code of Practice for clearances for electrical systems with rated voltages up to and including 145 kV, for the safety of persons
 - IEC 61024 - Protection of structures against lightning
- Relevant Eskom specifications.

C3.3.4.2. INSULATION

- SANS 1019 - Standard voltages, currents and insulation levels for electricity supply
- IEC 60273 - Characteristics of indoor and outdoor post insulators for systems with nominal voltages greater than 1000 V
- IEC 60168 - Tests on indoor and outdoor post insulators of ceramic material or glass for systems greater than 1000 V
- IEC 60383 - Insulators for overhead lines with a nominal voltage above 1000 V
- IEC 60815 - Selection and dimensioning of high-voltage insulators intended for use in polluted conditions

C3.3 GENERAL SPECIFICATIONS

- IEC 60168 - Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1 000 V
 - IEC 60455 - Resin based reactive compounds used for electrical insulation
 - IEC 60071-1 - Insulation co-ordination
- Relevant Eskom specifications.

I / We, the undersigned hereby acknowledge that copies of the above documents are included in the tender document and confirm that I / We fully understand them and the consequences of non-compliance.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

NAME:

SIGNATURE:

CAPACITY:

C4 – SITE INFORMATION

C4 SITE INFORMATION

C4. SITE INFORMATION

The site falls within the jurisdiction of Midvaal Local Municipality.

The Contractor shall cater for his own water, electricity and sanitation requirements. The onus will be on the Contractor to acquaint himself with the site conditions before the tender closing date.

It is recorded that the Contractor has, before signature of this Contract, carried out a site inspection in order to acquaint itself with the site conditions, access and all other matters relating to the site.

The contractor acknowledges that it has allowed for all conditions on site and agrees that extra claims arising from difficult site conditions in respect of transport, handling, loading, off-loading, labour, housing and any other matter relating to the site will not be entertained.

Table 6: Site information

Item	Description
Substation Information: Eskom Section	
WG27 Co-ordinates	Y = -89224, X = 2932055
Co-ordinates (Lat.) S/S cent	LAT: 26°29'43.57"S
Co-ordinates (Long.) S/S cent	LONG: 27°53'38.54"E
Stand size required	120x75
Land Ownership (S/S site)	Midvaal Municipality – Eskom servitude
Substation System Voltages	88 kV
HV Design Philosophy	Outdoor AIS
MV Design Philosophy	-
Preferred busbar orientation	Single Tubular with Bus Section
Number of HV feeders	-
Number of MV feeders	-
Number of Transformers	-
Transformer rating	-
Transformer oil catch pit	-
Transformer oil holding dam	-
Average Span Lengths	170 m
Site Climate Conditions:	
Ambient Temp Max. °C	35 °C
Ambient Temp Min. °C	-8 °C
Lightning Density	7.5 flashes to ground/km ² /year
Rain Fall	112mm
Thunder days/year (mean)	38
Snow days/year (mean)	0
Max. Wind m/sec	19 m/s

SIGNATURE OF TENDERER :

DATE :



MIDVAAL LOCAL MUNICIPALITY

P O Box 9
MEYERTON
1960

**BID 8/2/2/453 (6CE/5CEPE OR HIGHER): THE CONSTRUCTION
OF CIVIL WORKS FOR A NEW 88 kV ESKOM SWITCHING
STATION IN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND
WHEN REQUIRED BASIS FROM DATE OF AWARD TO
30 JUNE 2028**

**SECTION 6:
ANNEXURES AND DRAWINGS**

LIST OF ANNEXURES

ANNEXURE 1: EMPLOYER HEALTH & SAFETY SPECIFICATION

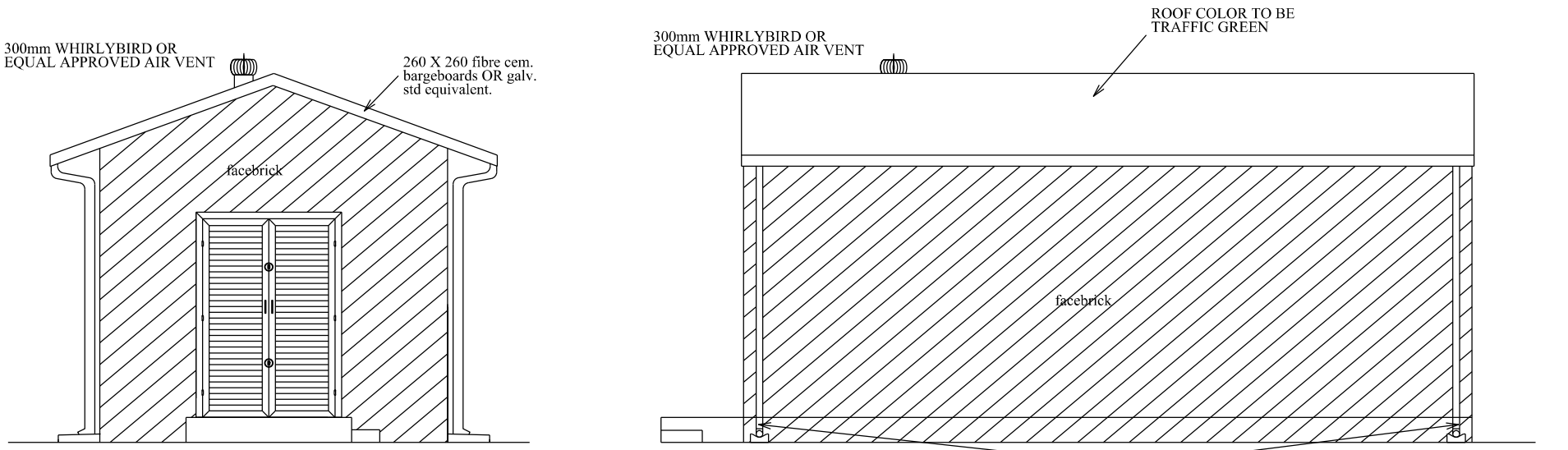
ANNEXURE 2: EMPLOYER ENVIRONMENTAL MANAGEMENT PLAN

ANNEXURE 3: DRAWINGS

**ANNEXURE 1:
HEALTH AND SAFETY SPECIFICATION**

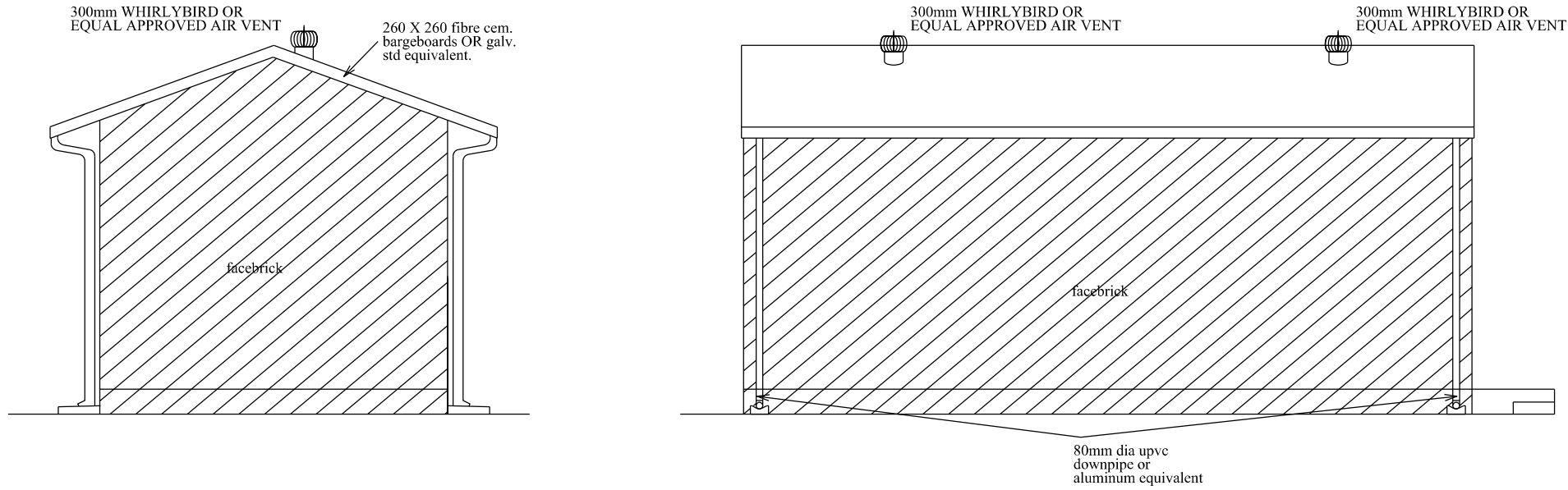
**ANNEXURE 2:
ENVIRONMENTAL SPECIFICATION**

**ANNEXURE 3:
DRAWINGS**



FRONT ELEVATION
SCALE 1:75

RIGHT ELEVATION
SCALE 1:75



REAR ELEVATION
SCALE 1:75

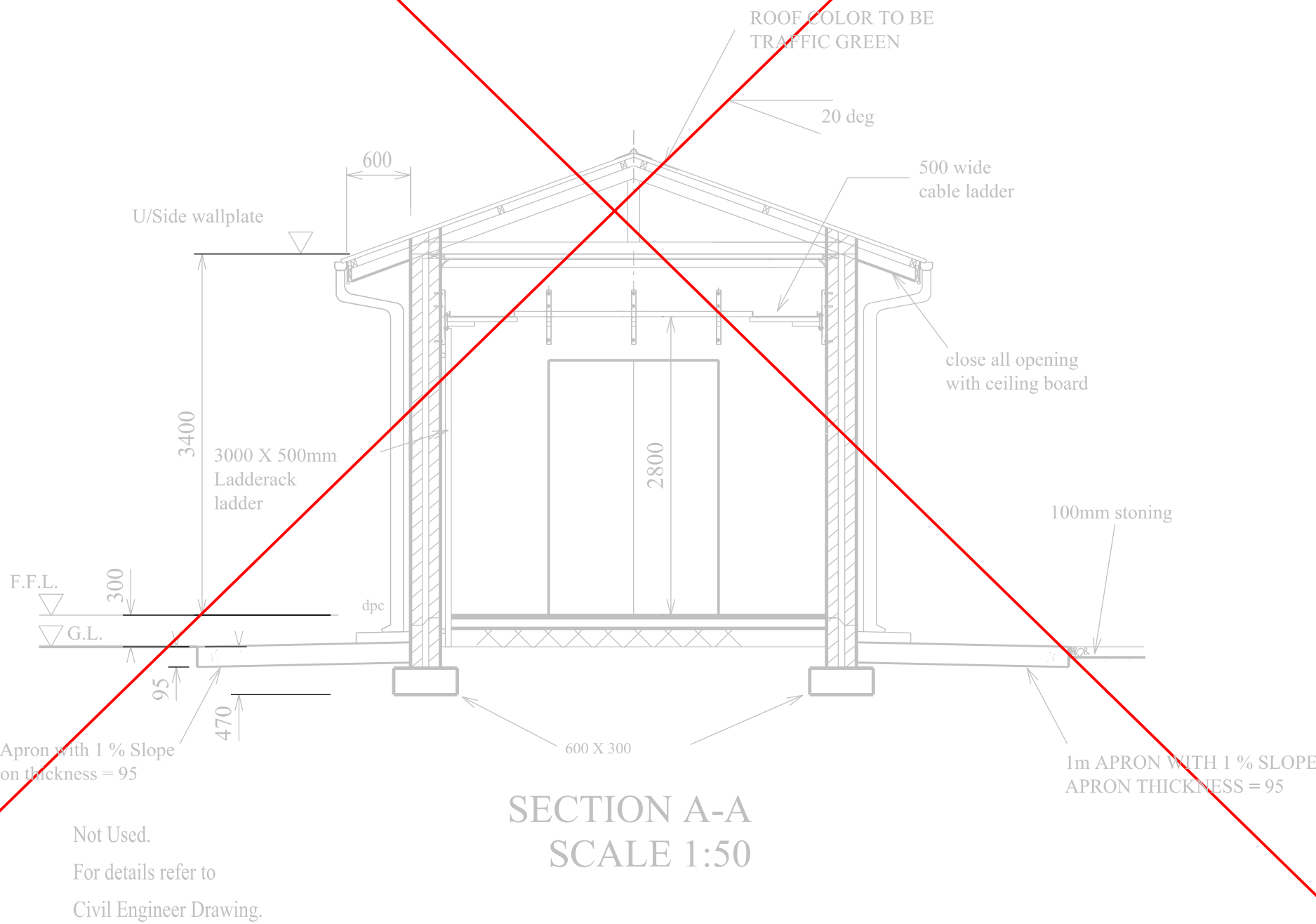
LEFT ELEVATION
SCALE 1:75

FOUNDATIONS GENERALLY:

TYPE 1 : For compact non cohesive soils consisting of gravels and sands located above the water table NO reinforcing is required.
TYPE 2 : For stiff or firm cohesive soils consisting of clays and silts the foundation to have a single layer of BRC Weldmesh 617 placed in the centre of the foundation ,ie 115mm from bottom of foundation bottom.
TYPE 3 : For soils consisting of soft clays and silts or submerous soils the foundation and the reinforcement to be designed by a registered Civil Engineer.

NOT USED.
FOR DETAILS REFER TO
CIVIL ENGINEER DRAWING
P16-064-01-702

ROOF:
IBR sheeting on 76 X 50 purlins @ max.1400mm c/cs on "gangnail " type trusses @ max 1050mm c/cs.
Where "gangnail " trusses are not available Contractor to use 150 X 38mm rafters and tiebeams.
114 X 38 struts. All joints to be galv. bolted with M12 bolts.
CEILINGS:
4mm Nutec fibre cement ceiling on 50 X 38 branderling @ 400mm c/cs. Joints taped for painting.
INSULATION : Lay 15mm
Aerolite fibreglass or equivalent approved insulation layer over ceiling.
WALLPLATE : 114 X 38 mm to be tied 600mm into bwk. with galv. hoop iron straps
N.B. Contractor to obtain a certificate of compliance from the manufacturer of the trusses.



SECTION A-A
SCALE 1:50

FURNITURE:

- (A) DESK 1800x800 : ITEM H OF WALTONS CATALOGUE : SCHOOL DESKING
(B) STATIONARY CUPBOARD 1800x900x450 WITH 4 SHELVES : ITEM R, IVORY KAROO OF WALTONS CATALOGUE : STEEL ACCESSORIES
(C) 2 TIER TEA TROLLEY 950x910x570 : ITEM CC, IVORY KAROO OF WALTONS CATALOGUE : STEEL ACCESSORIES
(D) CHAIR : ITEM B, BLACK OF WALTONS CATALOGUE : TRAINING

SPECIFICATION

GENERAL

CONTRACTOR TO PAY ALL FEES IN REGARD TO SERVICES SUPPLIED BY AND FOR THE LOCAL AUTHORITY.
PORTABLE LATRINES TO BE PROVIDED AND SERVICED BY CONTRACTOR. CONTRACTOR TO INCLUDE IN HIS PRICING FOR THE TEMPORARY SUPPLY OF WATER AND POWER FOR CONSTRUCTION PURPOSES.

FOUNDATIONS:

TO SIZES AND DEPTHS SHOWN, 220 & 280 WALLS WITHOUT ADJACENT TRENCHES TO HAVE 600 X 300 CONC.
FOUNDATIONS. CONCRETE TO BE 15 MPA STRENGTH. REINFORCING FOR VARIOUS SOIL TYPES AS INDICATED.

EXTERNAL WALLS:

280mm CAVITY WALLS WITH FACEBRICK OUTER SKIN AND 110mm R.O.K. CLAY BRICK INNER SKIN.

INTERNAL WALLS:

ALL 220mm AND 110mm R.O.K CLAY BRICK UNLESS OTHERWISE SHOWN.

WALLS:

BELOW GROUND : WELL BURNT RED HARD CLAY R.O.K. BRICKS. INTERNAL WALLS : RED CLAY R.O.K. BRICKS.
FACEBRICKS : CLAY FACEBRICKS (RUSTIC IRONSPOTS MIN 35 MPa) OR TO APPROVAL, TO START 2 COURSES BELOW FINAL GROUND LINE. BRIKFORCE : 75mm WIDE GALV. TO FIRST 4 COURSES ABOVE FOUNDATIONS AND TOP 4 COURSES BELOW WALLPLATE. GABLES EVERY 4TH COURSE TO RIDGE. WALLTIES : GALV. "BUTTERFLY" TYPE, 5 PER SQ METRE IN WALL, 300 C/C AT JAMBS. D.P.C. : GUNPLAS " BRIKGRIP " 375 MICRONS, STEPPED AT FLOOR LEVEL IN CAVITY WALLS, AND AROUND OPENINGS. JOINTS : FACEBRICK, 10mm RAKED, ALL OTHER JOINTS TO BE KEYED FOR PLASTERING. EVERY FOURTH PERPEND ABOVE STEPPED DPC TO BE RAKED CLEAR TO DRAIN CAVITY. MORTAR : 1:4 (CEMENT : SAND)

PLASTERWORK:

INTERNALLY, 15mm THICKNESS, SMOOTH STEEL FLOAT FINISH. MIX 1 : 1 : 6 (CEMENT : LIME : SAND).

FLOORS:

ABE "KOROCRON" CEMENTITIOUS FLOOR HARDENER TO MANUFACTURERS SPEC. ON 100mm THICKNESS 30MPa STRENGTH CONC. SURFACE BED ON COMPACTED SAND FILL. FLOOR TO BE STEEL FLOATED TO A HARD LEVEL SURFACE. ALL FLOORS TO BE REINFORCED WITH BRC 395 WELDMESH. REINFORCING TO CARRY THROUGH INTO PLATFORMS.

FLOOR FINISHES: RELAY ROOM AND W/C : NATURAL GREY FINISH

CEILINGS: SEE ROOF CONSTRUCTION NOTE.

DOORS: REFER TO DOOR SCHEDULE ON DRAWING VE1201-CR-E SHEET 3

PAINT:

INTERNAL WALLS & CEILINGS : 1 FILLER COAT, 2 COATS DULUX

"WASH 'N WEAR" PVA, OR SIMILAR APPROVED, COLOR WHITE.

