NEC3 Engineering & Construction Contract

Between **ESKOM HOLDINGS SOC Ltd**
(Reg No. 2002/015527/30)

and **[Insert at award stage]**
(Reg No. _____)

for **FAB 1-3 Crawl Beam Installation at Lethabo Power Station**

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CONTRACT No.

Part C1: Agreements & Contract Data

Contents:

C1.1 Form of Offer & Acceptance

Offer

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

FAB 1-3 Crawl Beam Installation at Lethabo Power Station

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

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

Options A	The offered total of the Prices exclusive of VAT is	**R**
Option E or F	The first forecast of the total Defined Cost plus the Fee exclusive of VAT is	**R**
	Sub total	**R**
	Value Added Tax @ 15% is	**R**
	The offered total of the amount due inclusive of VAT is[1]	**R**
	(in words)	

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

Signature(s) .....

Name(s) .....

Capacity .....

For the tenderer: .....

(Insert name and address of organisation)

Name & signature of witness .....

Date .....

Tenderer's CIDB registration number (if applicable) .....

[1] This total is required by the *Employer* for budgeting purposes only. Actual amounts due will be assessed in terms of the *conditions of contract*.

Acceptance

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

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy signed between them of this document, including the Schedule of Deviations (if any).

Unless the tenderer (now *Contractor*) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s) .....

Name(s) .....

Capacity .....

for the Employer

.....

(Insert name and address of organisation)

Name & signature of witness .....

Date .....

Note: If a tenderer wishes to submit alternative tenders, use another copy of this Form of Offer and Acceptance.

Schedule of Deviations to be completed by the *Employer* prior to contract award

Note:

1. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1		
2		
3		
4		
5		
6		
7		

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

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

	For the tenderer:	**For the Employer**
Signature	.....	.....
Name	.....	.....
Capacity	.....	.....
On behalf of	..... *(Insert name and address of organisation)*	..... *(Insert name and address of organisation)*
Name & signature of witness	.....	.....
Date	.....	.....

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option	
		A: Priced contract with activity schedule
	and secondary Options	
		X2 Changes in the law
		X5: Sectional Completion
		X7: Delay damages
		X16: Retention
		X18: Limitation of liability
		Z: *Additional conditions of contract*
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The *Employer* is (Name):	**Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa**
	Address	**Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg**
10.1	The *Project Manager* is: (Name)	**TBC on award**
	Address	**Lethabo Power Station Deneysville Rd Viljoensdrift 1930**
	Tel	**TBC on award**
	Fax	**TBC on award**
	e-mail	**TBC on award**
10.1	The *Supervisor* is: (Name)	**TBC on award**
	Address	**Lethabo Power Station Deneysville Rd Viljoensdrift**

		1930
	Tel No.	**TBC on award**
	Fax No.	**TBC on award**
	e-mail	**TBC on award**
11.2(13)	The *works* are	**Installation if FAB 1-3 Crawl Beam at Lethabo Power Station**
11.2(14)	The following matters will be included in the Risk Register	**See risk management in part 3**
11.2(15)	The *boundaries of the site* are	**Areas associated with the scope of work to be performed**
11.2(16)	The Site Information is in	**Part 4: Site Information**
11.2(19)	The Works Information is in	**Part 3: Scope of Work and all documents and drawings to which it makes reference.**
12.2	The *law of the contract* is the law of	**the Republic of South Africa**
13.1	The *language of this contract* is	**English**
13.3	The *period for reply* is	**4 working days**
2	**The *Contractor's* main responsibilities**	**Data required by this section of the core clauses is provided by the *Contractor* in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.**
3	**Time**	
11.2(3)	The *completion date* for the whole of the *works* is	**TBC at award**
11.2(9)	The *key date*s and the *condition*s to be met are:	

	***Condition* to be met**	***key date***
1	**Safety File Approval**	**As per accepted Programme**
2	**Submission of the 1st program**	**As per accepted Programme**
3	**Completion of FAB 1**	**As per accepted Programme**
4	**Completion of FAB 2**	**As per accepted Programme**
5	**Completion of FAB 3**	**As per accepted Programme**

30.1	The *access dates* are:	**Part of the Site**	**Date**
		1 **[●]**	**[●]**
		2 **[●]**	**[●]**
		3 **[●]**	**[●]**
31.1	The *Contractor* is to submit a first programme for acceptance within	**Two weeks of the Contract Date.**	
31.2	The *starting date* is	**TBC on award**	
32.2	The *Contractor* submits revised programmes at intervals no longer than	**One weeks.**	
35.1	The *Employer* is not willing to take over the *works* before the Completion Date.		
4	**Testing and Defects**		
42.2	The *defects date* is	**52 weeks after Completion of the whole of the *works*.**	
43.2	The *defect correction period* is	**Within 7 working days upon notification for general defects. Within 2 working days after notification for urgent matters related to safety, production and/or environmental contraventions.**	
	except that the *defect correction period* for and the *defect correction period* for		
5	**Payment**		
50.1	The *assessment interval* is	**between the [●] day of each successive month.**	
51.1	The *currency of this contract* is the	**South African Rand.**	
51.2	The period within which payments are made is	**4 weeks.**	
51.4	The *interest rate* is	**the publicly quoted prime rate of interest (calculated on a 365-day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and** **(ii) the LIBOR rate applicable at the time for amounts due in other currencies. LIBOR is the 6 month London Interbank Offered Rate quoted under the caption "Money Rates" in The Wall Street Journal for the applicable currency or if no rate is quoted for the currency in question then the rate for United States Dollars, and if no such rate appears in The Wall Street Journal then the rate as quoted by the Reuters Monitor Money Rates Service (or such service**	

		as may replace the Reuters Monitor Money Rates Service) on the due date for the payment in question, adjusted *mutatis mutandis* every 6 months thereafter and as certified, in the event of any dispute, by any manager employed in the foreign exchange department of The Standard Bank of South Africa Limited, whose appointment it shall not be necessary to prove.
6	**Compensation events**	
60.1(13)	The place where weather is to be recorded is:	**Lethabo Power Station**
	The *weather measurements* to be recorded for each calendar month are,	**the cumulative rainfall (mm)** **the number of days with rainfall more than 10 mm** **the number of days with minimum air temperature less than 0 degrees Celsius** **the number of days with snow lying at 09:00 hours South African Time** **and these measurements:**
	The *weather measurements* are supplied by	**South African Weather Bureau**
	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	**The nearest available weather station to Lethabo Power Station**
	and which are available from:	**the South African Weather Bureau and included in Annexure A to this Contract Data provided by the *Employer***
60.1(13)	Assumed values for the ten-year return *weather data* for each *weather measurement* for each calendar month are:	**As stated in Annexure A to this Contract Data provided by the *Employer*.** **Note: If this arrangement is used, delete the rows above for 60.1(13) and delete this note.**
7	**Title**	**There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.**
8	**Risks and insurance**	
80.1	These are additional *Employer*'s risks	**1. [●]** **2. [●]** **3. [●]**
9	**Termination**	**There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.**