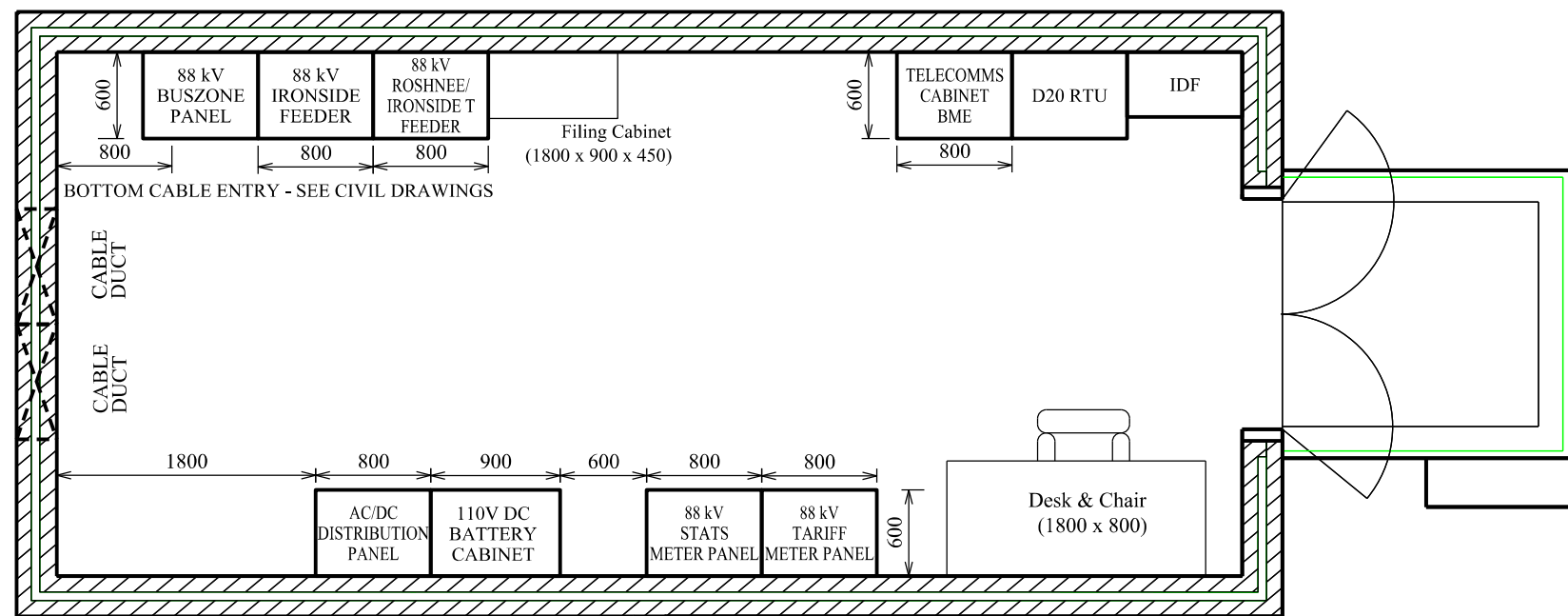
FINAL COAT TO BE APPLIED BY CONTRACTOR ONLY AFTER COMMISSIONING OF ALL ELECTRICAL EQUIPMENT. SIKA 73

PRIMER APPLIED TO MANUFACTURERS SPECIFICATION OR

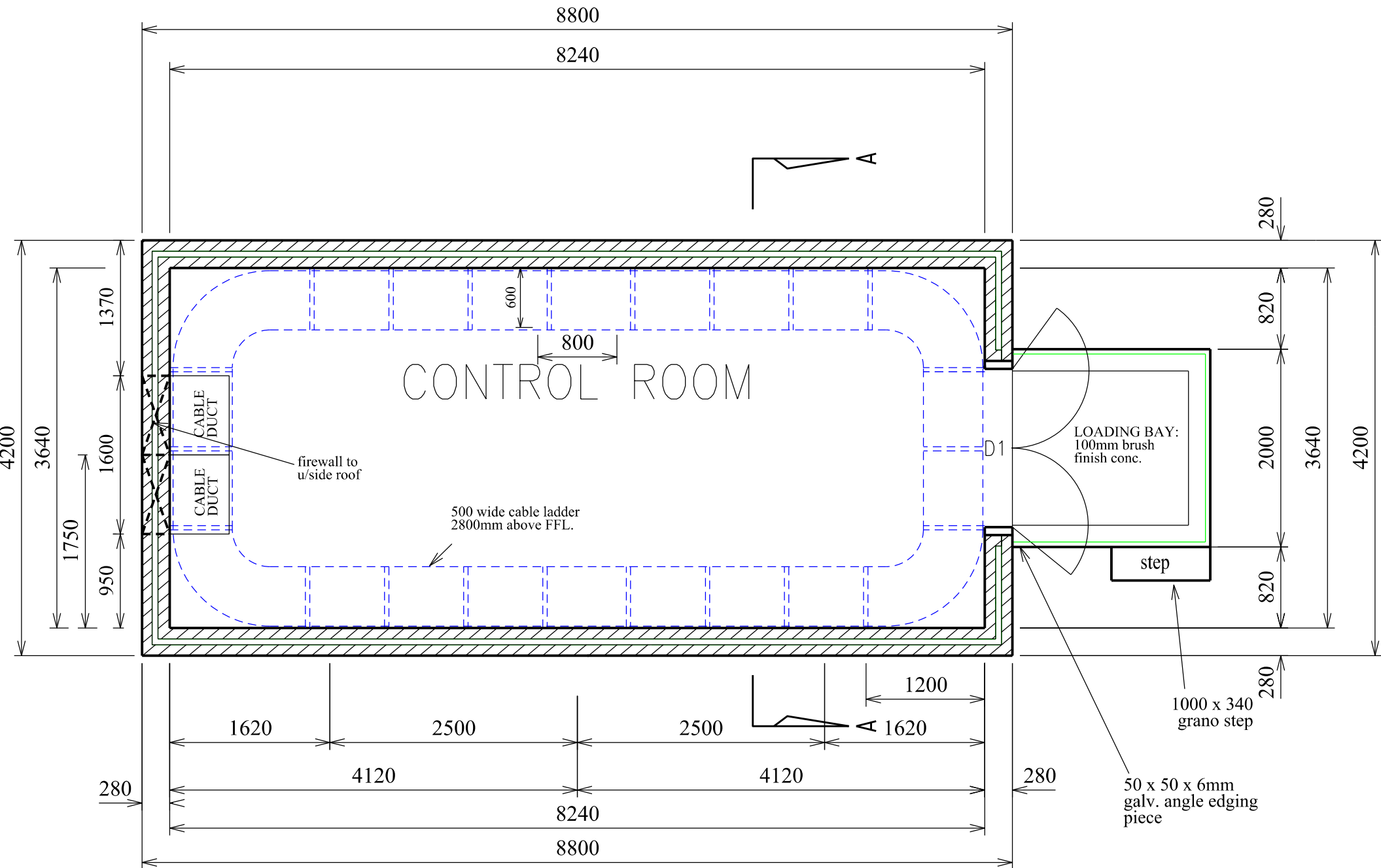
EQUAL APPROVED. RAFTER ENDS, BACKING PIECE AND

EXPPOSED TRUSSES : ONE COAT PINK PRIMER, 2 COATS

FLAT ENAMEL.



CONTROL PANEL LAYOUT



PLAN VIEW

2018-04-18	ISSUED FOR TENDER	DF	0
DATE:	REVISIONS	DRAWN	REVISIONS
TENDER ISSUED FOR TENDER PURPOSES ONLY			
As-Built	DATE:		
Construction	DATE:		
Tender	DATE:	2017-11-10	
Approval	DATE:		
Information	DATE:		
Planning	DATE:		
ISSUED FOR:			
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LYON VENNOTE PARTNERS	24 HERTZ BLVD 24 PO BOX 3025 P O BOX VANDERBILT PARK 1900 TEL: (016) 981 6270 FAX: (016) 933 0277 E-MAIL: Martiens Lyon: mlyon@lyon.co.za Hennie Storm: hstorm@lyon.co.za
ELECTRICAL CONSULTING ENGINEERS ELEKTRIESE RAADGEWENDE INGENIEUR	

Savanna City	
SAVANNA CITY 60 MVA 88/11 kV SUBSTATION	
ESKOM CONTROL ROOM GENERAL LAYOUT	

DESIGN: M LYON Pr Eng	ENGINEER: M LYON Pr Eng
APPROVED:	DRAWN: D FALESCHINI
TOTAL NO. OF STANDS: N/A	SCALE: 1 : 50 (A1)
TOTAL CONNECTIONS: N/A	DATE: 18 FEBRUARY 2016
ADMD: N/A	
COORDINATE SYSTEM: N/A	
DRAWING NUMBER: VE1201-0-CR-E	SHEET 01 of 03 REVISION: 0

THE ORIGINAL SIGNED DRAWING IS AVAILABLE AT THE OFFICE'S OF LYON & PARTNERS

LEGEND	
	BULKHEAD WITH 2 x PL 9 LAMPS, IP66 RATING EQUAL OR SIMILAR TO BEKA SERIES 31 WITH DIE CAST ALUMINUM BASE AND HIGH IMPACT ACRYLIC DIFFUSER - EQUIVALENT LED LAMP
	2 x 58W OPEN CHANNEL 1570mm FLUORESCENT DOUBLE TUBE LIGHT FITTING EQUAL OR SIMILAR TO BEKAECOLUX 2 x 58W - EQUIVALENT LED LAMP
	2 x 58W EMERGENCY MODE OPEN CHANNEL 1570 mm FLUORESCENT DOUBLE TUBE LIGHT FITTING EQUAL OR SIMILAR TO BEKAECOLUX 2 x 58W WIRED AS PER DETAIL A. - EQUIVALENT LAMP
	16A SWITCHED DOUBLE SOCKET OUTLET FLUSH MOUNTED
	60A 2 POLE ISOLATOR FOR BTU'S (WEATHERPROOF)
	1 WAY 16A LIGHT SWITCH FLUSH MOUNTED & SANS APPROVED 1 HR. MECHANICAL TIMER MOUNTED NEXT TO MAIN DOOR ENTRANCE AS SHOWN IN DIAGRAM.
	PHOTOCELL (MOUNTED IN BULKHEAD)

ELECTRICAL SPECIFICATION

GENERAL:
ALL ELECTRICAL WORK TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE LATEST REVISIONS OF S.A.N.S. 10142, CODE OF PRACTICE FOR THE WIRING OF PREMISES. C.O.C. TO BE ISSUED WHEN THE ENGINEER IS SATISFIED WITH THE INSTALLATION.

ELECTRICAL:
ELECTRICAL CONTRACTOR TO SUPPLY AND FIX ALL LIGHT FITTINGS AND AIR CONDITIONING POINTS. ALL WIRING TO THESE FITTINGS TO BE FLUSH AND TERMINATING IN DB-1. WIRING TO BE TAGGED TO SHOW DESTINATION.

AC/ DC BOARD:
ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL 25mm FLUSH MOUNTED CONDUIT TERMINATE 400mm ABOVE AC/DC BOARD IN JUNCTION BOX FOR CONNECTION. TOP OF BOARD IS 2400MM ABOVE FFL.

WIRING:
TO BE P.V.C. SHEATHED IN WHITE SEAMLESS PLASTIC CONDUIT (WITH S.A.N.S. MARK). ALL CONDUIT TO BE FLUSH IN STRAIGHT LINES.

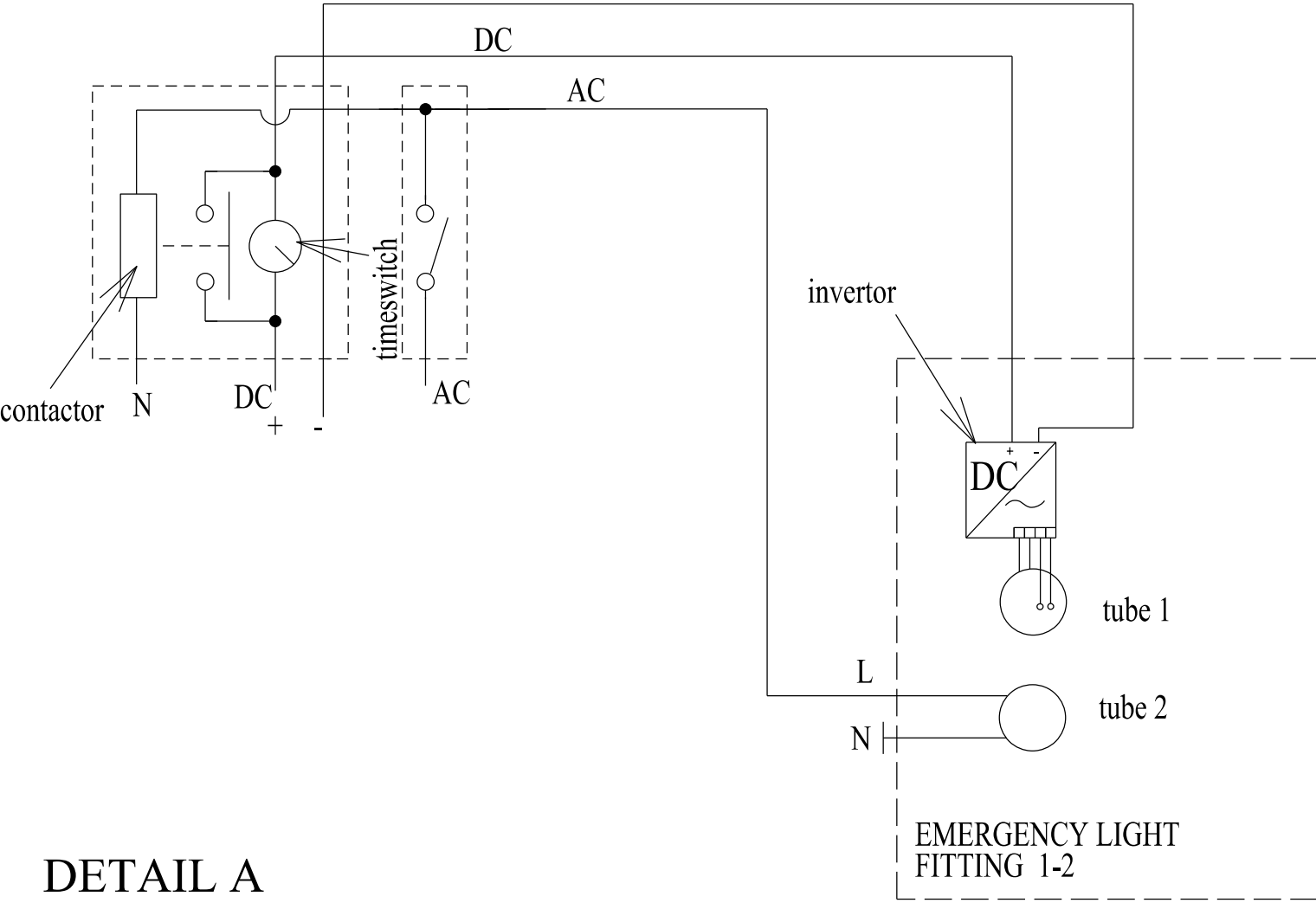
DB BOARD TO BE EQUIPPED AS FOLLOWS:
(5 kA) (FED FROM AC/DC BOARD)
(A) 1 x 40 A 2 P MCB - MAINS
(B) 1 x 20 A EARTH LEAKAGE
(C) 1 x 20 A 1 P MCB PLUGS
(D) 1 x 10 A 1 P MCB LIGHTS ON TIME SWITCH
(E) 1 x 10 A 1 P MCB OUTSIDE LIGHTS
(F) 2 x 20 A 2 P MCB BTU'S
(G) DB SIZE: MINIMUM 16 WAY WITH 5 kA SANS APPROVED MCB' S
(H) 1 x 5 A CONTACTOR
(I) 1 x 16 A TIMER
(J) ALLOW 25% SPARE CAPACITY

SWITCHES.
SANS APPROVED FLUSH MOUNTED TOGGLE TYPE MOUNTED 1200mm. ABOVE F.F.L.

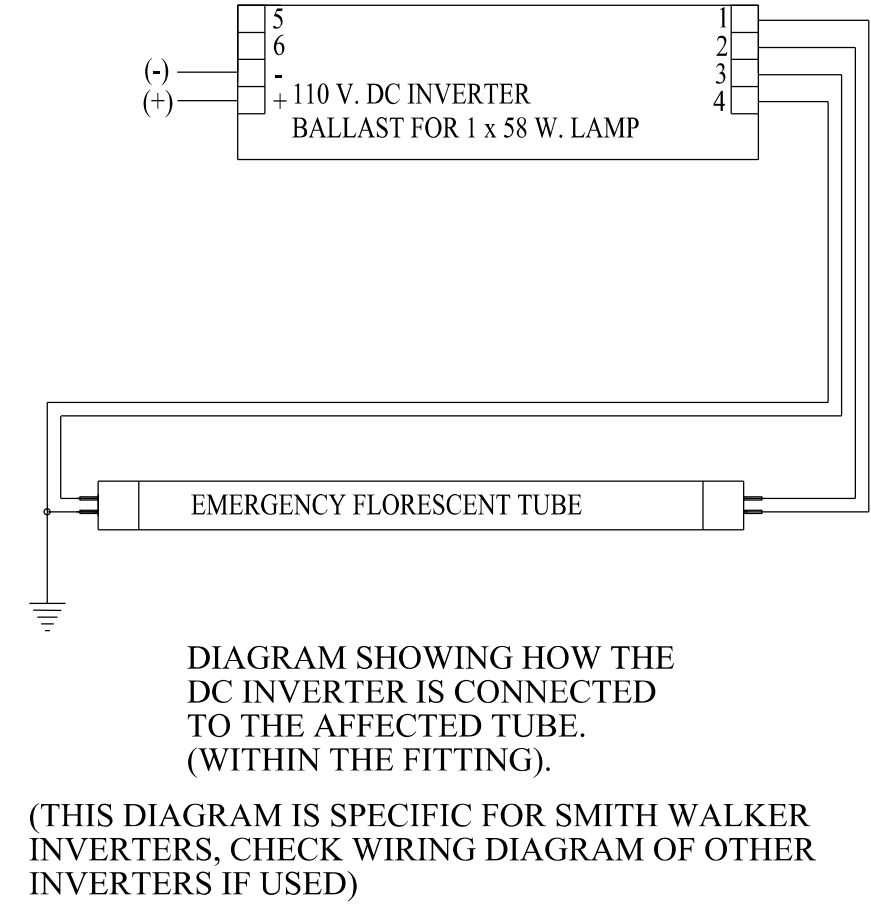
SOCKET OUTLETS:
SANS APPROVED FLUSH MOUNTED, MOUNTED 1000mm ABOVE F.F.L.

ISOLATORS:
SANS APPROVED FLUSH MOUNTED, MOUNTED 1500mm ABOVE F.F.L.

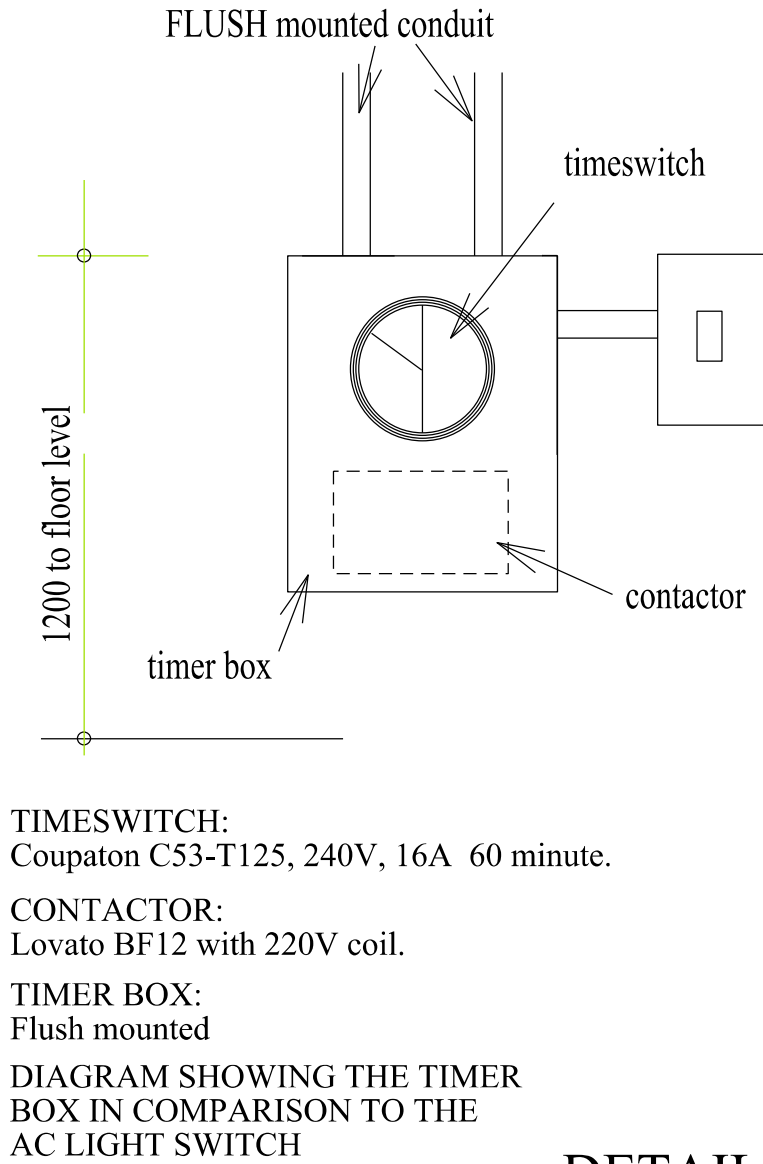
D.C. LIGHTING
FITTING E IS THE EMERGENCY FITTING : (SEE DIAGRAM FOR WIRING OF DC LIGHTING). ONE TUBE IN THE FITTING IS TO HAVE AN ADDITIONAL CONDUIT RUN FROM THE DC SIDE WHICH WILL INCLUDE 1 POSITIVE, 1 SWITCHED POSITIVE & ONE NEGATIVE WIRE. SUPPLY & INSTALL A 110V DC TO 220V AC INVERTOR IN THE FITTING. WIRING FOR DC LIGHT TO BE TAGGED AND COLOR CODED DIFFERENTLY FROM THE AC LIGHTING WIRING. AFFECTED FITTING END CAPS TO BE PAINTED RED TO DIFFERENTIATE BETWEEN FITTINGS. CONTRACTOR TO SUPPLY AND FIT CONTACTOR AND TIMER IN TIMER BOX AS SHOWN. WIRING TO BE CONNECTED TO AC/DC BOARD.



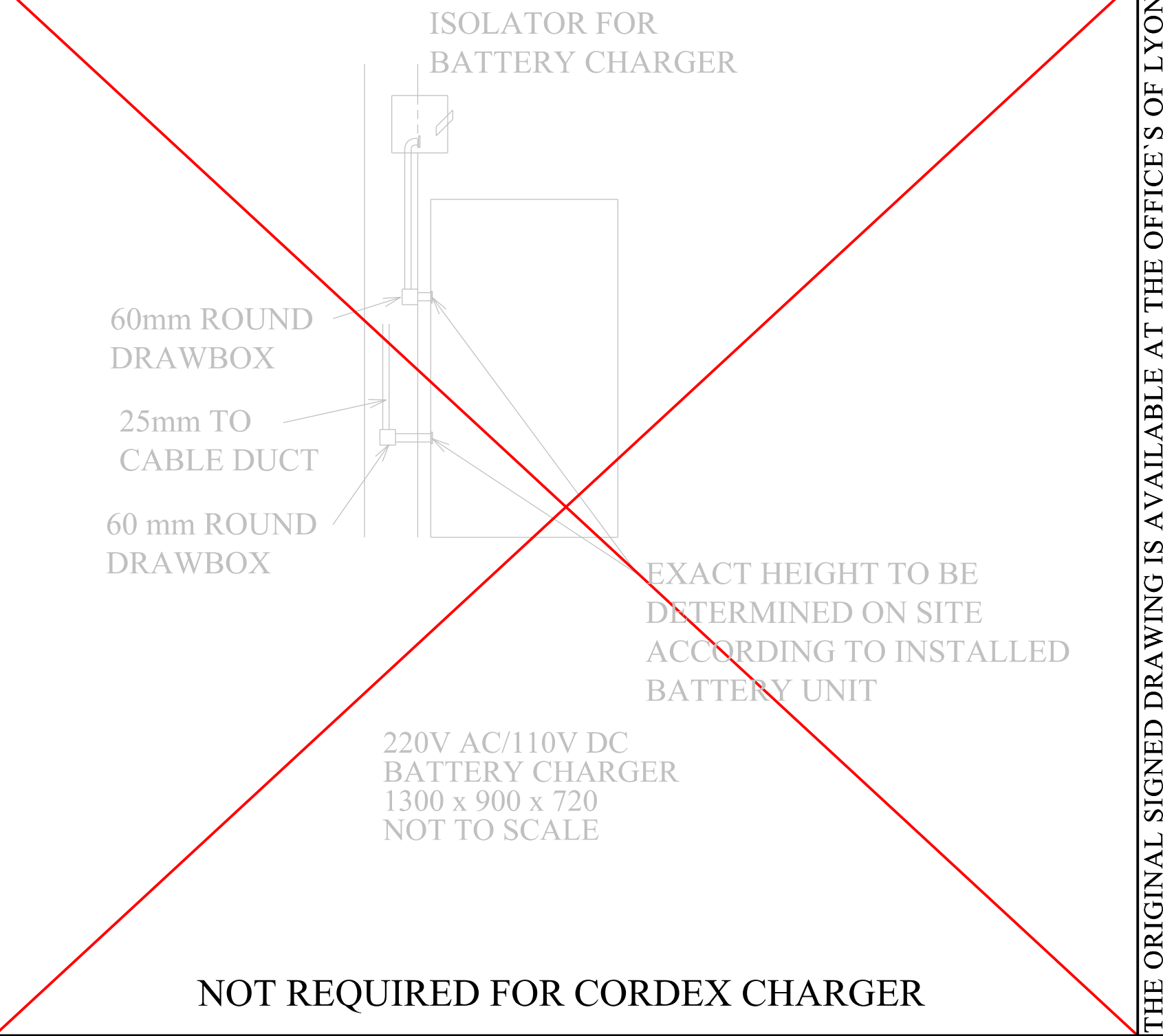
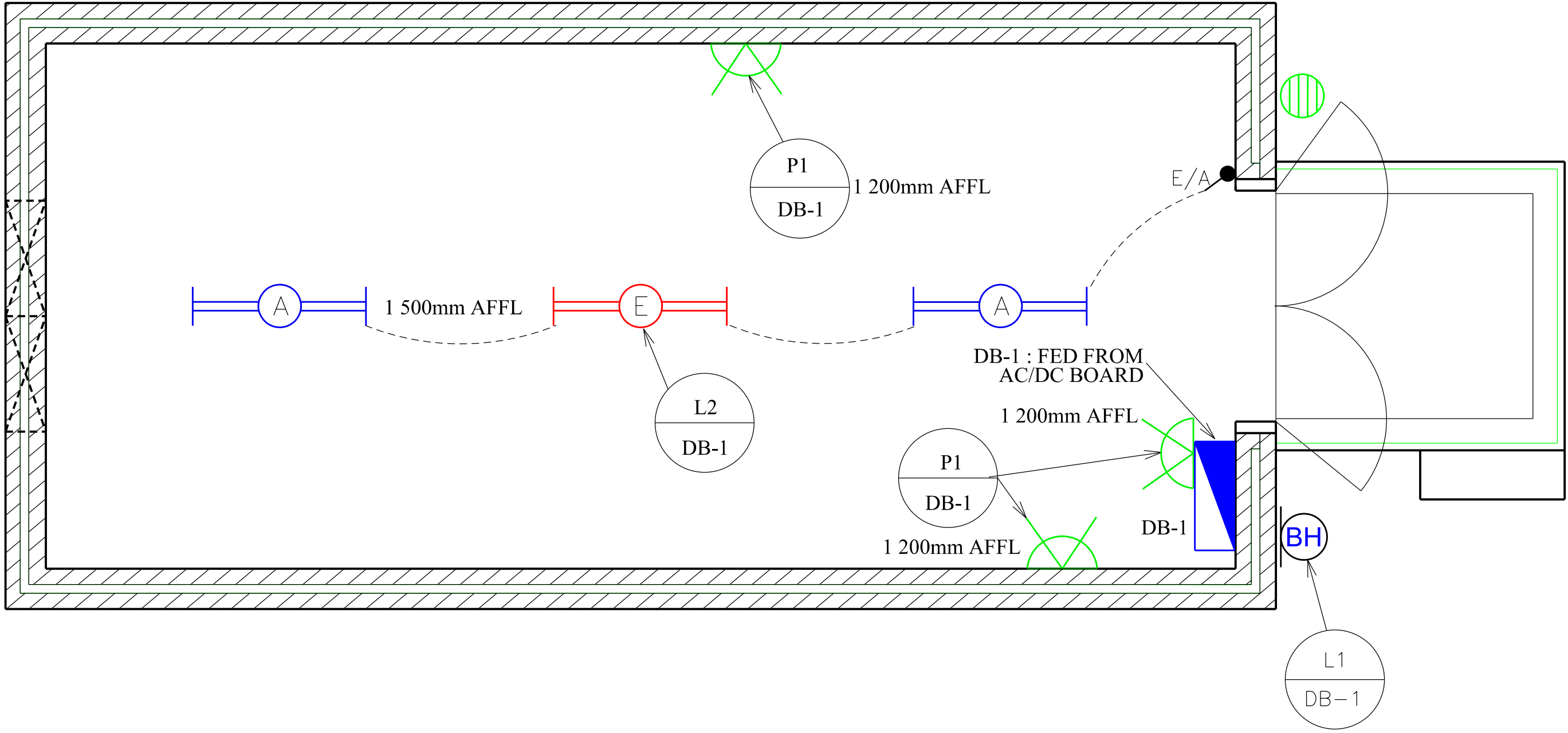
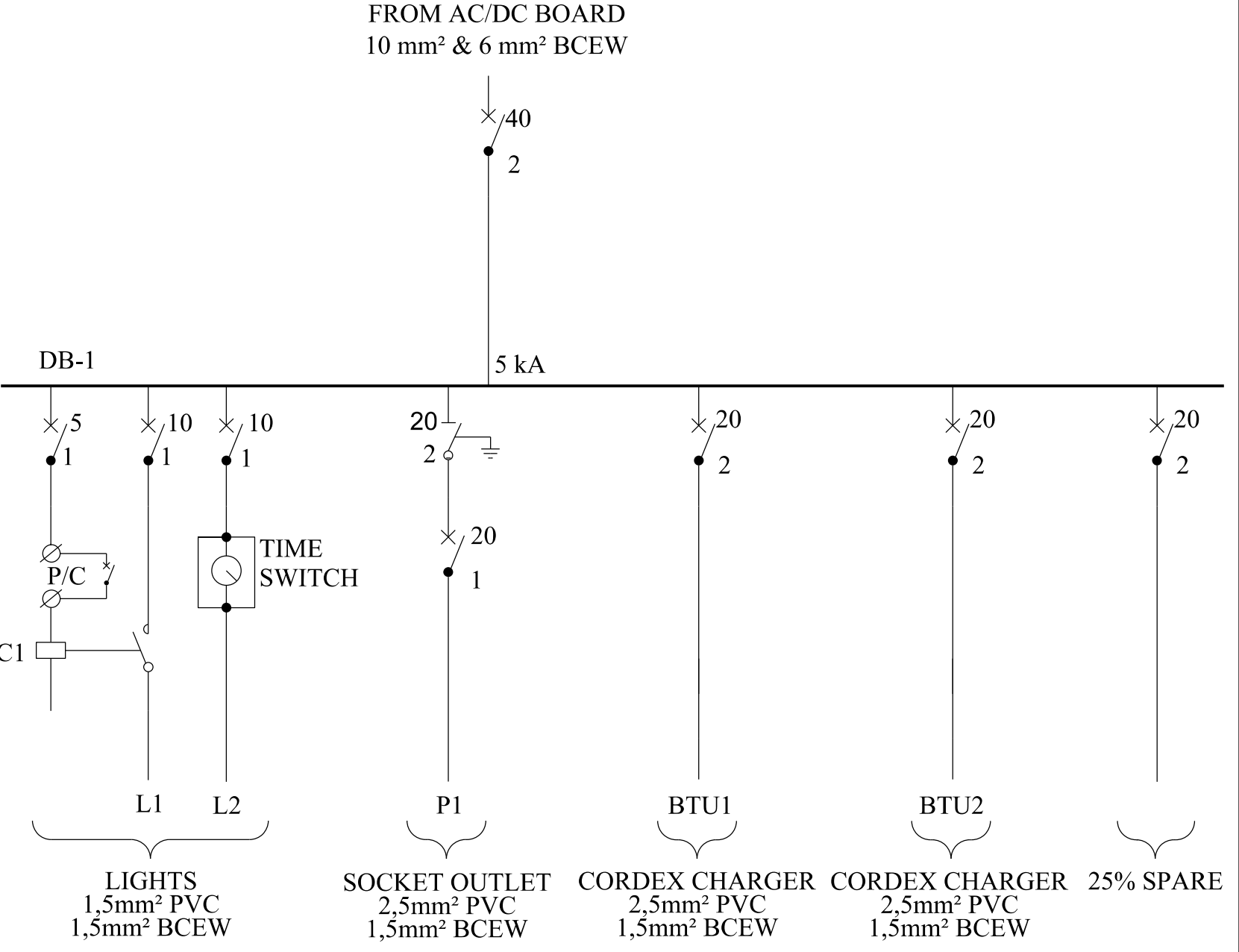
DETAIL A



DETAIL B



DETAIL C



2018-04-18

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0

DATE:

REVISIONS

DRAWN

REVISIONS

TENDER

ISSUED FOR TENDER PURPOSES ONLY

As-Built	DATE:	
Construction	DATE:	
Tender	DATE:	2017-11-10
Approval	DATE:	
Information	DATE:	
Planning	DATE:	

ISSUED FOR:

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LYON

VENNOTE

PARTNERS

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POSBUS 3025 P O BOX
VANDERBULPARK
1900
TEL: (016) 981 6270
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E-MAIL: Martiens Lyon: mlyon@lyon.co.za
Henric Storm: hstorm@lyon.co.za

SAVANNA CITY

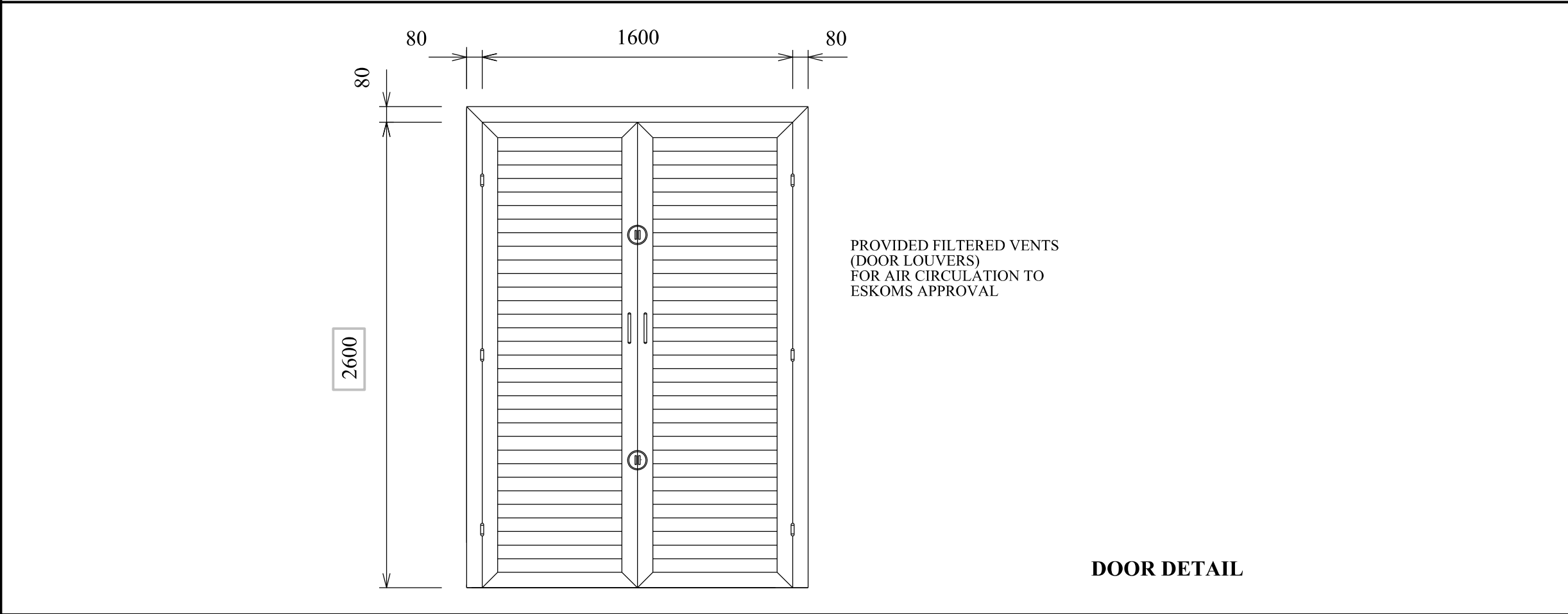
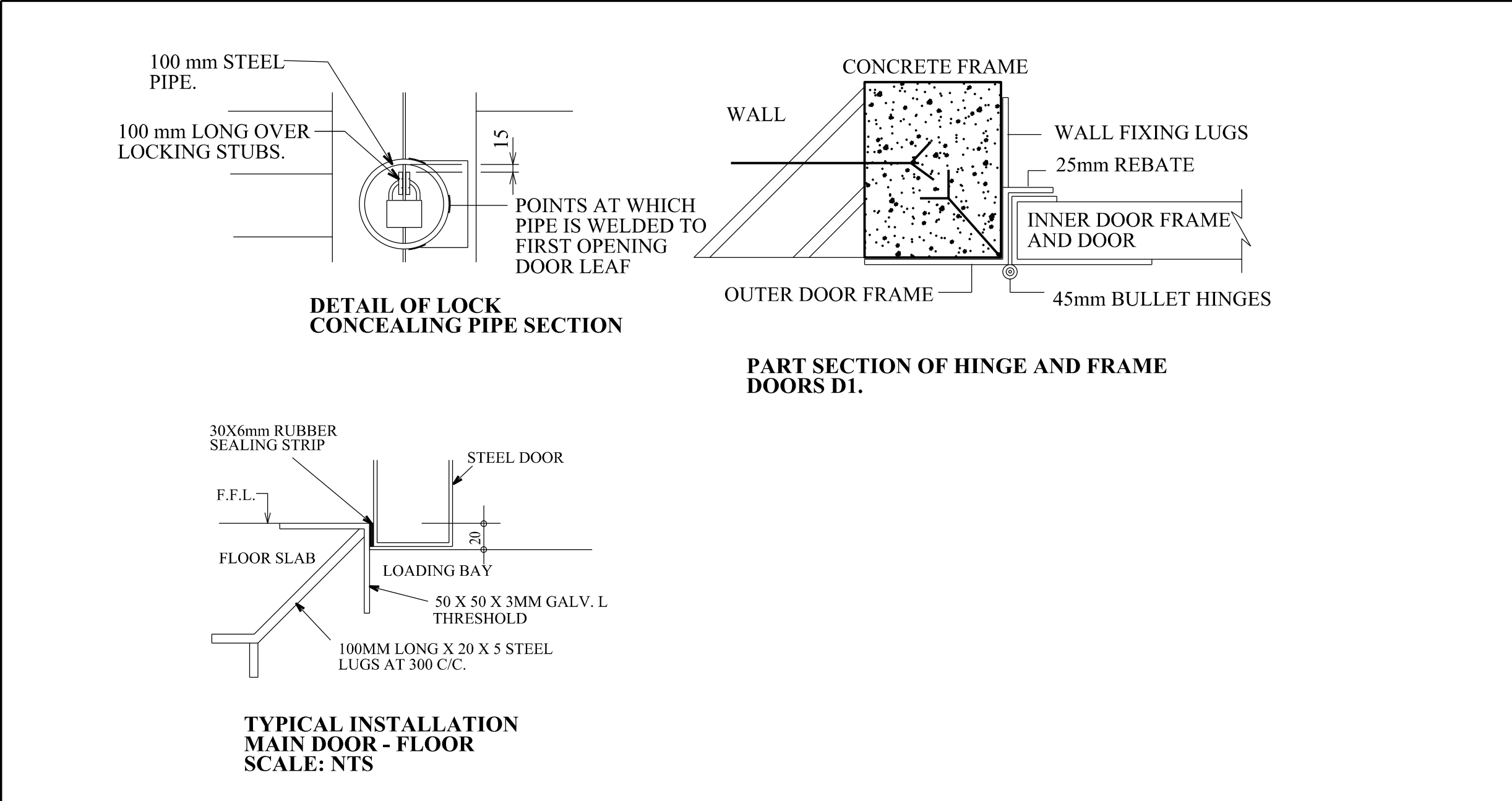
60 MVA 88/11 kV
SUBSTATION