10	**Data for main Option clause**	
A	**Priced contract with activity schedule**	**There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.**
11	**Data for Option W1**	
W1.1	The *Adjudicator* is	**the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).**
	Address	**[●]**
	Tel No.	**[●]**
	Fax No.	**[●]**
	e-mail	**[●]**
W1.2(3)	The *Adjudicator nominating body* is:	**the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.**
W1.4(2)	The *tribunal* is:	**arbitration.**
W1.4(5)	The *arbitration procedure* is	**the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.**
	The place where arbitration is to be held is	**[●] South Africa**
	The person or organisation who will choose an arbitrator - if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is	**the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.**
12	**Data for secondary Option clauses**	
X2	**Changes in the law**	**There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.**
X5	**Sectional Completion**	
X5.1	The *completion date* for each *section* of the *works* is:	***Section*** / **Description** / ***Completion date*** **1** / **Completion of FAB 1** / **As per accepted Programme**

		2	**Completion of FAB 2**	**As per accepted Programme**
		3	**Completion of FAB 3**	**As per accepted Programme**
X5 & X7	**Sectional Completion and delay damages used together**			
X7.1 X5.1	Delay damages for late Completion of the *section*s of the *works* are:	***section***	**Description**	**Amount per day**
		1	**Completion of FAB 2**	**R[●]**
		2	**Completion of FAB 2**	**R[●]**
		3	**Completion of FAB 2**	**R[●]**
	Remainder of the *works*			**R[●]**
	The total delay damages payable by the *Contractor* does not exceed:	**10% of the Contract Value**		
X16	**Retention (not used with Option F)**			
X16.1	The *retention free amount* is	**R0.00**		
	The *retention percentage* is	**10% of the Contract Value**		
X18	**Limitation of liability**			
X18.1	The *Contractor*'s liability to the *Employer* for indirect or consequential loss is limited to:	**R0.0 (zero Rand)**		
X18.2	For any one event, the *Contractor*'s liability to the *Employer* for loss of or damage to the *Employer*'s property is limited to:	**the amount of the deductibles relevant to the event**		
X18.3	The *Contractor*'s liability for Defects due to his design which are not listed on the Defects Certificate is limited to	**The greater of** • **the total of the Prices at the Contract Date and** • **the amounts excluded and unrecoverable from the *Employer*'s assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus the applicable deductible as at contract date.**		
X18.4	The *Contractor*'s total liability to the *Employer* for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	**the total of the Prices other than for the additional excluded matters.** **The *Contractor's* total liability for the additional excluded matters is not limited.** **The additional excluded matters are amounts**		

		for which the *Contractor* is liable under this contract for • **Defects due to his design which arise before the Defects Certificate is issued,** • **Defects due to manufacture and fabrication outside the Site,** • **loss of or damage to property (other than the *works*, Plant and Materials),** • **death of or injury to a person and** • **infringement of an intellectual property right.**
X18.5	The *end of liability date* is	**(i) 5 years after the *defects date* for latent Defects and** **(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.** **A latent Defect is a Defect which would not have been discovered on reasonable inspection by the *Employer* or the *Supervisor* before the *defects date*, without requiring any inspection not ordinarily carried out by the *Employer* or the *Supervisor* during that period. If the *Employer* or the *Supervisor* do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the *Employer* or the *Supervisor* to have discovered the Defect.**
Z	**The *Additional conditions of contract* are**	**Z1 to Z15 always apply.**

Z1 Cession delegation and assignment

Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer.*

Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Joint ventures

Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract.

Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.

Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other

unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

Z3 Change of Broad Based Black Economic Empowerment (B-BBEE) status

Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor*'s B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.

Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*.

Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor*'s obligation to Provide the Works.

Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.

Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*.

Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.

Z4.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*.

Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

Z5.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *Project Manager*, the *Supervisor*, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

Z6 Health, safety and the environment: Add to core clause 27.4

Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:

- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;
- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
- undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z6.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z7 Provision of a Tax Invoice and interest. Add to core clause 51

Z7.1 Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer*'s procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.

Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.

Z7.3 The *Contractor* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer*'s VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

Z8.1 Delete from the last sentence in core clause 61.3, "unless the *Project Manager* should have notified the event to the *Contractor* but did not".

Z9 *Employer's* limitation of liability

Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)

Z9.2 The *Contractor*'s entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer*'s liability under the indemnity is limited.

Z10 Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

Z10.1 or had a business rescue order granted against it.

Z11 Addition to secondary Option X7 Delay damages (if applicable in this contract)

Z11.1 If the amount due for the *Contractor*'s payment of delay damages reaches the limits stated in this Contract Data for Option X7 or Options X5 and X7 used together, the *Employer* may terminate the *Contractor*'s obligation to Provide the Works using the same procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table.

Z12 Ethics

For the purposes of this Z-clause, the following definitions apply:

Affected Party means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,

Coercive Action means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,

Collusive Action means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,

Committing Party means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,

Corrupt Action means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,

Fraudulent Action means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,

Obstructive Action means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and

Prohibited Action means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z12.2 The *Employer* may terminate the *Contractor*'s obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor*'s obligation to Provide the Services for this reason.

Z12.3 If the *Employer* terminates the *Contractor*'s obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.

Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover 84

84.1 When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

84.2 The *Contractor* provides the insurances stated in the Insurance Table A.

84.3 The insurances provide cover for events which are at the *Contractor*'s risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minim limit of indemnity
Loss of or damage to the *works*, Plant and Materials	The replacement cost where not covered by the *Employer*'s insurance The *Employer*'s policy deductible, as Contract Date, where covered by the *Employer*'s insurance
Loss of or damage to Equipment	The replacement cost
Liability for loss of or damage to property (except the *works*, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract	Loss of or damage to property *Employer*'s property The replacement cost where not covered by the *Employer*'s insurance The *Employer*'s policy deductible, as Contract Date, where covered by the *Employer*'s insurance Other property The replacement cost Bodily injury to or death of a person The amount required by applicable l
Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law

Z 13.2 Replace core clause 87 with the following:
The *Employer* provides the insurances stated in the Insurance Table B.

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum l of indemnity
Assets All Risk	Per the insurance policy document
Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document
Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Nuclear Liability

Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.

Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.

Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

For the purposes of this Z-clause, the following definitions apply:

AAIA means approved asbestos inspection authority.

ACM means asbestos containing materials.

AL means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos

	fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
Standard	means the *Employer*'s Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
SANAS	means the South African National Accreditation System.
TWA	means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4-hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short-term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.

Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor*'s expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z15.3 The *Employer* manages asbestos and ACM according to the Standard.

Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

Z15.5 The *Contractor*'s personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.

Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.

Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer*'s expense, and conducted in line with South African legislation.

Annexure A: One-in-ten-year-return *weather data* obtained from SA Weather Bureau for [weather station]

If any one of these *weather measurements* recorded within a calendar month, before the Completion Date for the whole of the *works* and at the place stated in this Contract Data is shown to be more adverse than the amount stated below then the *Contractor* may notify a compensation event.

	Weather measurement					
Month	Cumulative rainfall (mm)	Number of days with rain more than 10mm	Number of days with min air temp < 0 deg.C	Number of days with snow lying at 08:00 CAT	Number of days with wind > 5.5 m/s	Total weather allowance 40% overlap
January	**113.4**	3.6	0.0	**0**	2.2	3.5
February	**80.5**	2.8	0.0	**0**	0.6	2.1
March	**37.0**	0.8	0.0	**0**	1.1	1.1
April	**56.2**	1.9	0.2	**0**	0.9	1.8
May	**9.8**	0.2	3.2	**0**	1.1	2.7
June	**7.3**	0.3	14.7	**0**	1.6	9.9
July	**0.8**	0	14.6	**0**	2.0	9.9
August	**4.8**	0	4.8	**0**	3.6	5.0
September	**23.3**	0.8	0.4	**0**	4.7	3.6
October	**63.4**	2.4	0.0	**0**	5.3	4.6
November	**82.0**	2.7	0.0	**0**	5.6	5.0
December	**139.3**	4.7	0.0	**0**	2.8	4.5

Only the difference between the more adverse recorded weather and the equivalent measurement given above is taken into account in assessing a compensation event.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

[Instructions to the contract compiler: (delete this note before issue to tenderers with an enquiry) Whenever a cell is shaded in the left-hand column it denotes this data is optional. If not required select and delete the whole row, otherwise insert the required Data.]

Notes to a tendering contractor:

1. Please read both the NEC3 Engineering and Construction Contract (April 2013) and the relevant parts of its Guidance Notes (ECC3-GN)[2] in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 156 to 158 of the ECC3 (April 2013) Guidance Notes.
2. The number of the clause which requires the data is shown in the left-hand column for each statement however other clauses may also use the same data
3. Where a form field like this [ ] appears, data is required to be inserted relevant to the option selected. Click on the form field ***once*** and type in the data. Otherwise, complete by hand and in ink.

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

Clause	Statement	Data
10.1	The *Contractor* is (Name): Address Tel No. Fax No.	
11.2(8)	The *direct fee percentage* is The *subcontracted fee percentage* is	**%** **%**
11.2(18)	The *working areas* are the Site and	
24.1	The *Contractor's* key persons are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job Responsibilities: Qualifications: Experience:	

[2] Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 or see www.ecs.co.za

		CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .
11.2(3)	The *completion date* for the whole of the *works* is	
11.2(14)	The following matters will be included in the Risk Register	
11.2(19)	The Works Information for the *Contractor*'s design is in:	
31.1	The programme identified in the Contract Data is	
A	**Priced contract with activity schedule**	
11.2(20) 11.2(30)	The *activity schedule* is in The tendered total of the Prices is	 **(in figures)** **(in words), excluding VAT**
	Data for Schedules of Cost Components	*Note "SCC" means Schedule of Cost Components starting on page 60, and "SSCC" means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).*
A	**Priced contract with activity schedule**	**Data for the Shorter Schedule of Cost Components**

C1.3 Forms of Securities

Pro formas for Bonds & Guarantees

For use with the NEC3 Engineering & Construction Contract

[Note to contract compiler:
Once it has been decided which securities are required for this contract delete from this file the ones not required, revise the notes below accordingly and delete this note.]

The *conditions of contract* stated in the Contract Data Part 1 include the following Secondary Options:

Option X4: Parent company guarantee
Option X13: Performance Bond
Option X14: Advanced payment to the *Contractor*

Each of these secondary Options requires a bond or guarantee "in the form set out in the Works Information". Pro forma documents for these bonds and guarantees are provided here for convenience but are to be treated as part of the Works Information.

Option X16: Retention (not used with Option F)

The *Contractor* may provide a Retention Money Guarantee in the form stated here. When the *Employer* receives and accepts a Retention Money Guarantee exactly in the form stated he will instruct the *Project Manager* not to assess any amount be retained in terms of secondary Option X16.

The *Contractor* shall guarantee his ASGI-SA Obligations by providing the *Employer* with an ASGI-SA Guarantee in the form provided here.

[Note to contract compiler: If there are no ASGI-SA Obligations in this contract, delete the above statement]

The organisation providing the bond / guarantee does so by copying the pro forma document onto his letterhead without any change to the text or format and completing the required details. The completed document is then given to the *Employer* within the time stated in the contract.