ESKOM CONTROL ROOM
GENERAL LAYOUT

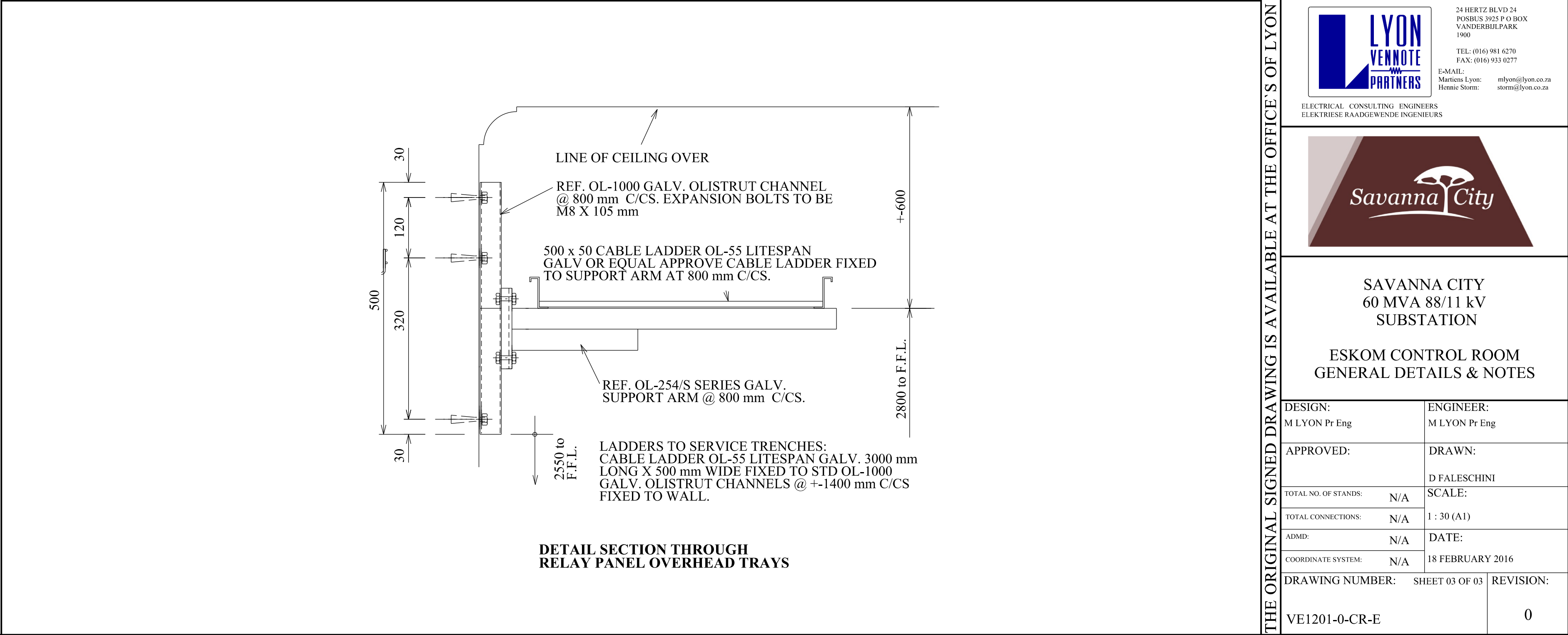
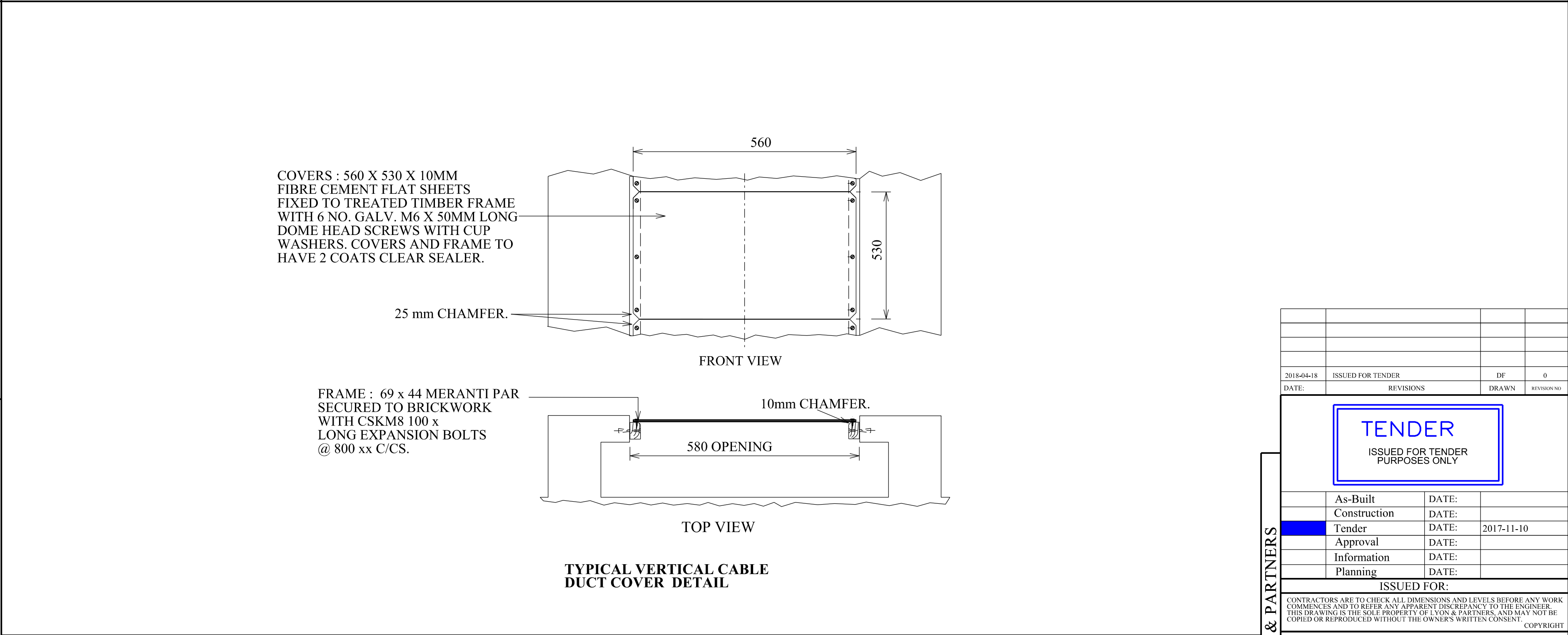
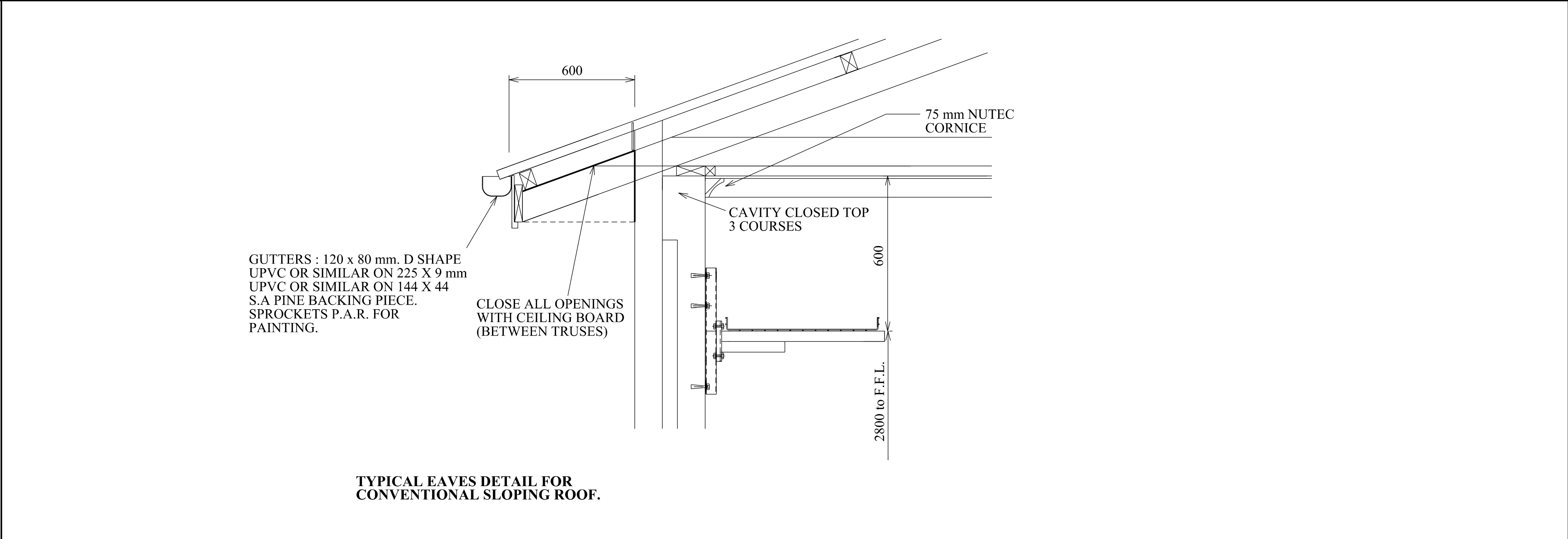
DESIGN:	M LYON Pr Eng	ENGINEER:	M LYON Pr Eng
APPROVED:		DRAWN:	D FALESCHINI
TOTAL NO. OF STANDS:	N/A	SCALE:	1 : 30 (A1)
TOTAL CONNECTIONS:	N/A	DATE:	18 FEBRUARY 2016
AIMD:	N/A	DRAWING NUMBER:	SHEET 02 OF 03
COORDINATE SYSTEM:	N/A	REVISION:	

VE1201-0-CR-E

0



DOOR No.		D1
POSITION		MAIN DOOR
FRAME		AS MANUFACTURED BY XPANDA SECURITY (PTY) LTD. OUTER FRAME EX 3 mm GALV. MILD STEEL WITH 80 mm WIDE OUTER LIP AND 25MM REBATE. INTERNAL FIXING LUGS @ 800 mm C/CS. FIXING BOLTS M10 EXPANSION BOLTS. GALVANIZING TO SANS 121. STEEL FRAME FIXED INTO CASTED CONCRETE FRAME AS PER CIVIL DRAWING.
DOOR TYPE		AS MANUFACTURED BY XPANDA SECURITY (PTY) LTD. 1,6 mm SLATS IN 3 mm WALL THICKNESS BY 80 mm WIDE BOX SECTION DOOR STILES. GALVANIZING TO SANS 121.
FINISH		CLEAN DOWN WITH "GALVKLEEN" APPLY 1COAT CALCIUM PLUMBATE, ONE COAT U / UNDERCOAT, 2 COATS EGGSHELL ENAMEL. COLOR : FOREST GREEN (H09) SABS 1091-1975.
IRONMONGERY	HINGES	3 X 45 mm BULLET HINGES PER DOOR LEAF.
	LOCKSET/ LOCK	2 SETS 10 mm LOCKING STUBS TO ACCEPT ESKOM TYPE PADLOCK SHANK. LOCKS TO BE CONCEALED WITH A 100 mm DIA. METAL PIPE SECTION 100 mm LONG FIXED TO OPENING SECTION OF DOOR. (SEE DETAIL) STD D SHAPE DOOR PULL .
	BOLTS	EXTERIOR : 2 x 150 LONG SOLID BRASS CARBON HOOK AND EYE FIXED TO MERANTI BLOCKS FIXED TO WALL. INTERIOR : TO ONE LEAF TOP AND BOTTOM FIX HOWICK H108 200 x 32 mm BRASS NECKED BOLTS.
	MISC.	N.B. DOORS 1 AND 2 TO HAVE 30 x 6 mm SELF ADHESIVE RUBBER SEALING STRIPS FIXED TO INNER EDGES OF FRAME TO PROVIDE DUST EXCLUSION.
DOOR SCHEDULE		



2018-04-18
DATE:

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REVISIONS

TENDER

ISSUED FOR TENDER
PURPOSES ONLY

As-Built	DATE:	
Construction	DATE:	
Tender	DATE:	2017-11-10
Approval	DATE:	
Information	DATE:	
Planning	DATE:	

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ELECTRICAL CONSULTING ENGINEERS
ELEKTRESE RAADGEWENDE INGENIEURS

Savanna City

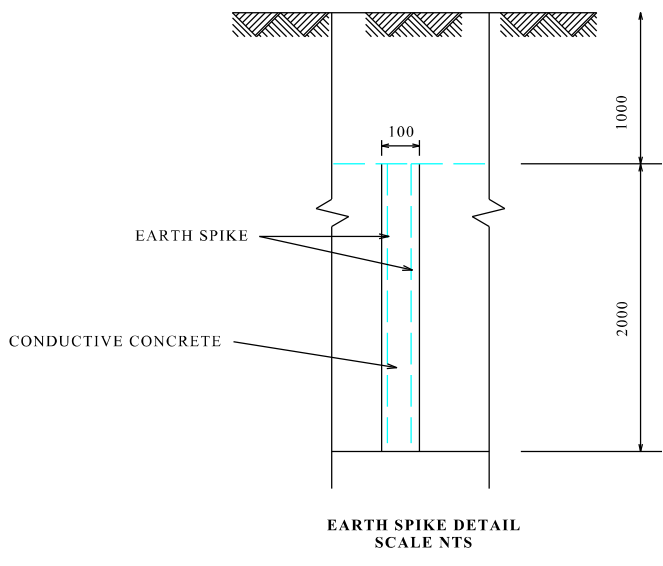
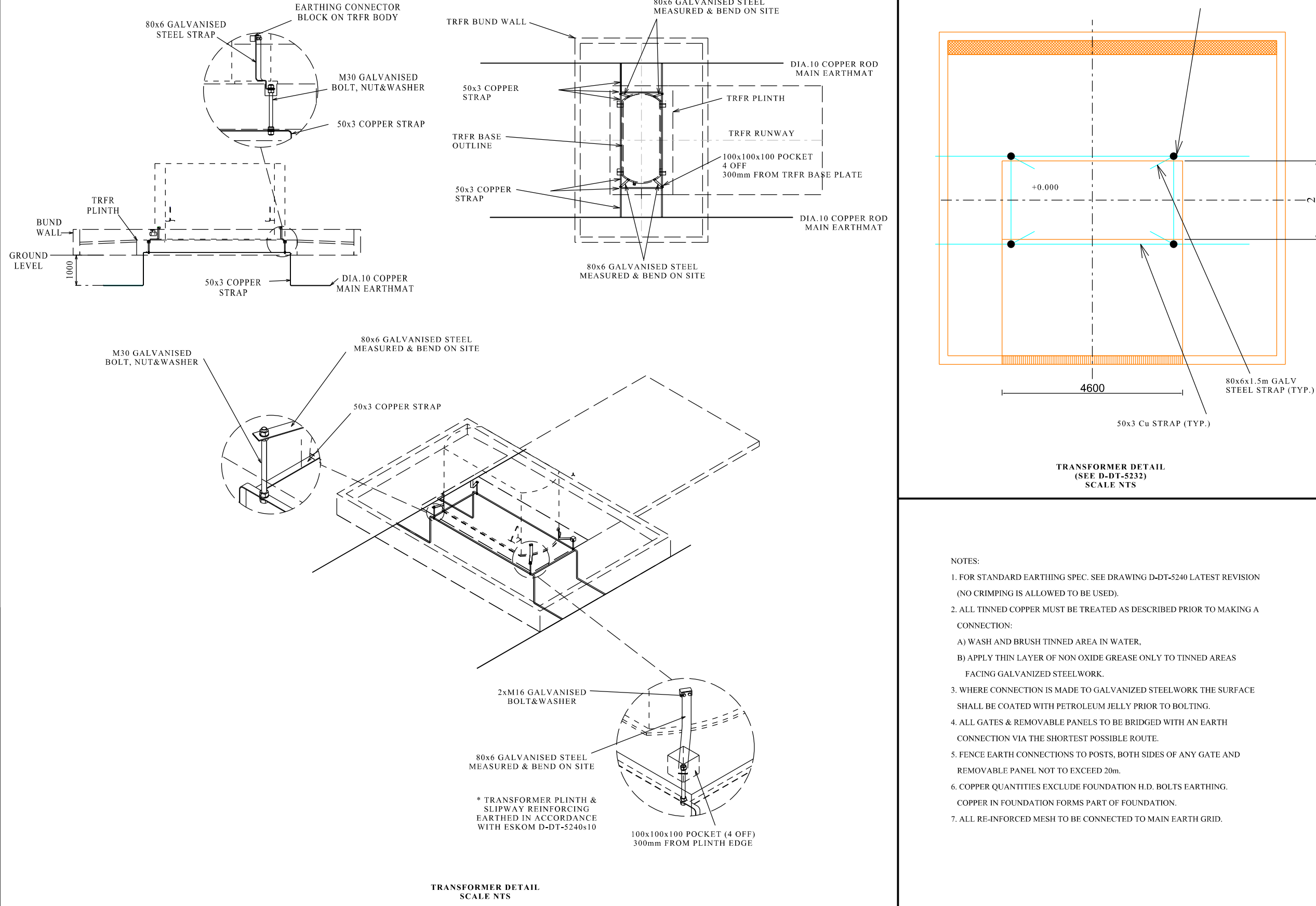
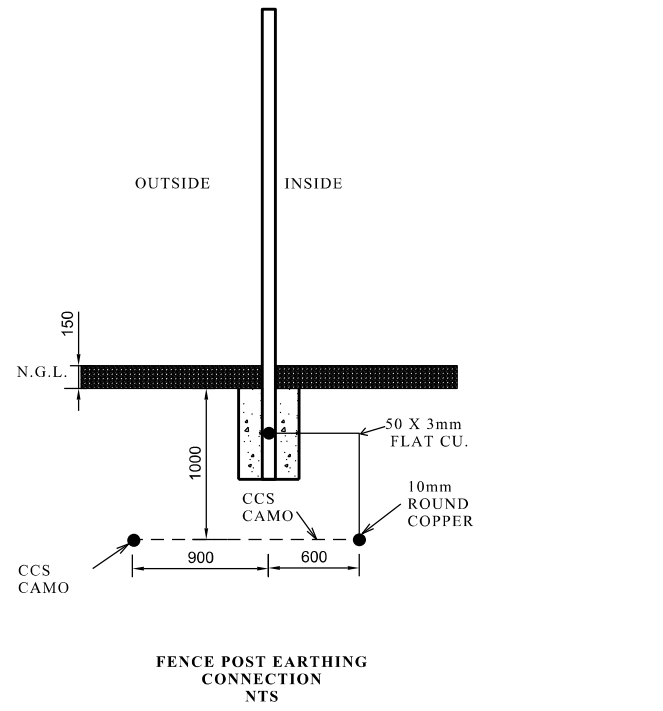
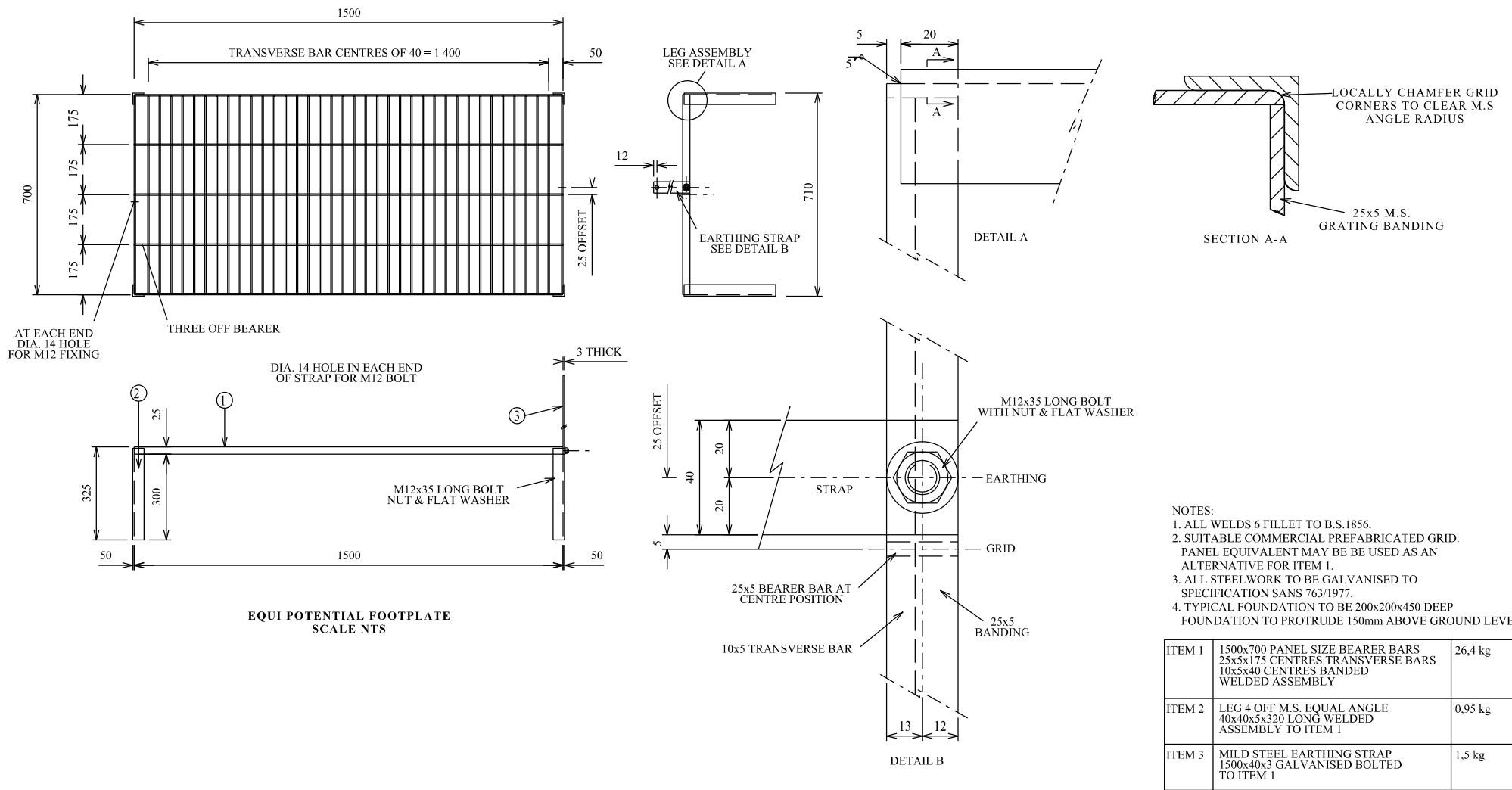
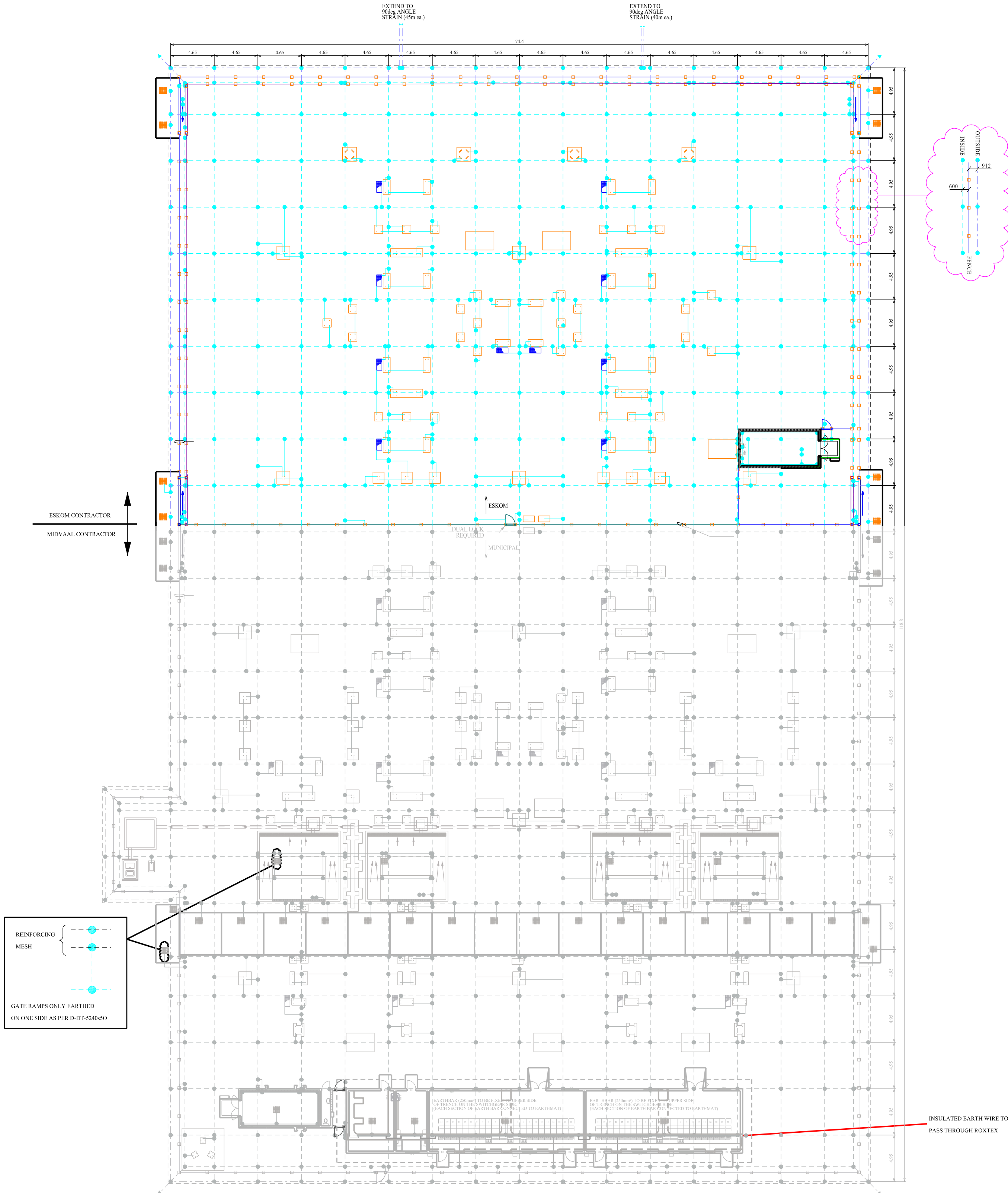
SAVANNA CITY
60 MVA 88/11 kV
SUBSTATION