Pro forma Retention Money Guarantee (may be used when Option X16 applies)

(to be reproduced exactly as shown below on the letterhead of the Bank providing the Guarantee)

Eskom Holdings SOC Limited
Megawatt Park
Maxwell Drive
Sandton
Johannesburg Date:

Dear Sirs

Reference No. **[●]** *[Drafting Note: Bank reference number to be inserted]*

Retention Money Guarantee: *[Drafting Note: Name of Contractor to be inserted]*

Project [ ] : Contract Reference: *[Drafting Note: Contractor contract reference number to be inserted]*

1. In this Guarantee the following words and expressions shall have the following meanings:-

1.1 "Bank" - means [●], [●] Branch, (Registration No. [●]); [Drafting Note: Name of Bank to be inserted]

1.2 "Bank's Address" - means [●]; [Drafting Note: Bank's physical address to be inserted]

1.3 "Contract" – means the written agreement relating to the Project, entered into between Eskom and the Contractor, on or about the [●] day of [●] 200[●] (Contract Reference No. ……. as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted]

1.4 "Contractor" – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

1.5 "Eskom" - means Eskom Holdings SOC Limited, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/30

1.6 "Expiry Date" - means the date on which the Defects Certificate is issued in terms of the Contract.

1.7 "Guaranteed Sum" - means the sum of R [●] ([●] Rand); [Drafting Note: Insert amount of Retention Money Guarantee.].

1.8 "Project" - means the……..

2. At the instance of the Contractor, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of Eskom, as security for the proper performance by the Contractor of all of its obligations in terms of and arising from the Contract and hereby undertake to pay to Eskom, on written demand from Eskom received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

3. A demand for payment under this guarantee shall be made in writing at the Bank's address and shall:

3.1 be signed on behalf of Eskom by a director of Eskom or his authorised delegate.

3.2 state the amount claimed ("the Demand Amount');

3.3 state that the Contractor has failed to carry out his obligation(s) to rectify certain defect(s) for which he is responsible under the Contract (and the nature of such defect(s)) alternatively that the Demand Amount

is payable to Eskom in the circumstances contemplated in the Contract.

4. Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank's obligation/s to make payment:

4.1 is and shall be absolute provided demand is made in terms of this bond in all circumstances; and

4.2 is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

5. The Bank's obligations in terms of this Guarantee:

5.1 shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and

5.2 shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed by the fact that a dispute may exist between Eskom and the Contractor.

6. Eskom shall be entitled to arrange its affairs with the Contractor in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the Contractor or any variation under or to the Contract.

7. Should Eskom cede its rights against the Contractor to a third party where such cession is permitted under the Contract, then Eskom shall be entitled to cede to such third party the rights of Eskom under this Guarantee on written notification to the Bank of such cession.

8. This Guarantee:

8.1 shall expire on the Expiry Date until which time it is irrevocable;

8.2 is, save as provided for in **Error! Reference source not found.** above, personal to Eskom and is neither negotiable nor transferable;

8.3 shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;

8.4 shall be regarded as a liquid document for the purpose of obtaining a court order; and

8.5 shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the Courts of the Republic of South Africa.

8.6 Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

9. The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at _____ Date _____ Bank's seal or stamp

For and behalf of the Bank

Bank Signatory: _____ Bank Signatory: _____

Witness: _____ Witness: _____

PART 2: PRICING DATA
ECC3 Option A

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option A	27
C2.2	The *activity schedule*	30

C2.1 Pricing assumptions: Option A

How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract, (ECC3) Option A states:

Identified and defined terms 11 11.2

(20) The Activity Schedule is the *activity schedule* unless later changed in accordance with this contract.

(27) The Price for Work Done to Date is the total of the Prices for

- each group of completed activities and
- each completed activity which is not in a group.

A completed activity is one which is without Defects which would either delay or be covered by immediately following work.

(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

This confirms that Option A is a lump sum form of contract where the work is broken down into activities, each of which is priced by the tendering contractor as a lump sum. Only completed activities are assessed for payment at each assessment date; no part payment is made if the activity is not completed by the assessment date.

Function of the Activity Schedule

Clause 54.1 in Option A states: "Information in the Activity Schedule is not Works Information or Site Information". This confirms that specifications and descriptions of the work or any constraints on how it is to be done are not included in the Activity Schedule but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Activity Schedule. The Activity Schedule is only a pricing document.

Link to the programme

Clause 31.4 states that "The *Contractor* provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance". Ideally the tendering contractor will develop a high-level programme first then resource each activity and thus arrive at the lump sum price for that activity both of which can be entered into the *activity schedule*.

Preparing the *activity schedule*

Generally, it is the tendering contractor who prepares the *activity schedule* by breaking down the work described within the Works Information into suitable activities which can be well defined, shown on a programme and priced as a lump sum.

The *Employer*, in his Instructions to Tenderers or in a Tender Schedule, may have listed some items that he requires the *Contractor* to include in his *activity schedule* and be priced accordingly.

It is assumed that in preparing his *activity schedule* the *Contractor:*

- Has taken account of the guidance given in the ECC3 Guidance Notes pages 19 and 20;
- Understands the function of the Activity Schedule and how work is priced and paid for;
- Is aware of the need to link the Activity Schedule to activities shown on his programme;
- Has listed and priced activities in the *activity schedule* which are inclusive of everything necessary and incidental to Providing the Works in accordance with the Works Information, as it was at the time of tender, as well as correct any Defects not caused by an *Employer's* risk;
- Has priced work he decides not to show as a separate activity within the Prices of other listed activities in order to fulfil the obligation to complete the *works* for the tendered total of the Prices.

- Understands there is no adjustment to the lump sum Activity Schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event.