ESKOM CONTROL ROOM
GENERAL DETAILS & NOTES

DESIGN: M LYON Pr Eng	ENGINEER: M LYON Pr Eng
APPROVED:	DRAWN: D FALESCHINI
TOTAL NO. OF STANDS: N/A	SCALE: 1 : 30 (A1)
TOTAL CONNECTIONS: N/A	DATE: 18 FEBRUARY 2016
ADMD: N/A	
COORDINATE SYSTEM: N/A	
DRAWING NUMBER: VE1201-0-CR-E	SHEET 03 OF 03 REVISION:

E:\2012\VE 1201-0 Savanna City SwS (Eskom)\Lyon drawings\4. TENDER DRAWINGS\VE1201-0-CR-E SHEET 01 02 03 REV 0 2018-04-18.dgn

* ALL REINFORCING USED IN THE FLOOR OF BUILDINGS / RUNWAYS / GLAIRS, IS TO BE BONDED TO EARTH IN ACCORDANCE WITH THE STANDARDS SET OUT IN D-DT-5240 SHEET 1. CONNECTION TO ANY REINFORCING MESH WILL BE ON ONE SIDE ONLY TO PREVENT EARTH CURRENT LOOPS THROUGH THE REINFORCING STEEL.



2017-11-10	ISSUED FOR TENDER	DF	0
DATE:	REVISIONS	DRAWN	REVISIONS

TENDER	
ISSUED FOR TENDER PURPOSES ONLY	
As-Built	DATE:
Construction	DATE:
Tender	DATE: 2017-11-10
Approval	DATE:
Information	DATE:
Planning	DATE:
ISSUED FOR:	
CONTRACTORS ARE TO CHECK ALL DIMENSIONS AND LEVELS BEFORE ANY WORK COMMENCES AND TO REPORT ANY APPARENT DISCREPANCY TO THE ENGINEER. THIS DRAWING IS THE SOLE PROPERTY OF LYON AND PARTNERS, AND MAY NOT BE COPIED OR REPRODUCED WITHOUT THE OWNER'S WRITTEN CONSENT. COPYRIGHT	

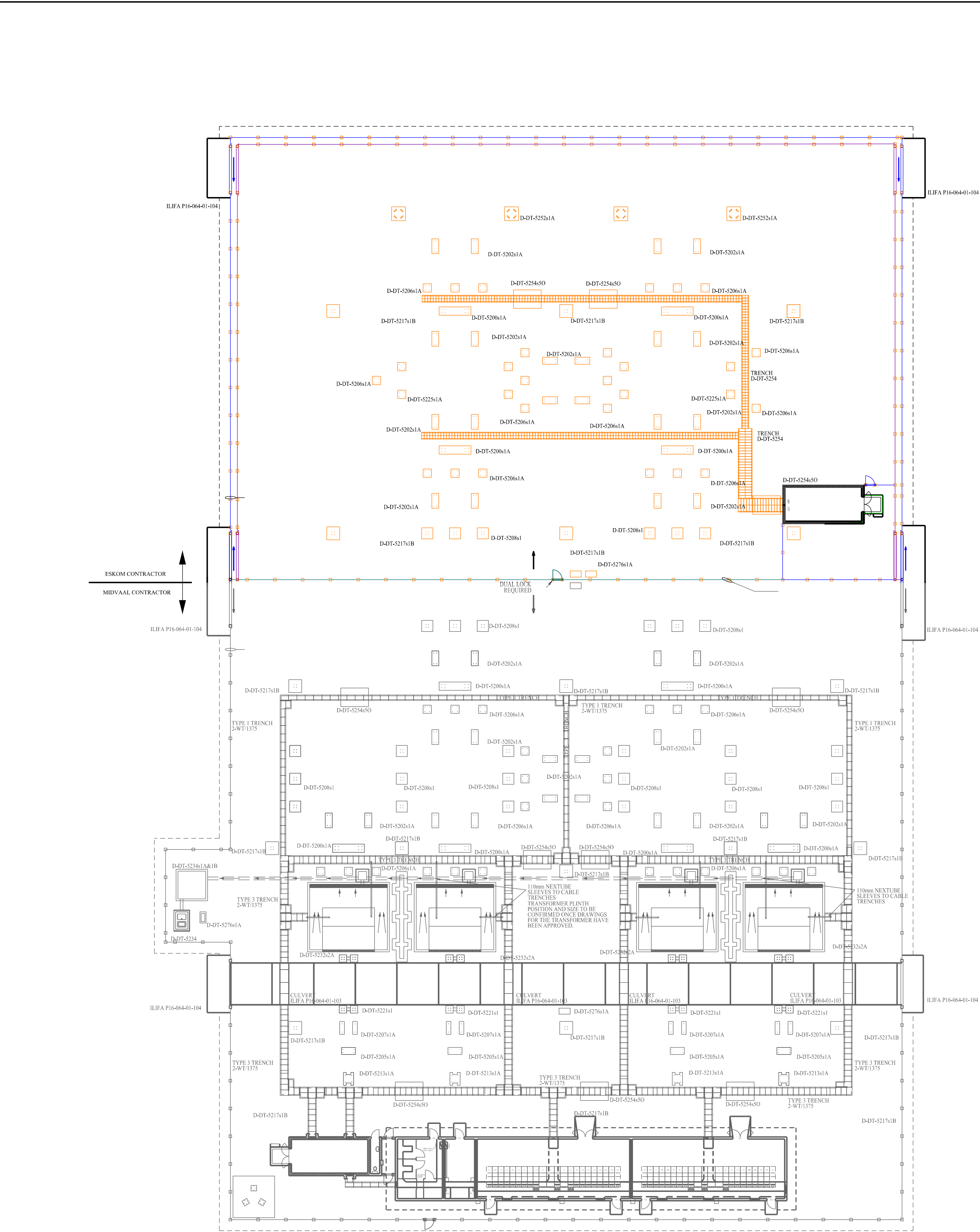
LYON VENNOTE PARTNERS	Lyon and Partners (Pty) Ltd	
	24 Herby Blvd 24 Postbus 3925 PO Box VANDERBURG PARK 1900	
Raadgewende Elektriese Ingenieurs & Projekbestuurders		Consulting Electrical Engineers & Project Managers
T. (016) 981 6270 F. (016) 931 0217		E-Mail: mlyon@lyon.co.za storm@lyon.co.za



SAVANNA CITY
60 MVA 88/11 kV
SUBSTATION
EARTH GRID LAYOUT

	DESCRIPTION	ESKOM QUANTITIES	MUNIC QUANTITIES
	10mm ROUND COPPER MAIN EARTH GRID (1m BELOW GROUND LEVEL)	1515 m	2355 m
	50mm x 3mm FLAT COPPER FOR EARTH TAILS TO THE FOUNDATIONS	320 m	664 m
	50mm x 3mm FLAT COPPER FOR EARTH-TAILS TO THE FENCE AND FENCE CORNER GATE POST (CGP)	46 m	52 m
	50mm x 3mm FLAT COPPER FOR EARTHING AND EARTH-TAILS FOR BUILDING EARTHING OF PANELS	25 m	70 m
	CCS CAMO EQUIVALENT TO 10mm COPPER (CLOSING SPAN & OUTSIDE FENCE PERIMETER)	401 m	314 m
	80mm x 6mm GALVANIZED STEEL (TRFR)	0 m	10 m
JOINTS BRAZED - TO BE OXY-ACETYLENE BRAZED USING DIA 3mm SILBRALLOY BRAZING RODS. NO CRIMPING ALLOWED.			
	MAIN EARTH GRID BONDING 10mm ROUND TO 10mm ROUND	207	310
	MAIN EARTH BONDING TO EARTH TAILS DIAMETER 10mm TO 50mm x 3mm FLAT	185	323
	FLAT TAIL BONDING 50mm x 3mm TO 50mm x 3mm (FOUNDATIONS)	31	42
	FLAT TAIL BONDING 50mm x 3mm TO EQUAL POTENTIAL FOOT PLATES	20	28
	FLAT TAIL BONDING 50mm x 3mm TO CORNER GATE POST	23	24
	TRANSFORMER PLINTH EARTH 50mm x 3mm	0 m	105 m
	REINFORCING EARTH CONNECTIONS	5	28
	INSULATED EARTH WIRE (MAIN TO SUB EARTH BAR THROUGH ROXTEC)	4 m	28 m
	SACRIFICIAL EARTH ANODE D-DT-5240-11	2	2
	EARTH SPIKES (PROVISION ONLY)	7	7
	ISOLATOR FOOT PLATE	10	14

DESIGN:	M LYON Pr Eng	ENGINEER:	M LYON Pr Eng
APPROVED:		DRAWN:	D FALESCHINI
TOTAL NO. OF STANDS:	N/A	SCALE:	1 : 300 (A1)
TOTAL CONNECTIONS:	N/A	DATE:	24 FEBRUARY 2016
ADMD:	N/A	DRAWING NUMBER:	SHEET 01 OF 01
COORDINATE SYSTEM:	N/A	REVISION:	0
VE1201-0-SUB-EARTH			



GENERAL RULES APPLICABLE TO CASTING OF CONCRETE:

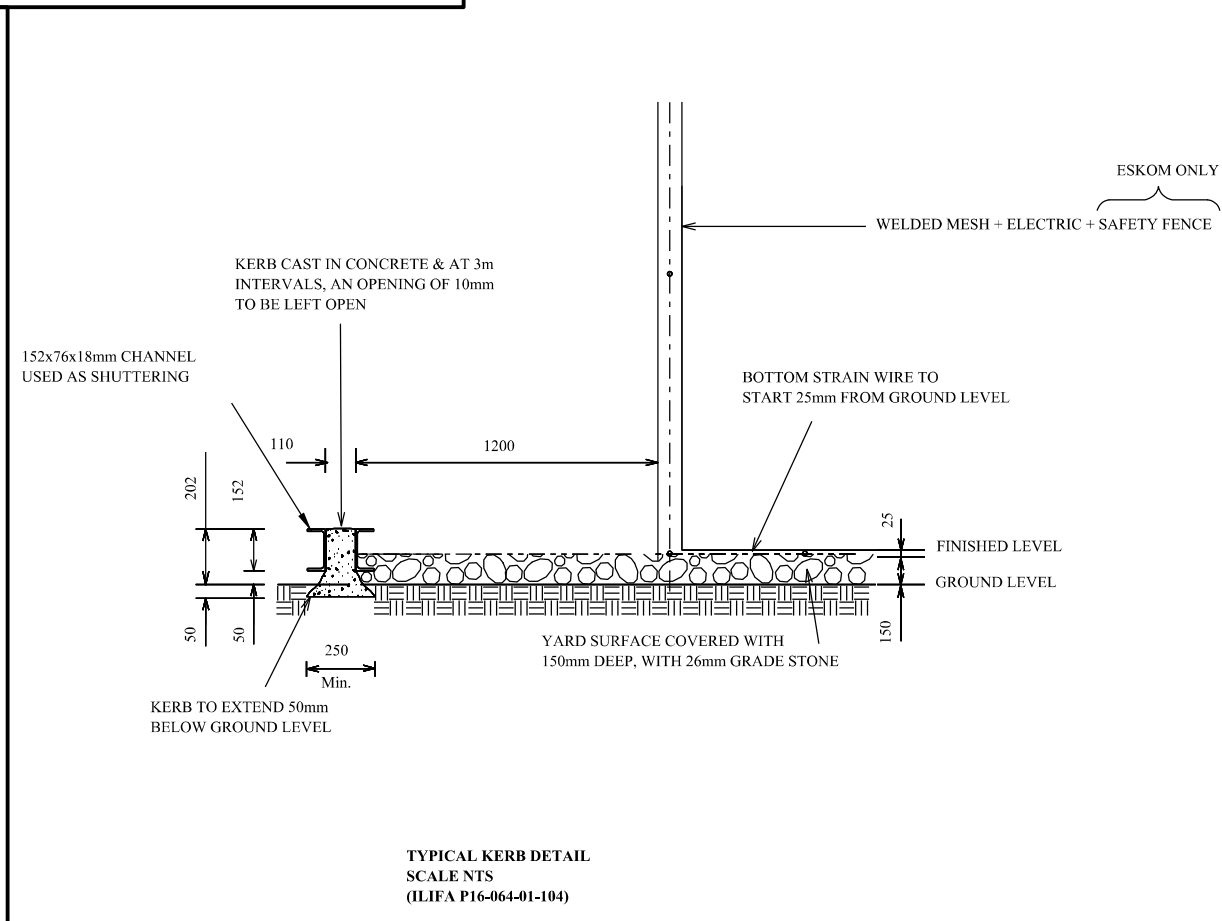
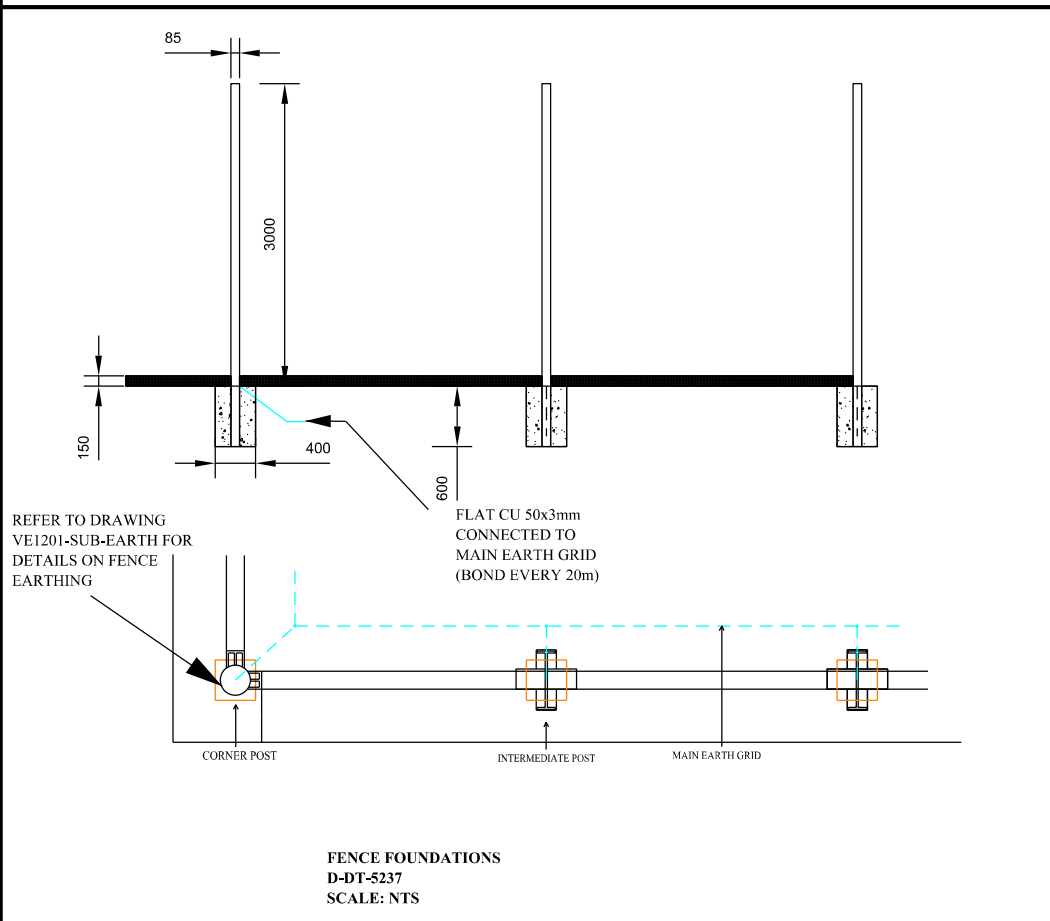
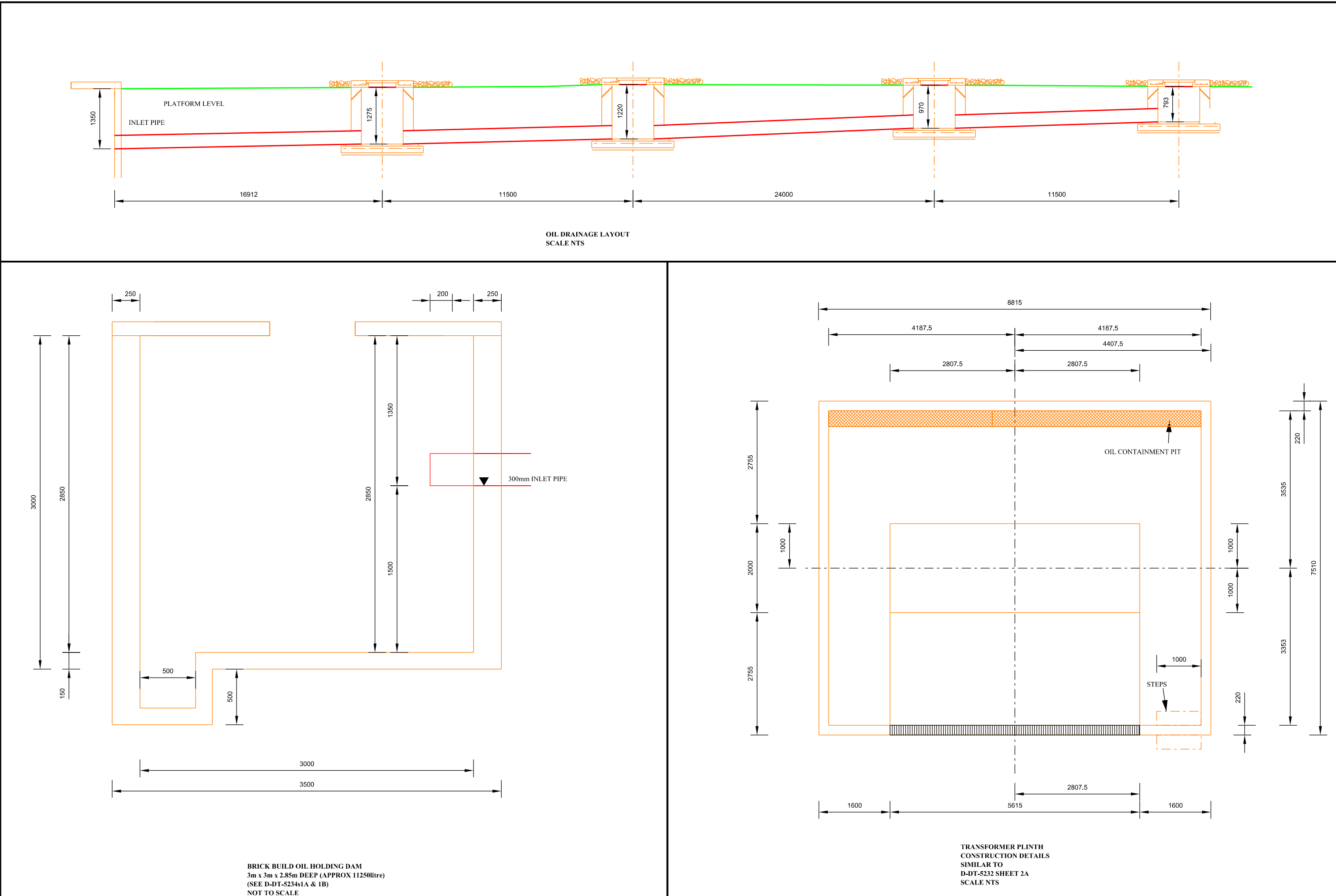
- CAST BELOW 35°C
- USE WOOD SHUTTERING AS FAR AS POSSIBLE
- USE LOW SHRINKAGE CONCRETE