An activity schedule could have the following format:

Item No.	Activity Description	Quantity	Price
1.	**Preliminary and General**		
1.1	Safety File		
1.2	Medicals		
1.3	PPE		
1.4	Travelling Cost		
2.	**Site Establishment**		
3.	**Procurement of Material**		
4.	**FAB 1**		
4.1	Removal of Existing Crawl Beams		
4.2	Conveyor Take-up Hoisting System Level 1470,40 (Hoisting Capacity 2 Tons)		
4.3	Storeroom Floor Hoisting System Level 1470,40 (Hoisting Capacity 1.5 Tons)		
4.4	Conveyor Floor Drive -End Hoisting System Level 1470,40 (Hoisting Capacity 3 Tons)		
5.	**FAB 2**		
5.1	Removal of Existing Crawl Beams		
5.2	Conveyor Take-up Hoisting System Level 1470,40 (Hoisting Capacity 2 Tons)		
5.3	Storeroom Floor Hoisting System Level 1470,40 (Hoisting Capacity 1.5 Tons)		
5.4	Conveyor Floor Drive -End Hoisting System Level 1470,40 (Hoisting Capacity 3 Tons)		
6.	**FAB 3**		
6.1	Removal of Existing Crawl Beams		
6.2	Conveyor Take-up Hoisting System Level 1470,40 (Hoisting Capacity 2 Tons)		
6.3	Storeroom Floor Hoisting System Level 1470,40 (Hoisting Capacity 1.5 Tons)		
6.4	Conveyor Floor Drive -End Hoisting System Level 1470,40 (Hoisting Capacity 3 Tons)		
7.	Installation and Commissioning		
8.	Load Testing		
9.	Installation Labour		
10.	Site De-Establishment		

C2.2 the *activity schedule*

Use this page as a cover page to the *Contractor*'s *activity schedule*.

Part 3: Scope of Work

Document reference	Title	No of pages
	This cover page	1
C3.1	*Employer*'s Works Information	
C3.2	*Contractor*'s Works Information	
	Total number of pages	

1 Description of the *works*

1.1 Executive overview

This document details the *Works* information for the FAB 1-3 Crawl Beam Installation Project at Lethabo Power Station. It is to be read together with **Lethabo Power Station FAB 1-3 Crawl Beam Installation Project Construction Technical Specification 375-172707**

Lethabo Power Station is a coal-fired power plant, which is situated in the Northern Free State. The station comprises of six of 618 MW Units. During the generation of electricity, large quantities of ash is produced, which needs to be disposed-off. The ash handling system was designed to accumulate, transport and dispose of the ash generated from the power station. This system (i.e. ash handling system) comprises of four main sub-systems namely the bottom ash handling system, fly ash handling system, ash conditioning system and the ash disposal system.

At the ash conditioning plant, a hoisting mechanism is required to safely remove and reinstall mechanical components of the conveyor structure during maintenance activities. At present, the supporting steel members for the conveyor belts is being utilised as a lifting beam. This poses serious safety risks to the maintenance team as such steel members are not designed to withstand such loads. Furthermore, a fabricated crawl beam and supporting infrastructure, without approved designs, is being used to hoist electrical motors for the conveyor structure. Figure 1 illustrated the location of the critical components that need to be replaced during maintenance activities.

This document entail the minimum technical requirements for the construction/installation 18 crawl beams across three Fly Ash Bunker (FAB) buildings. The proposed crawl beams are H-section steel beams and will be installed on the soffit of the subsequent concrete floor slab.

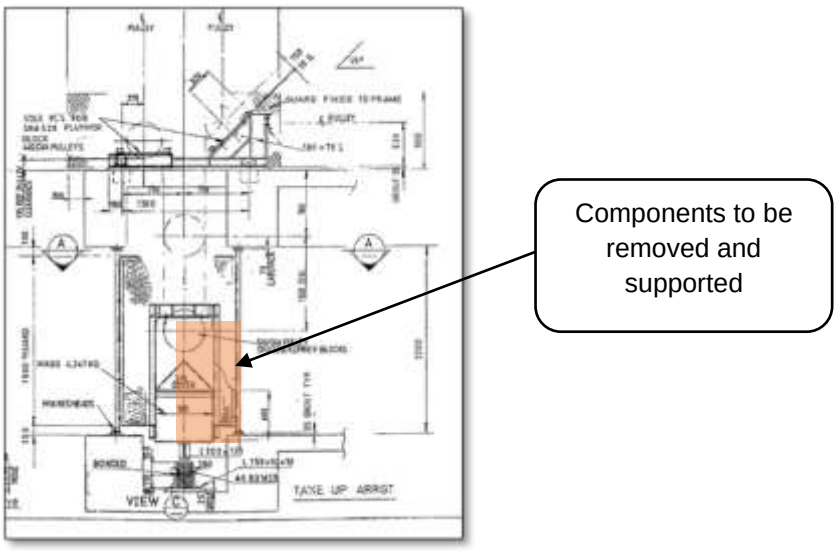


Figure 1: Mechanical components to be removed (extract from drawing no.: 0.63/14578; Rev 7)

1.2 *Employer*'s objectives and purpose of the *works*

The objective and purpose of the *works* is to:

- Create a safe working environment for employees to safely hoist mechanical equipment within the FAB building.
- Comply with all requirements and standards.
- The implemented solution is to be executed throughout all three FAB Buildings.

1.3 Interpretation and terminology

Definitions

Ash	Hazardous waste produced from the combustion of coal.
Ash handling system	Used to cool down the hot ash from boilers to manageable temperature so that the ash can be transferred to the disposal area.
Crawl beam	A suspended machinery unit that is used for lifting or lowering of a freely suspended load.

The following abbreviations are used in this Works Information:

Abbreviations

Abbreviation	Description
BOQ	Bill of Quantity
ECSA	Engineering Council of South Africa
ERA	Engineering Risk Assessment
FAB	Fly Ash Bunker
ID	Inside Diameter
ITP	Inspection Test Plan
LMI	Lifting Machinery Inspector
NCR	Non-conformance Report
NOD	Notice of Defect
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
SANS	South African National Standards
SWL	Safe Working Load
VDSS	Vendor Document Submission Schedule