CONCRETE MAXIMUM SHRINKAGE, STRESS AND MODULUS OF ELASTICITY OBTAINABLE FROM THE CIVIL ENGINEER'S DRAWINGS - SPECIFICATIONS

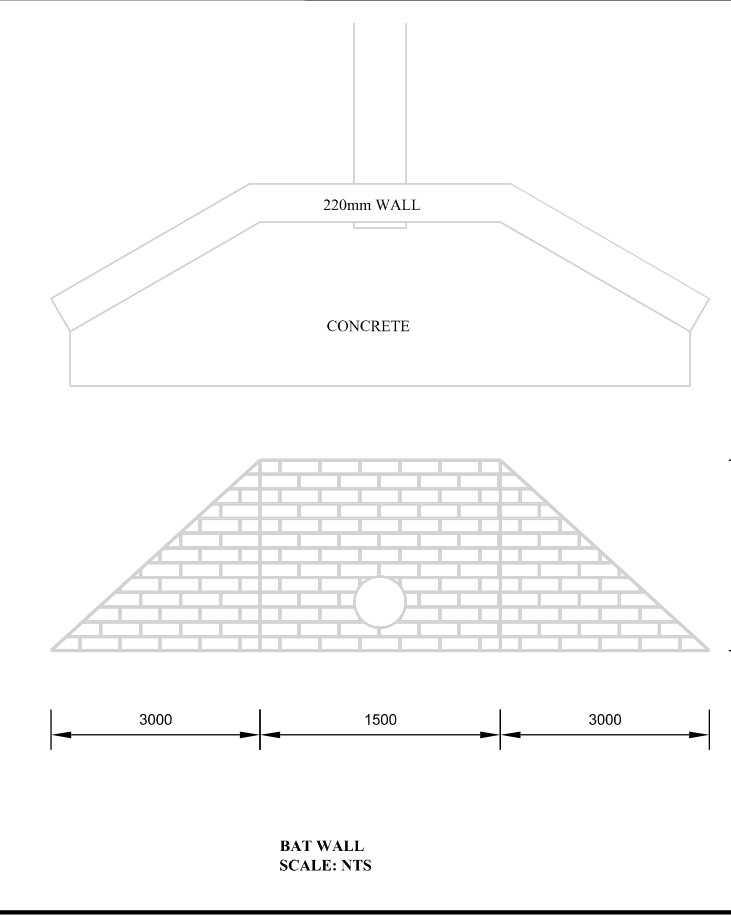
ADDITIONAL CONCRETE TESTS REQUIRED:

- OXYGEN PERMEABILITY
- WATER ABSORPTIVITY
- ELECTRICAL RESISTIVITY

NOTE: ALL CIVIL DRAWINGS TO BE READ AND USED IN CONJUNCTION WITH LPA'S OF THE CIVIL DRAWINGS: GATE RAMP, RUNWAY, SUB-SOIL DRAINAGE, TERRACE/ PLATFORM & ROADS ETC.



FOUNDATION SCHEDULE (88/11KV COMBINED)				
ITEM	DESCRIPTION	DRAWING NUMBER	ESKOM	MUNIC
C1 - C4	132 kV STANDARD STEELWORK COLUMN FOUNDATION	D-DT-5252A	4	0
ISA1 - ISA2	132 kV ISOLATOR SUPPORT & SURGE ARRESTOR FOUNDATION	D-DT-5202A	2	0
CT1 - CT30	MEDIUM EQUIPMENT SUPPORT FOUNDATION (CURRENT TRANSFORMER)	D-DT-5206A	12	18
CB1 - CB10	132 kV CIRCUIT BREAKER SUPPORT FOUNDATION	D-DT-5200A	4	6
ISO1 - ISO18	132 kV ISOLATOR SUPPORT FOUNDATION	D-DT-5202A	8	10
VT1 - VT12	MEDIUM EQUIPMENT SUPPORT FOUNDATION (VOLTAGE TRANSFORMER)	D-DT-5206A	6	6
VT13 - VT15	TUBULAR MEDIUM EQUIPMENT SUPPORT FOUNDATION (POWER VT)	D-DT-5206A	3	0
BB1 - BB8	TWIN BUSBAR SUPPORT FOUNDATION (PER COLUMN)	D-DT-5212A	8	0
BB9 - BB38	SINGLE LATTICE BUSBAR SUPPORT FOUNDATION	D-DT-5208A	6	24
TRF1 - TRF4	88/11 kV 20MVA TRANSFORMER PLINTH	D-DT-5212A	0	4
RC1 - RC8	22 kV ROAD CROSSING FOUNDATION	D-DT-5212A	0	8
NEC1 - NEC4	NEC1 SUPPORT FOUNDATION	D-DT-5207A	0	4
ISO19 - ISO22	22 kV ISOLATOR SUPPORT FOUNDATION	D-DT-5205A	0	4
CSE1 - CSE4	MV CABLE END SUPPORT FOUNDATION	D-DT-5213A	0	4
LM1 - LM17	14m LIGHTNING LIGHTING MAST FOUNDATION	D-DT-5217A	6	11
AC1 - AC3	AC YARD BOARD	D-DT-5216A	1	1
IB1 - IB2	ESKOM / MIDVAAL INTERFACE BOX	D-DT-5216A	1	1
FBI1 - FBI2	FIRE BRICK WALL	D-DT-5275	0	2
	FENCE FOUNDATIONS - WELDED MESH	D-DT-5275A	94	87
	FENCE FOUNDATIONS - SAFETY	D-DT-5275A	87	0
	OIL DRAINAGE DAM & OIL TRAP	D-DT-5214A	0	1
	CONCRETE GATE RAMP (SLIDING GATES)	ILFA P16-064-01-104	4	4
	RUNWAY	ILFA P16-064-01-104	0	73m
	60mm CABLE TRENCH (TYPE 1)	2-WT1375	0m	119m
	90mm CABLE TRENCH (TYPE 3)	2-WT1375	0m	250m
	750mm CABLE TRENCH	D-DT-5254	85m	0m
	1500mm CABLE TRENCH	D-DT-5254	14m	0m
	ROAD CULVERT	ILFA P16-064-01-103	0	4
	CABLE TRENCH RAMPS	D-DT-5254	4	7
SCB	PUMP CONTROL BOX	D-DT-5276	0	1
ST1	SIGNAL TOWER 3m	DESIGN & DRAWING BY MANUFACTURER	0	1



2017-11-10

ISSUED FOR TENDER

DATE:

REVISIONS

DF

0

2017-11-10

ISSUED FOR TENDER

DATE:

REVISIONS

DF

0

As-Built

Construction

Tender

Approval

Information

Planning

DATE:

DATE:

DATE:

DATE:

DATE:

DATE:

ISSUED FOR:

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sturm@lyon.co.za

Raadgewende Elektriese Ingenieurs
& Projektbestuurders

Consulting Electrical Engineers
& Project Managers

SAVANNA CITY
60 MVA 88/11 kV
SUBSTATION

FOUNDATION LAYOUT

DESIGN: M LYON Pr Eng

ENGINEER: M LYON Pr Eng

APPROVED: D FALESCHINI

DRAWN: D FALESCHINI

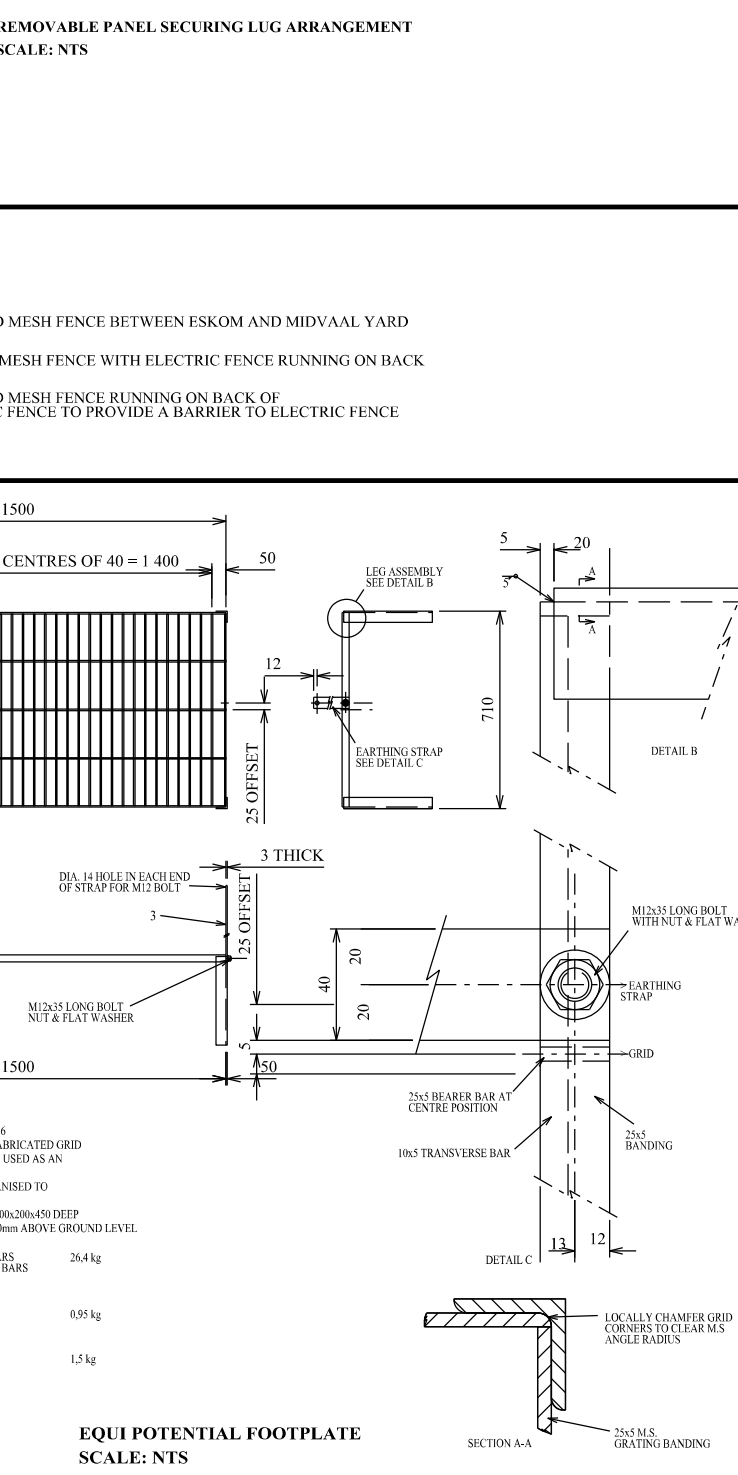
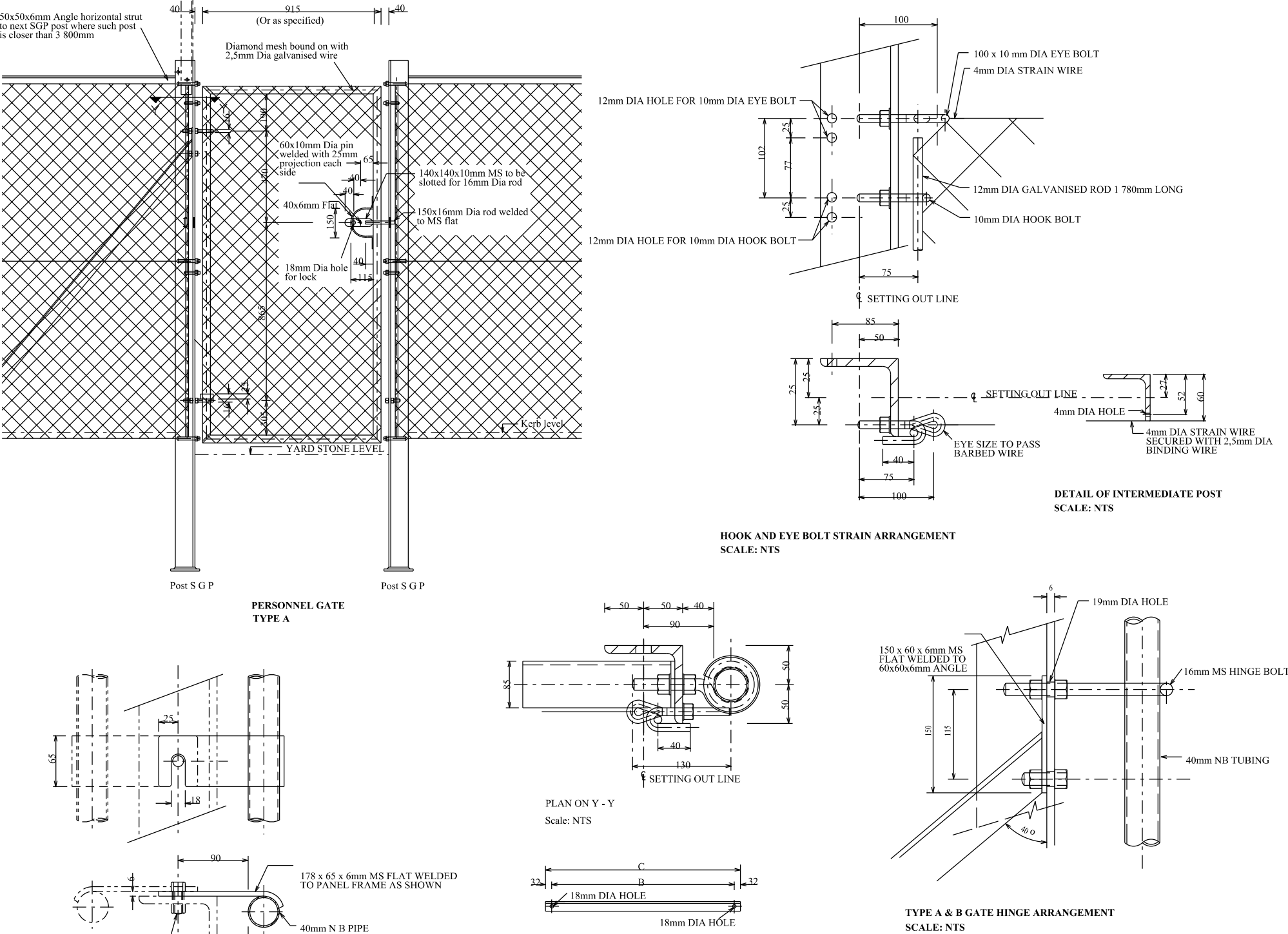
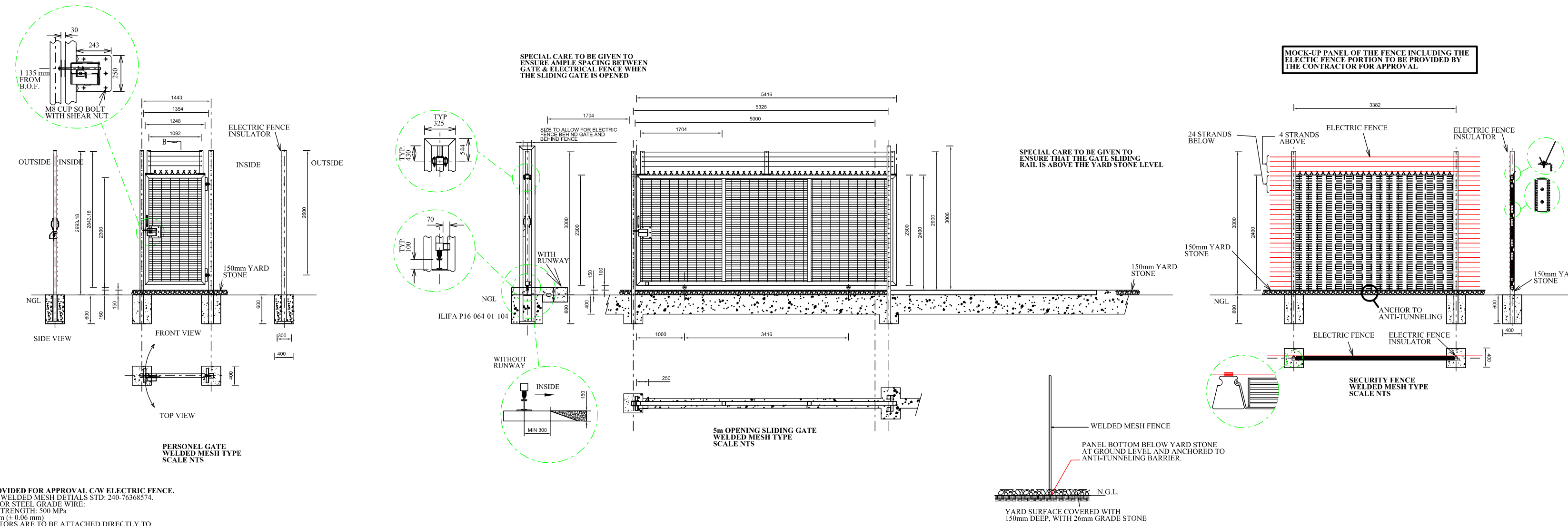
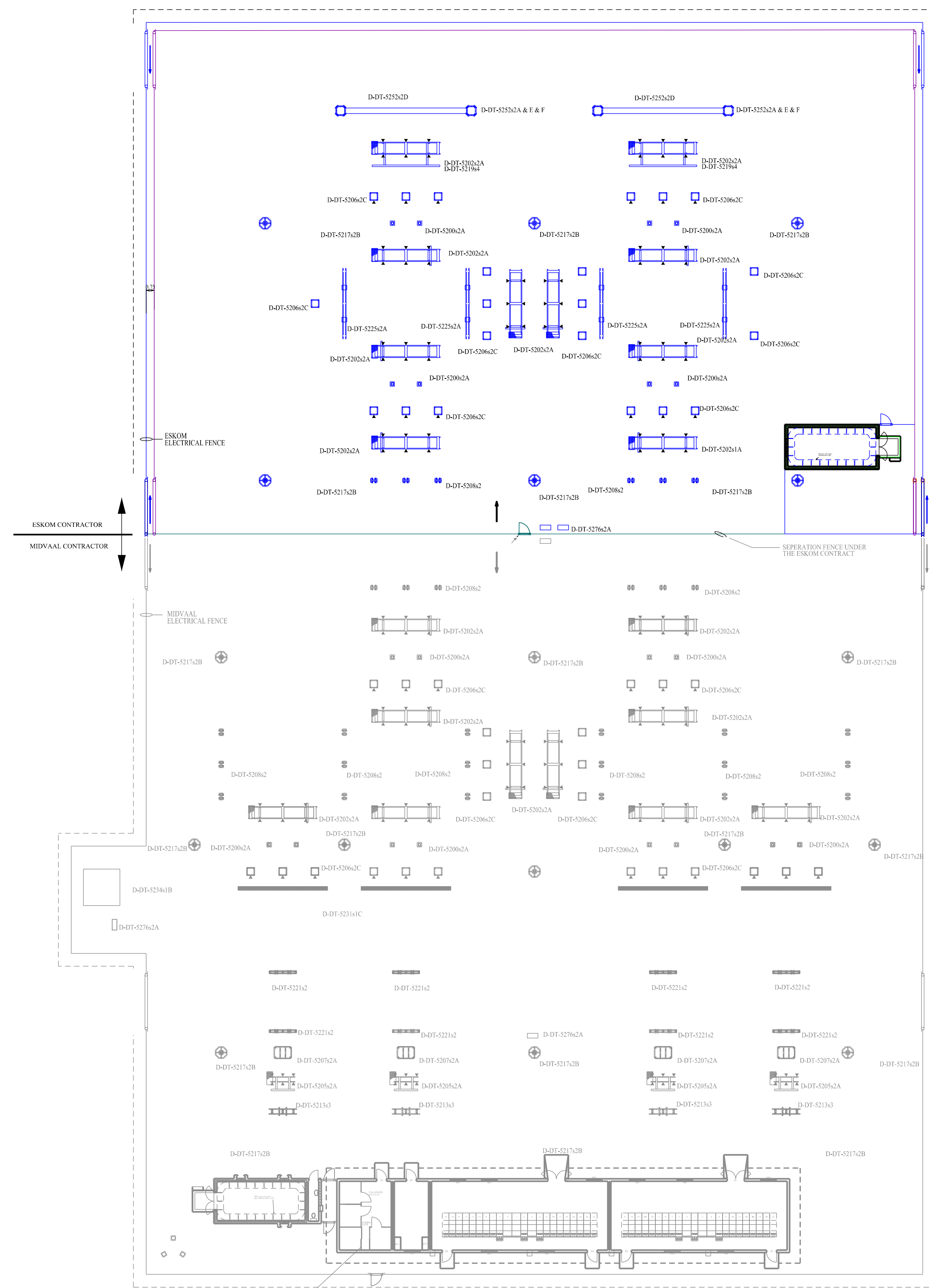
SCALE: 1 : 300 (A1)

DATE: 24 FEBRUARY 2016

DRAWING NUMBER: SHEET 01 OF 01

REVISION: 0

VE1201-0-SUB-FDN



STEELWORK SCHEDULE (80/114V COMBINED)				
ITEM	DESCRIPTION	DRAWING NUMBER	ESKOM	MUN
C1 - C4	132 kV STANDARD STEELWORK COLUMN	D-DT-52522A & E & F	4	0
BE1 - BE2	132 kV STANDARD STEELWORK BEAM (1.45m)	D-DT-52525D2	2	0
ISA1 - ISA2	132kV ISOLATOR SUPPORT & SURGE ARRESTOR STEELWORK	D-DT-52062A & 5219d4	2	0
CT1 - CT30	MEDIUM EQUIPMENT SUPPORT STEELWORK (CURRENT TRANSFORMER)	D-DT-52062C	12	18
CB1 - CB10	132kV CIRCUIT BREAKER SUPPORT STEELWORK	D-DT-52092A	2	
ISO1 - ISO18	132kV ISOLATOR SUPPORT STEELWORK	D-DT-52062A	8	10
VT1 - VT12	MEDIUM EQUIPMENT SUPPORT STEELWORK (VOLTAGE TRANSFORMER)	D-DT-52062C & 2H	6	6
VT13 - VT15	MEDIUM EQUIPMENT SUPPORT STEELWORK (POWER VT)	D-DT-52062C & 2H	3	0
BB1 - BB8	BUSBAR SUPPORT STEELWORK	D-DT-52125A	4	0
BB9 - BB36	LATTICE BUSBAR SUPPORT STEELWORK	D-DT-52082	6	26
RC1 - RC8	22 kV ROAD CROSSING STEELWORK	D-DT-52212	0	8
NEC1 - NEC4	NECRT SUPPORT STEELWORK	D-DT-52075A	0	4
ISO19 - ISO22	22kV ISOLATOR SUPPORT STEELWORK	D-DT-52062A	0	4
CES1 - CES4	MV CABLE END SUPPORT STEELWORK	D-DT-5213d	0	
LM1 - LM17	14m LIGHTNING LIGHTING MAST STEELWORK	D-DT-5217d2B	6	9
AC1 - AC3	AC YARD BOARD STEELWORK SUPPORTS (AC & AC 3 SHARE STEELWORK)	D-DT-52176dA	1	
IB1 - 2	INTERFACE BOX (ESKOM - MIDVAAL)	D-DT-52176dA	1	1
OHID	OIL HOLDING DAM COVER & TRAP DOOR (SIZE TO VARY)	D-DT-52140B	0	1
SCB	SUMP CONTROL BOX	D-DT-52176dA	0	1
ST1	SIGNAL TOWER 36m	MP15-007	0	1
-	FENCE POST (CLEARVU)	VE1201-2-SU/B-STL	94	87
-	FENCE SCREEN (CLEARVU)	VE1201-2-SU/B-STL	169	20
-	PERSONNEL GATES (CLEARVU)	VE1201-2-SU/B-STL	1	
-	SLIDING GATES (CLEARVU)	VE1201-2-SU/B-STL	4	4
-	SAFETY FENCE POSTS	VE1201-2-SU/B-STL	87	0
-	SAFETY FENCE (m)	VE1201-2-SU/B-STL	204	0
-	PERSONNEL GATES (SAFETY FENCE)	VE1201-2-SU/B-STL	1	0
-	ELECTRIC FENCE	VE1201-2-SU/B-STL	169	20
-	SLIDING GATE 5 m (SAFETY)	VE1201-2-SU/B-STL	4	0
-	WINDOW COVERS	VE1201-2-SU/B-STL	0	1
-	RIPPLE CONTROL BARRIERS	VE1201-2-SU/B-STL	0	7
-	RIPPLE CONTROL STEEL GATES	VE1201-2-SU/B-STL	0	5

2017-11-10	ISSUED FOR TENDER		DF		0
DATE:	REVISIONS		DRAWN		AUTHOR(S)
TENDER ISSUED FOR TENDER PURPOSES ONLY					
	As-Built	DATE:			
	Construction	DATE:			
	Tender	DATE:		2017-11-10	
	Approval	DATE:			
	Information	DATE:			
	Planning	DATE:			

**LYON
VENNOTE
PARTNERS**

Lyon and Partners (Pty) Ltd

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Postbus 3925 PO Box
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1900

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Martiens Lyon: mlyon@lyon.co.za
Hennie Storm: storm@lyon.co.za

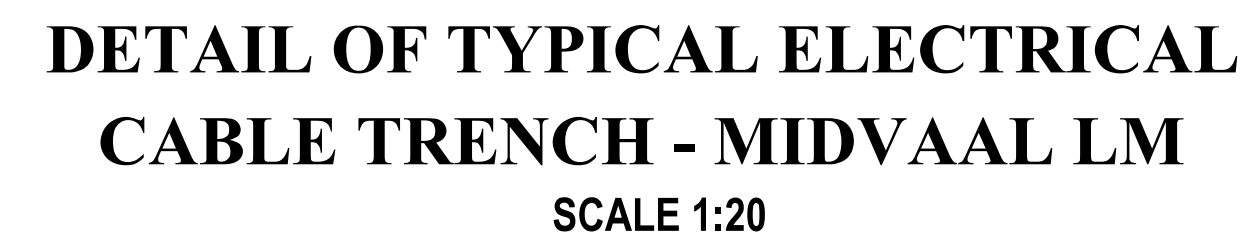
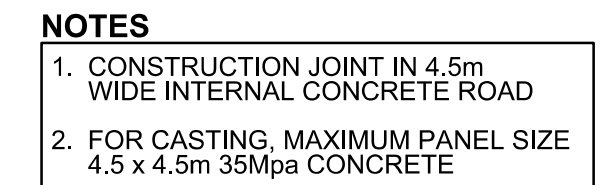
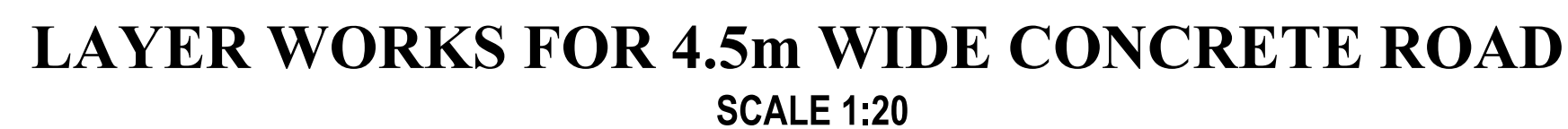
**Consulting Electrical Engineers
& Project Managers**



SAVANNA CITY
60 MVA 88/11 kV
SUBSTATION

STEELWORK LAYOUT

DESIGN: M LYON Pr Eng		ENGINEER: M LYON Pr Eng	
APPROVED:		DRAWN: D FALESCHINI	
TOTAL NO. OF STANDS:	N/A	SCALE: 1 : 300 (A1)	
TOTAL CONNECTIONS:	N/A	DATE:	
ADMS:	N/A	24 FEBRUARY 2016	
COORDINATE SYSTEM:		N/A	
DRAWING NUMBER:		SHEET 01 OF 01	REVISION:
VE1201-0-SUB-STL			0



- NOTES : 4.5m CONCRETE ROAD**
- A. 150mm THICK BASE LAYER OF G5 MATERIAL MODIFIED WITH 3% OIL COMPACTED TO 98% MOD AASHTO DENSITY (C4)
 - B. 150mm THICK SUBBASE LAYER OF G5 MATERIAL COMPACTED TO 98% MOD AASHTO DENSITY
 - C. 150mm THICK UPPER SELECTED LAYER OF G5 MATERIAL COMPACTED TO 96% MOD AASHTO DENSITY
 - D. 150mm THICK UPPER SELECTED LAYER OF G6 MATERIAL COMPACTED TO 93% MOD AASHTO DENSITY

FOR TENDER

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ilifa
AFRICA ENGINEERS

18 HERTZ BLVD
P O BOX 6510
VANDERBILTPARK
1900

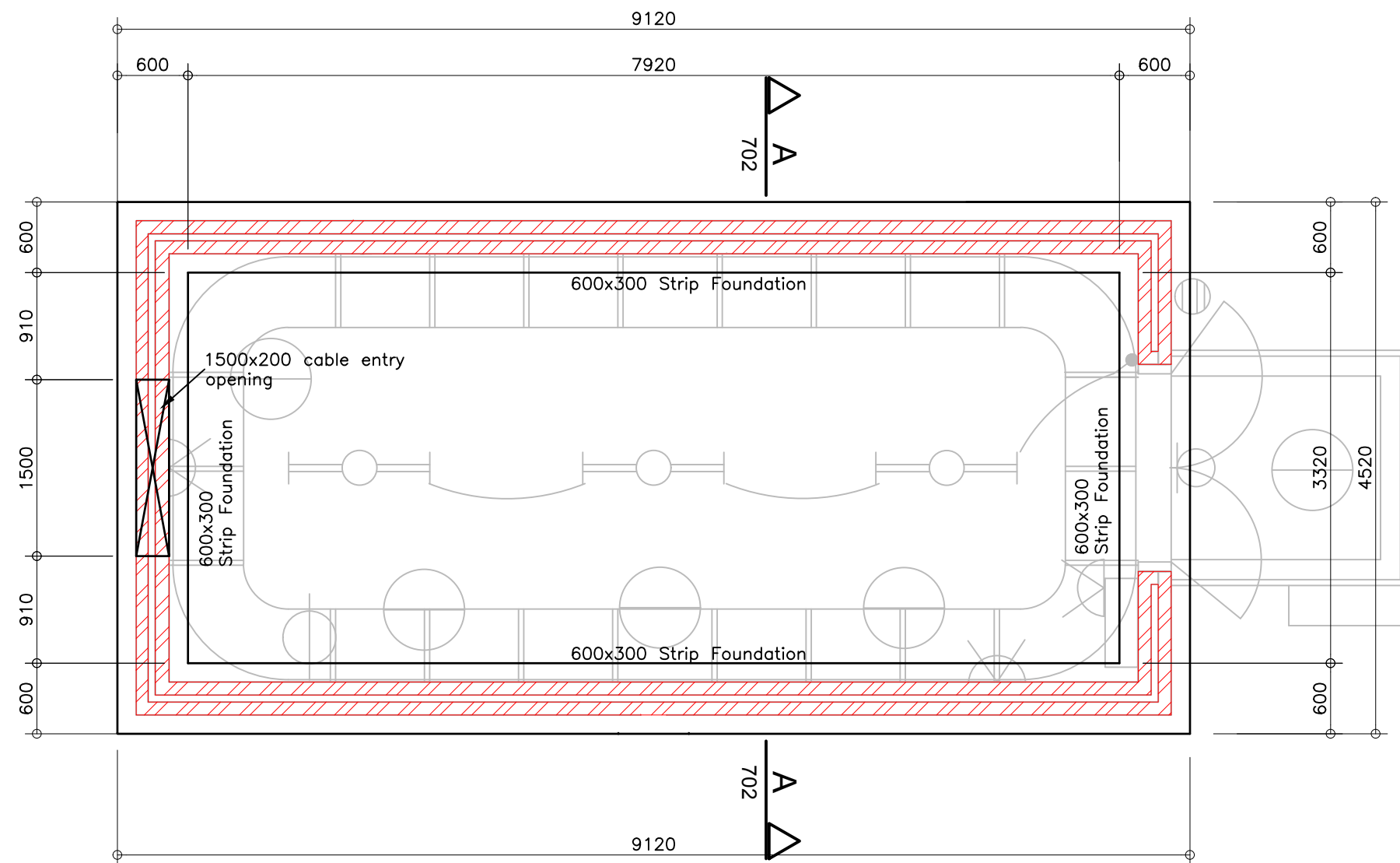
TEL: (016) 981 0591
FAX: (016) 981 0593
E-MAIL:
vd@ilifa.biz

CIVIL AND STRUCTURAL CONSULTING ENGINEERS

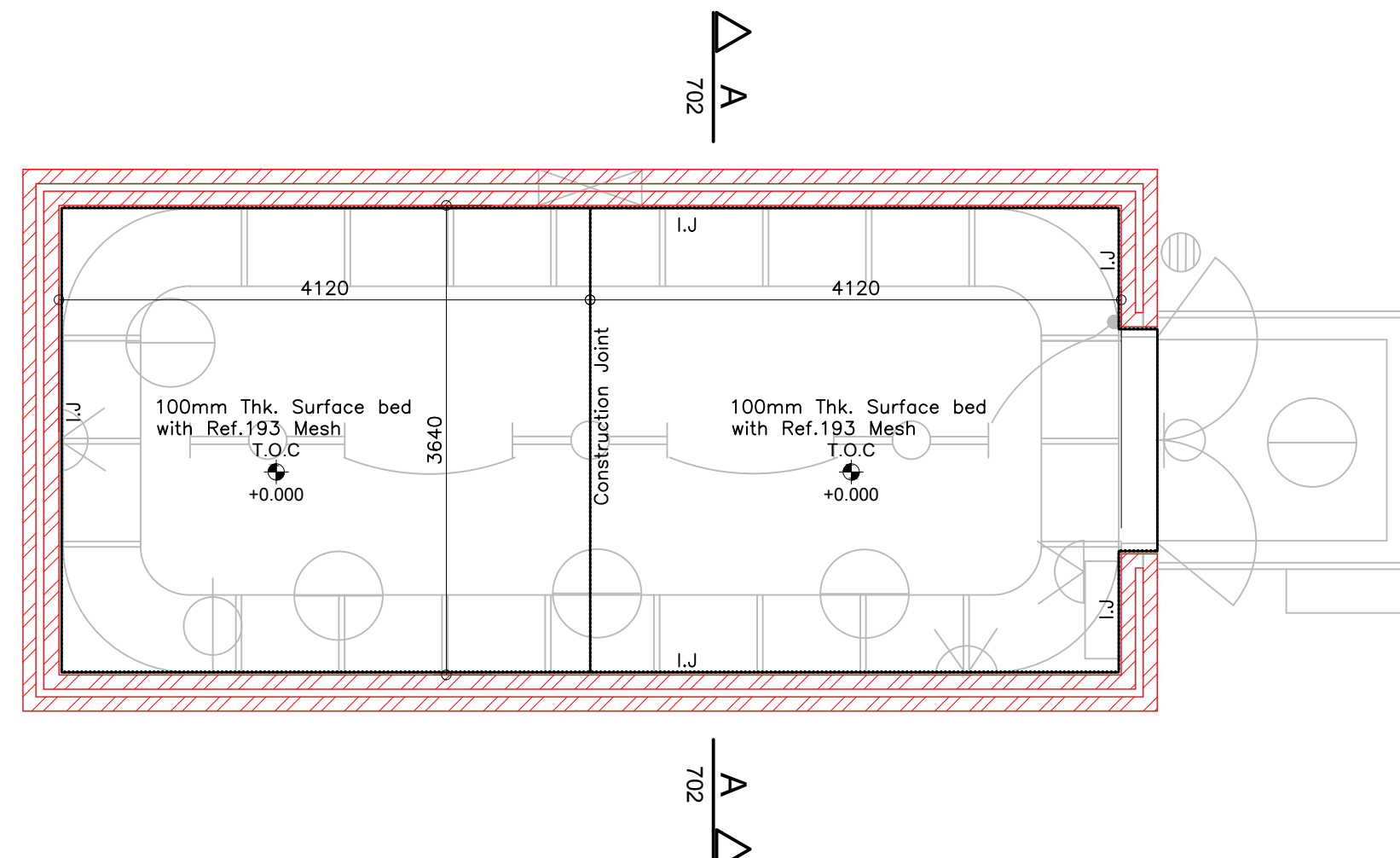
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APPROVED: K LOUW Pr Eng		DRAWN: B. VAN ASWEGEN	
TOTAL NO. OF STANDS:	N/A	SCALE:	
TOTAL CONNECTIONS:	N/A	1:20	
ADMD:	N/A	DATE:	
COORDINATE SYSTEM: WG27		26 OCTOBER 2016	
DRAWING NUMBER:		SHEET 01 OF 01	REVISION:

[illegible]