2 Management and start up.

2.1 Management meetings

Meetings will be held every week between the *Project Manager*, the *Contractor* and/or any person instructed by the *Project Manager* to attend. The *Contractor* is to be represented at each meeting by at least the Site Manager for the *Contractor*. It is noted that representatives of the *Contractor* and/or *Employer* attending the meetings must have the authority to make decisions and execute the decisions. Additional ad hoc meetings

may also be scheduled by either the *Project Manager* and/or *Contractor* for urgent issues that may need to be addressed.
The *Project Manager* will, as and when necessary, require the *Contractor* to attend meetings with other *Contractors* on the Project. This requirement does not constitute a compensation event.
The venue for meetings is as determined by the *Project Manager*. The *Project Manager* writes the minutes of meetings and circulates to attendees, for comments and acceptance, within ten working days. Any actions from either the *Project Manager* and/or the *Contractor* implied in the minutes of meetings are to be confirmed by a separate formal communication (i.e. formal transmittal) between the *Project Manager* and the *Contractor*.
All meetings are recorded using minutes and attendance registers prepared and circulated by the person who convened the meeting.
During the weekly meetings, the *Contractor* reports the overall progress and the following as a minimum requirement:

i. *Contractor's* current activity progress and planned finish dated
ii. *Contractor's* planned start and finish dates for the works
iii. Discussion on the *Contractor's* programme
iv. Health, safety and quality issues
v. The progress of any other relevant activities
vi. Discussion on any technical and commercial issues
vii. Problem areas or concerns

Title and purpose	Approximate time & interval	Location	Attendance by:
Kick Off Meeting	After signing the contract, before commencement of works.	IR Boardroom OR MS Teams	*Employer*, *Contractor*, *Supervisor, Engineering, SHEEQ representatives*
Toolbox sessions	Every-day before commencement of works	Site	All the *Contractor's* employees.
Risk Reduction Meeting	As and when required	To be confirmed	*Employers* and *Contractor's* Representatives
Overall contract progress and feedback	To be agreed upon contract award	IR Boardroom OR MS Teams	*Employer's* and *Contractor's* Representatives

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

2.2 Documentation control

All documents and records management are performed according to Technical Document and Record Management Work Instruction (240-76992014). The *Employer* ensures that the *Contractor* is provided with the latest revision. Any uncertainty regarding the work instruction should be clarified with the *Employer* and clarification updates should be reflected in updated versions of the work instruction.
All documents, correspondence, certificates and all wording on drawings are to be in English. The *Employer* will not undertake any translation, and any errors or misunderstandings made by the *Contractor* or his sub-contractor and their agents and officers shall be deemed to be the responsibility of the *Contractor*.
Transmittal letters are provided with each document submittal. The transmittal letter must include the Contractor's drawing and/or document number, revision number, and title for each drawing and/or document attached. In addition, the *Contractor* is provided with the following standards which must be adhered to:

- Documentation Management Review and Handover Procedure for Gx Coal Projects (240-66920003).
- Project Document Deliverable Requirement Specification (240-65459834).
- Technical Document and Record Management Work Instruction (240-76992014).

2.2.1 Change Management

Design change management is performed in accordance to the latest revision of the Eskom Project Change Management Procedure (240-53114026) and the *Employer* ensures that the *Contractor* is provided with latest revisions of the procedure. Any uncertainty regarding this procedure should be clarified with the *Employer* and clarification updates are reflected in updated versions of this procedure.

2.2.2 Documentation and Configuration Management

- **Document identification**
  All documents supplied by the *Contractor* are subject to the ***Employer's*** approval. The language of all documentation is required to be in English.
- **Document Submission**
  I. All project documents must be submitted to the delegated ***Employer's*** Representative with transmittal note according to Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014). In order to portray a consistent image it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the Work Instruction.
  II. The *Contractor* is required to submit documents as electronic and hard copies and both copies must be delivered to the ***Employer's*** Representative with a transmittal note.

  In addition, the *Contractor* adheres to the following standards:

  III. Documentation Management Review and Handover Procedure for Gx Coal Projects (240-66920003).
  IV. Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014)

- **Email Subject**
  The *Contractor* submits all documentation to the ***Employer's*** Representative in the following media: Electronic copies are submitted to Eskom Documentation Centre through generic email address (drmsharedservices@eskom.co.za). The email subject as a minimum has the following: ***(Station_Project Name_Discipline_Subject)***. Electronic copies that are too large for email are delivered on CD/DVD, large file transfer protocol and/or hard drives to the Project Documentation Centre. In a case where CD has been submitted, a notification email, with the transmittal note attached, is sent to the project generic email address. The Representative is copied on the email as well.
  Hard copies are submitted to the ***Employer's*** Representative accompanied by the Transmittal Note.

- **Drawings Format and Layout**
  I. The creation, issuing and control of all Engineering Drawings will be in accordance to the latest revision of 240-86973501 - Engineering drawing Standard.
  II. Drawings issued will be a minimum of one hardcopy and an electronic copy in both pdf and DGN. format.
  III. Drawings issued may not be “Right Protected” or encrypted.

5.2.3 Documentation Review Requirements

The *Contractor* submits all documentation to the *Project Manager* for acceptance. The *Project Manager* reviews the *Contractor's* submitted documents in accordance with the *Employer's* Design Review Procedure (240-53113685).

The *Contractor* takes note of the *Employer's* Design Review Procedure (240-53113685) and participates in all design reviews as specified by the *Project Manager*. The *Project Manager* may “Accept”; “Accepted with Comments” or “Not Accepted with Comments”. If required, the *Contractor* makes the necessary revisions on the documentation and ensures acceptance is obtained from the *Project Manager*. All designs, drawings and specifications must be reviewed, accepted and frozen before manufacturing and construction of the relevant plant item starts.

2.3 Health and safety risk management

2.3.1 Continuous improvement

Contractors are required to conduct the following as part of the continuous improvement initiatives:

- Visible Felt Leadership by top management
- Identify critical tasks and monitor those tasks through Planned Job Observations
- Behavioural based safety, if the contractor does not have its own procedure, Eskom procedure can be used as a guide
- Contractor 16.1 shall present the lost time injury (LTI) incidents at Business Unit / Power station General Managers meeting within 7 days of the incident

2.3.2 Contractor/supplier management key performance indicators (kpi's)

- Maintain Health and Safety file and compliance to the health and safety plan
- Always maintain good housekeeping
- Implement and monitor near miss programme
- Comply to BSO, Visible Felt Leadership and Planned Job Observation programmes
- Zero Fatalities
- At any given point, the OHS performance must be within the lost time injury (LTI) tolerance level as amended
- All incident investigations shall be completed within 30 days of the occurrence of an incident.
- Close audit findings as per the recommended time frames
- Close Non-conformance as per the recommended time frames (NCR,)

2.3.3 Contract completion and sign off

On completion of the project, Eskom team (led by the Contract custodian/ Project Manager) involved in the project together with the contractor shall conduct the final audit/inspections to identify the gaps prior to the contractor leaving site or completing the project. Before the final invoice is paid/processed, the Contract custodian/Project Manager shall ensure that the below requirements are met:

a. Close all incidents and audit findings.

b. Clean the respective yard and ensure good housekeeping where the contractor was working.
c. Contractor shall submit safety statistics and a safety file to Eskom BU Safety department for closeout and filling.
d. Completion of a closeout report (Annexure D form as per 32-726) to close the contractual work

Once the above issues have been addressed, the Contract custodian/Project Manager shall verify and sign off prior to releasing the final payment.

2.4 Environmental constraints and management

- Contactor to be familiarized with Lethabo Environmental statement of commitment (PS010).
- The SHE File to be approved by the Environmental department. Lethabo has an Environmental Policy, to which the *Contractor* and his employees must adhere.
- It is the responsibility of the *Contractor* to ensure that he obtains copies of the Lethabo Environmental Policy, the legal register applicable to his area of responsibility,
- The *Contractor* shall submit an Aspect and Impact Register and Environmental management plan that complies with the ISO 14001: 2015 standard and the Lethabo procedures (applicable to the *Contractor's* area of responsibility) and to familiarize themselves on such procedures, within 30 days from the date of commencement of work at Lethabo, to assist the *Contractor* and his/her employees to prevent pollution and to comply with legislative requirements.
- Copies of the above-mentioned documents shall be obtained from the *Employer* on the first day prior to commencement of work at Lethabo.
- The *Contractor* shall submit proof to the *Employer* that his employees has done all the necessary training on procedures and Policies supplied to them and that they do understand the contents of the procedures, registers and policies and will always adhere to them. Self-audits during work execution will be conducted weekly whereby environmental risks are identified.
- *Contractor* shall comply with the LBE22005 Environmental spill management procedure and LBE22004 Environmental waste management procedure.
- The *Contractor's* SHE File to be approved by the Environmental Department using LFM 443 checklist.
- *Contractor* shall report all incidents or risks whilst on the job to the *Employer* who will inform the environmental department.
- The *Contractor* adheres to the following rules:
    I. Provide sufficient storage containers, labelled depicting general or hazardous waste and store in a designated storage area
    II. No hazardous waste may be stored for a period of more than 90 days on the Lethabo premises.
    III. Ensure that all hazardous waste is disposed off at a licensed Class H disposal site. A copy of the hazardous waste disposal certificate is submitted to the *Employer*.
    IV. Ensure that all other general waste is disposed of at the local municipal waste dump.
    V. Ensure that the *Contractor's* site does comply with the general good housekeeping practices.
    VI. Redundant materials are moved to allocated sites. No scrap shall be stored in the *Contractor's* yard. Scrap is to be cleared from Site daily.
- The non-adherence to the Lethabo Environmental policy and rules could result in the termination of this contract.
- *Contractor* is to ensure compliance to environmental requirements of ISO14001 and the following Lethabo environmental procedures:
    - LBE21001

- LBE21002
- LBE22001
- LBE22002
- LBE22004
- LBE2205
- LBE23001
- LBE23003
- LBE23004

2.5 Quality assurance requirements

2.5.1 General

The *Contractor* complies with the *Employer's* quality and technical requirement as included in this works information.

2.5.2 Quality Management Documents Requirements

The *Contractor* is required to compile and submit to the *Project Manager* all QCPs and ITPs for review and acceptance. The *Contractor* submits to the *Project Manager* with a detailed contract organogram showing the quality personnel to be used in the *contract*.
The *Contractor* submits as a minimum the following documents, as required by the *Project Manager*, which requirements does not constitute a compensation event, during the execution of the works:

- Updated QCP register including the *Client's* Intervention points.
- Inspection notifications accompanied by their inspection report.
- Non-conformance and Defect registers and reports.
- Updated site inspection schedules.
- Inspection and test reports
- Monthly contract quality progress report
- Data books for the completed *works*.

2.5.3 Quality Responsibility

The *Contractor* is accountable for the quality of the output and liable for any failures. The *Contractor* is responsible for defining the level of intervention of QA/QC or inspections. Such intervention points are to be in line with the *Employer's* requirements.
The *Contractor* is responsible for defining the level of intervention of QA/QC or inspections to be imposed on all Sub-Contractor's, suppliers and sub-suppliers and must ensure that these are in line with the *Employer's* requirements.
The intervention requirements take into consideration the criticality of the *plant* and *materials*. The interventions points include all witness, hold, verification, review and approval points required by the *Employer*. Failure by the *Contractor* to allow for such intervention points will constitute a non-conformance.

2.5.4 Inspections

The *Contractor* is required to conduct sufficient inspections and tests to satisfy himself that all requirements of the Works Information are being met and the results of inspections and tests shall be submitted to the *Project Manager* in accordance with the *Contractor's* Quality Management System (i.e. accepted QCP/ITP).
The *Employer* only verifies that the *works* is conducted as per the *contract*.
Where the *Contractor's* or *Employer's* inspections and/or tests reveal that the requirements of the Works Information have not been attained, the *Contractor* is required, at his expense, to rectify the *work* to the extent that it does conform with the Works Information.
The *Contractor* drafts a QCP or ITP, which shows each activity from the Works Information and submits to the *Project Manager* for review and acceptance. The *Contractor* provides suitably qualified personnel to conduct onsite inspections.

The *Contractor* ensures that all *works* are inspected and approved before the *Project Manager* is invited for verification/inspection.
The *Contractor* provides a minimum of 2 working days' notice when inviting the *Project Manager* to verify/inspect the *works*. The notice to the *Project Manager* is to contain as a minimum the type of inspection to be conducted, structure/component to be inspected and all relevant QC report and/or documents to be filled/completed.
Damages as a result of the *Contract's* failure to comply with the inspection notice period as specified in the above paragraph will be borne by the *Contractor* and no compensation events will arise out of this.