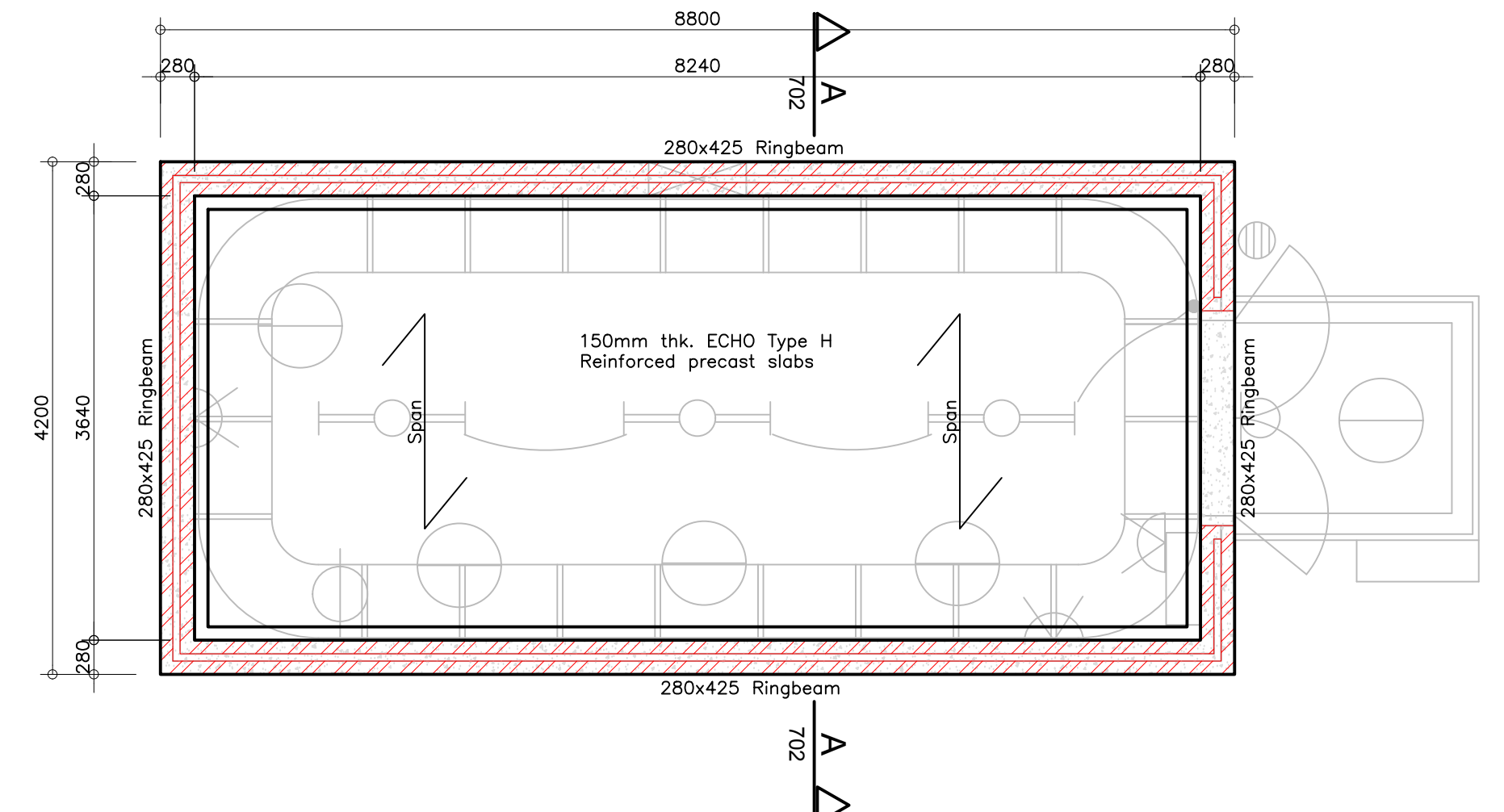
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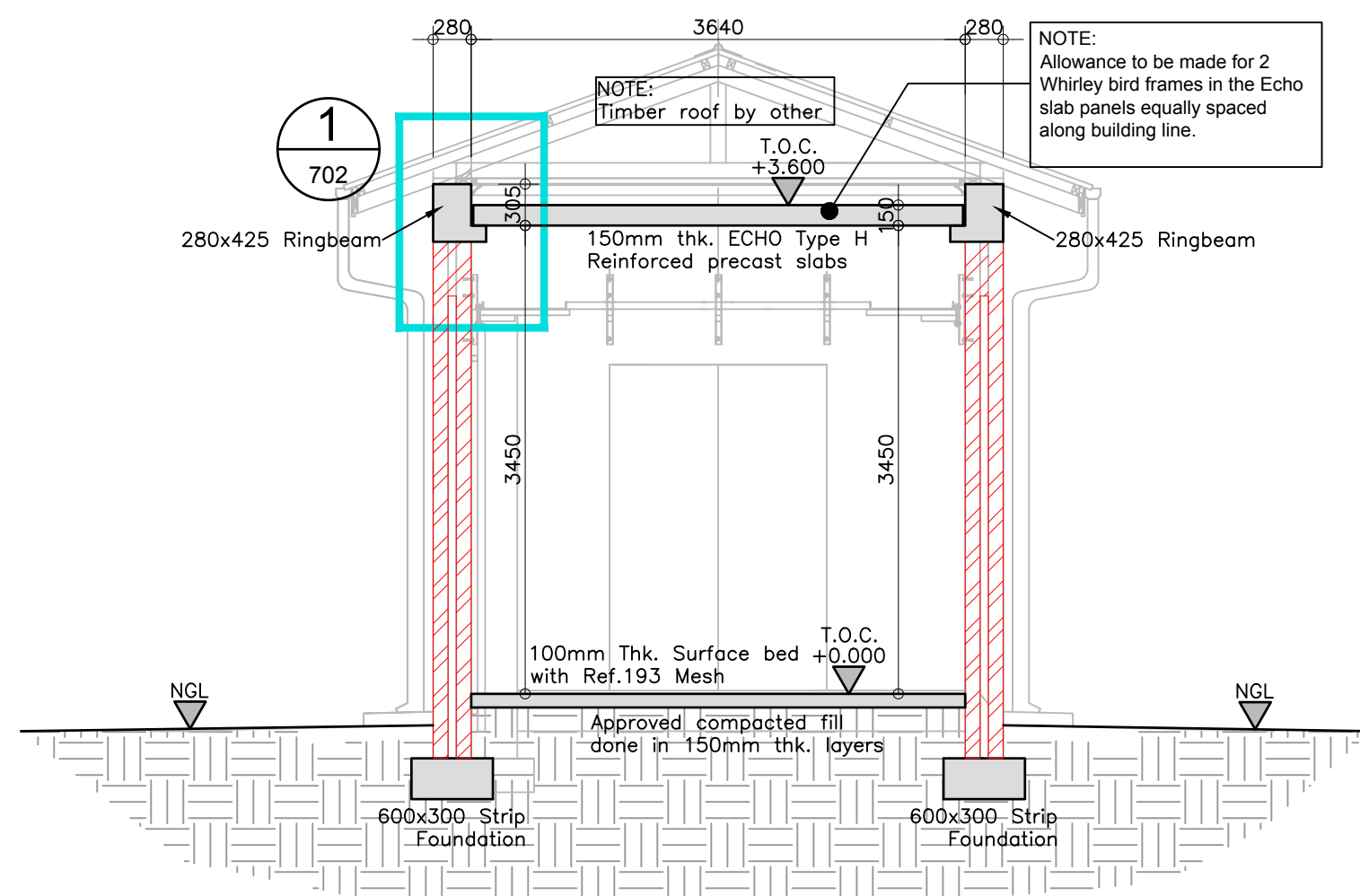
Foundation Layout
Scale: 1:50



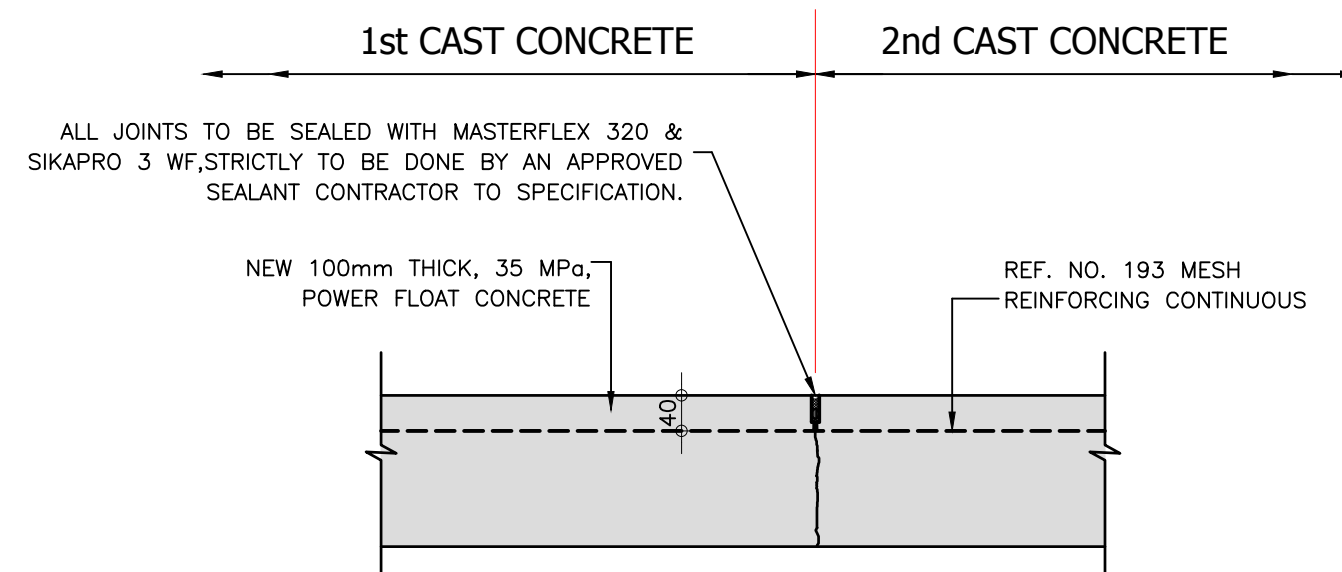
Surface Bed Layout
Scale: 1:50



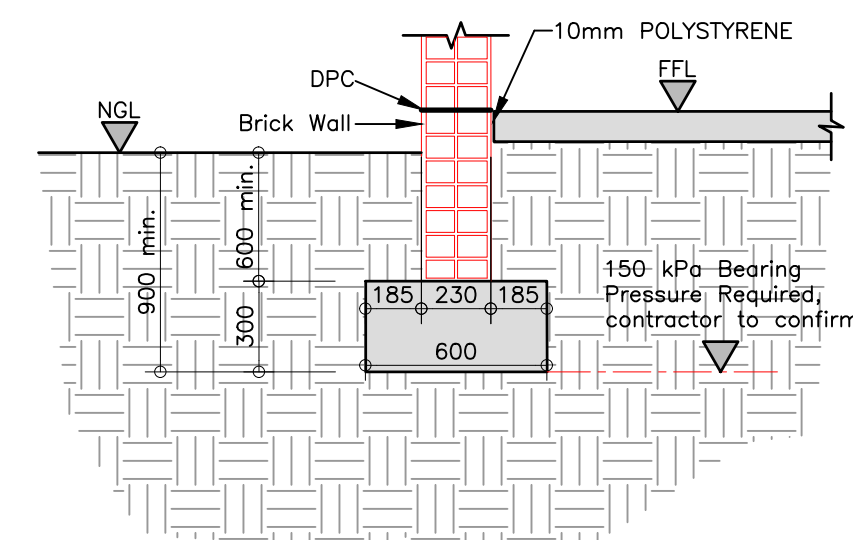
Ringbeam Layout
Scale: 1:50



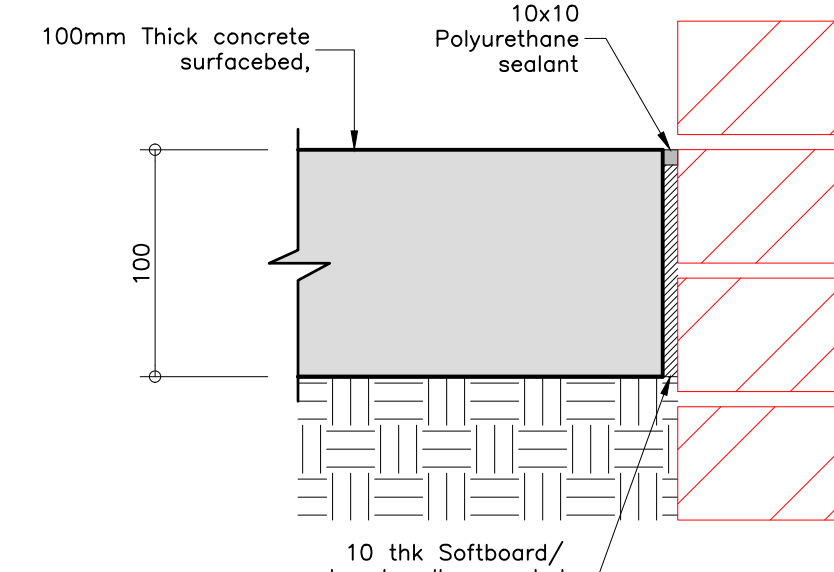
Section A-A
Scale: 1:50



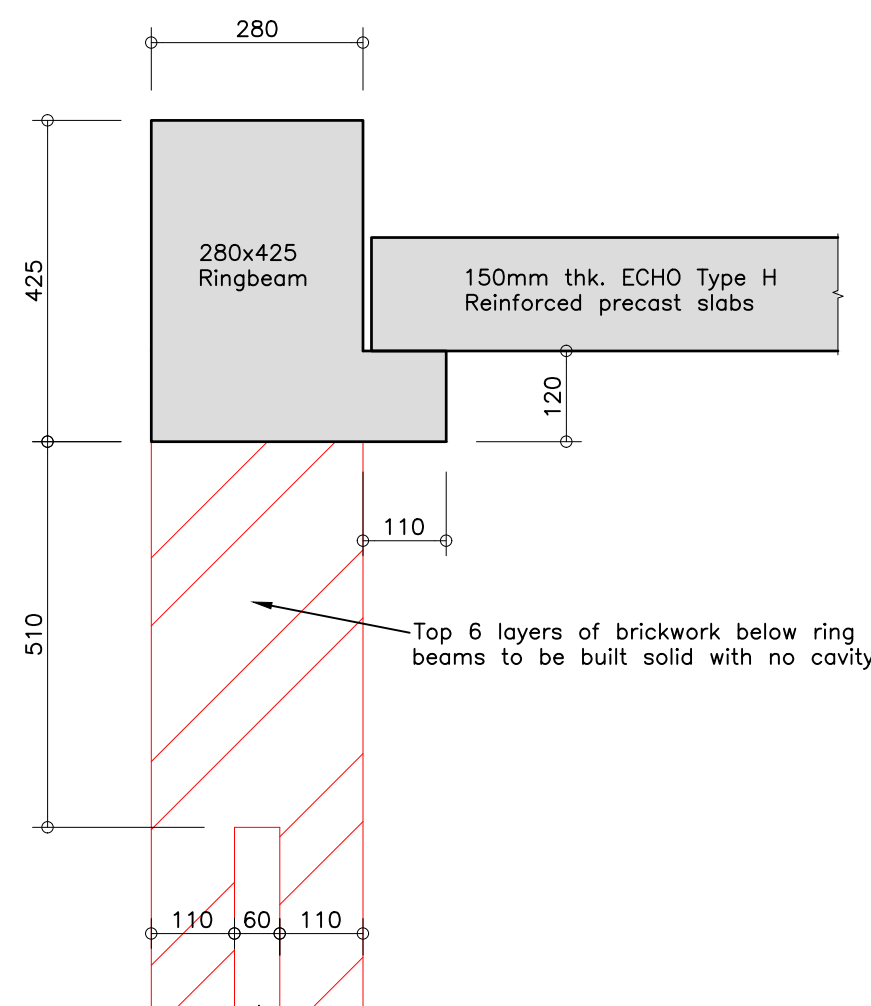
Construction Joint Detail (CJ)
Scale: 1:10



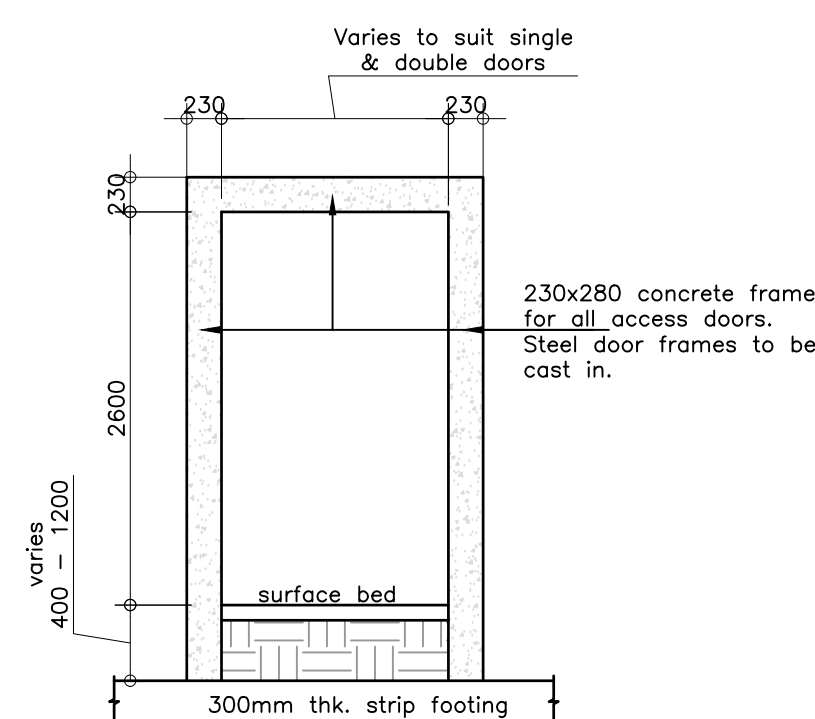
Typical 600x300 Strip Foundation
Scale: 1:25



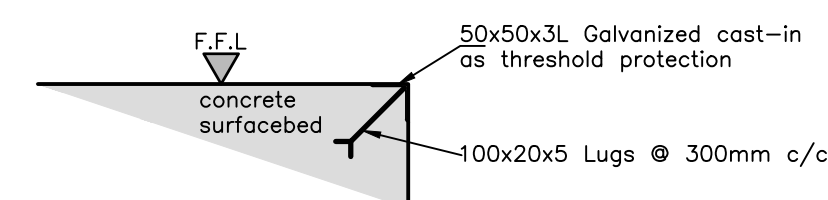
I.J - Isolation Joint
Scale 1 : 5



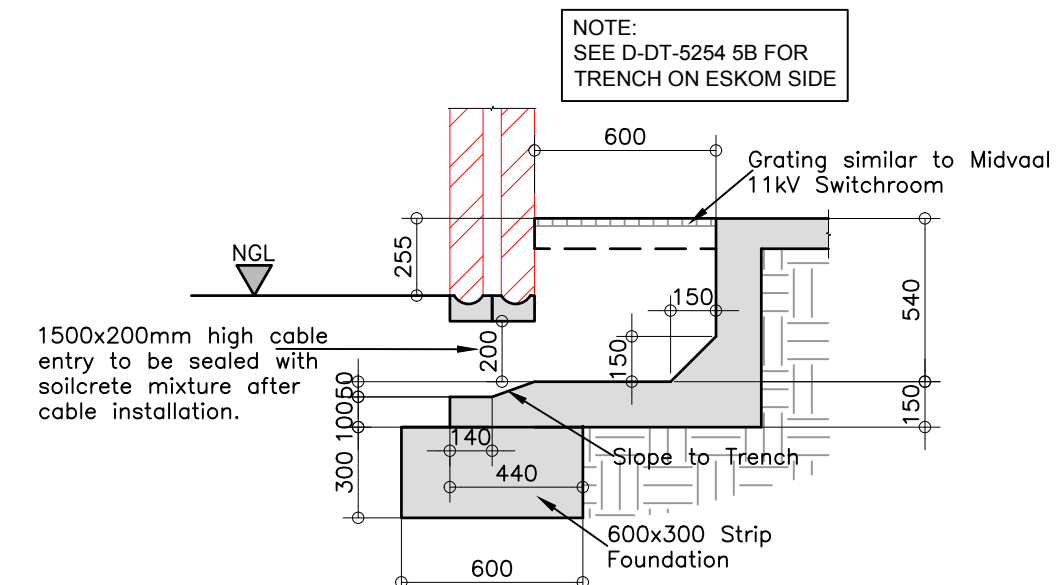
Detail 1
Scale: 1:10



Elevation : Door Frames
Scale: 1:50



Sectional Detail at all Access Doors
Scale: 1:10



Typical Cable Entrance Section
Scale: 1:25

15/02/2018	FOR TENDER	C/S	0
DATE	REVISIONS	DRAWN	REVISION NO
TENDER ISSUED FOR TENDER PURPOSES ONLY			
As-Built	DATE:		
Construction	DATE:		
Tender	DATE:	2018/02/15	
Approval	DATE:		
Information	DATE:		
Planning	DATE:		
ISSUED FOR:			

LYON VENNOTE Partners Raadgewende Elektriese Ingenieurs & Projekbestuurders T. (060) 98 620 P. (060) 98 627	Lyon and Partners (Pty) Ltd 24 Hertz Blvd 24 Private 305 PO Box VANDERBULTPARK 1900 E-Mail: mlyon@lyon.co.za Hennie Storm hstorm@lyon.co.za
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ilifa CIVIL AND STRUCTURAL CONSULTING ENGINEERS NOT APPLICABLE TO MIDVAAL TENDER	8 HERTZ BLVD P.O. BOX 690 VANDERBULTPARK 1900 TEL: (060) 98 620 FAX: (060) 98 620 E-MAIL: vdo@ilifa.co.za
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NOT APPLICABLE TO MIDVAAL TENDER

Savanna City
SAVANNA CITY
60 MVA 88/11 kV SUBSTATION
ESKOM CONTROL ROOM LAYOUTS
SECTION AND DETAILS

DESIGN:	Kobus Louw Pr.Eng	ENGINEER:	Kobus Louw Pr.Eng
APPROVED:		DRAWN:	Stefan Schoeman
TOTAL NO. OF STANDS:	N/A	SCALE:	SHOWN
TOTAL CONNECTIONS:	N/A	DATE:	2018/02/15
ADMP:	N/A	COORDINATE SYSTEM:	WG27
DRAWING NUMBER:	P16-064-01-702	SHEET 03 OF 05	REVISION:
			0