2.5.5 Non-Conformance and Defects

Where NCR's and defects notifications are issued, the *Contractor* acknowledges receipt within 48 hours and proposes corrective and preventive actions to the *Project Manager* as per the *contract* response period. The corrective and preventive actions will include the implementation and completion dates. Progress on all NCR's and defect notifications issued to the *Contractor* must be report the *Project Manager* on a weekly basis.
The *Contractor's* quality manager keeps a register of all NCR's and defect notifications issued. Deviations from the *contract* are treated as a non-conformance. Records of NCRs and Defect Notifications are kept and form part of the data book records.

2.5.6 Quality Reporting

The *Contractor* submits a monthly quality report, on the last working day of the month, to the *Project Manager*. The report includes but not limited to the following:

i. A register of NCRs and defects
ii. Updated QCP/ITP register
iii. QA monthly report summary
iv. Planned and completed local inspection dates
v. Completed and outstanding inspections
vi. Principal material orders and stocks on site
vii. *Contractor's* equipment, plant and temporary works on the site or due to be delivered to or removed from the site.

2.5.7 Preservation and transportation Requirements

The *Contractor* is responsible for ensuring that all products are preserved in their appropriate manner as described in their specifications or in Eskom's Preservation, Shipping and Transportation procedures as applicable. The *Employer* may choose to witness the packaging, loading and offloading of the products depending on their criticality, this will be indicated in the intervention points on the QCP/ITP documents.
The *Contractor* also ensures that all storage requirements for products are properly implemented to preserve the products against adverse conditions, deterioration, damage, etc. Storage and preservation procedures for the different products must be submitted to the *Project Manager* for review and acceptance. The *Employer* may request to inspect the stored products at any given point during the storage period of the product.

2.6 Programming constraints

The *Contractor* shall submit a program, compiled in Microsoft Project or similar program for acceptance within the period stated in the Contract Data, which will provide details of the list of activities and the duration of each activity.

- A list of activities and duration of each shall be made available after an instruction to commence work is supplied to the *Contractor* by the *Employer's* Representative.
- The program shall be updated weekly and will be used to manage all installation activities.
- The *Contractor* submits a bar chart program two weeks after award of the contract showing the following:

- The early start and early completion date of each activity.
- The late start and late completion of each activity.
- Planned completion.
- The order and planning of operations which the *Contractor* plans to do in order to provide the *works*.
- The *Contractor* prepares and submits an update, seven days after the start date, showing actual progress and the effect upon the remainder of the activities to be completed.

Progress reporting:

- The *Contractor* submits, together with the progress reports, a written report which contains the following:
- Statement and report on those sections of the works where delay against programme has occurred (if any), together with the reasons why delay has occurred and a plan denoting the action to be taken and the period of time necessary to recover such delay.
- Statement and report on those sections of the works that are currently ahead of programme (If any).
- The impact of any programming changes arising is reflected in revised forecast rate of invoicing schedules and resource schedules.

2.7 *Contractor*'s management, supervision and key people

- *Contractor* submits an organogram to the *Project Manager with* key personnel. *Contractor* appoints qualified and competent site manager, technician/s, safety officer and foremen. Resource allocation abides to their respective function. These resources are present for the duration of the *works*. Daily site register to be signed with all the resources specified.

- *Contractor* complies with provision of key people required to successfully execute the *works*. Resource allocation is clearly reflected on the activity programme they are required to execute and duration stipulated. During the execution of the *works*, registers or time sheets of the *Contractor's* employees is kept for contract records.

- Management indicated on the *Contractor's* organogram avail themselves immediately when required to resolve matters that may impact on the accomplishment of the works.

- The Contractor shall provide his own Responsible person as required by the Permit to Work system on site during the duration of the works.

2.8 Invoicing and payment

Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager's* payment certificate.

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

- Name and address of the *Contractor* and the *Project Manager.*
- The contract number and title.
- *Contractor*'s VAT registration number.
- The *Employer*'s VAT registration number 4740101508.
- Description of service provided for each item invoiced based on the Price List.
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT.
- Less amounts to be paid by or retained from the *Contractor*.

(1) The *Contractor* shall address the tax invoice to:

Lethabo accounts payable section (APS).
Private Bag x 415
Vereeniging
1930
E-mail their pdf format to **Invoiceseskomlocal@eskom.co.za**

2.9 Insurance provided by the *Employer*

Refer to Part C1.

2.10 Contract change management

- The change management process for addressing changes on the contract will be as follows.
  i. All requests for contract changes shall be submitted in writing by the *Contractor* to the *Project Manager* as per the terms and condition of the contract.
  ii. The *Project Manager* will follow the prescribed requirements for managing contract changes as per his/her delegation of authority.
  iii. The *Contractor* shall ensure that all changes accepted by the *Project Manager* are documented and kept as record.

2.11 Provision of bonds and guarantees

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer*'s right to termination stated in this contract.

2.12 Records of Defined Cost, payments & assessments of compensation events to be kept by the *Contractor*

Contractor keeps all records of costs incurred during the *works* and makes it available to the *Project Manager* upon request.
No standing time claims will be entertained without the relevant proof of presence and activity in the form of a time sheet.
Proof of expenses must be provided to the Employer as a hard copy as well as a soft copy.

2.13 Training workshops and technology transfer

N/A

3 Engineering and the *Contractor*'s design

The content of this section will depend on whether the contract is for construction only with most of the design done by (or for) the *Employer* or whether it is a 'design and construct' contract. ECC provides for design by either Party in any proportion, which proportion done by the *Contractor* must be stated in this part of the Works Information.

3.1 *Employer*'s design

The *Employer* has completed the detail design of the crawl beams to be installed across three of the FAB buildings. The *Employer* provides the *Contractor* with the required construction drawings and requirements relating to the installation/construction of the crawl beams.
Where applicable, information that is not supplied by the *Employer*, it is the responsibility of the *Contractor* to propose a solution. The *Contractor* informs the *Project Manager* of such an event and awaits for instructions before proceeding.
The *Employer* will arrange a mandatory site clarification meeting with all tenderers. This will allow the tenderers an opportunity to visually inspect the FAB building, understand the works to be done and to identify construction execution related constraints (work performed by others, access limitations, operability of plant, etc.).

Refer to Section 5 of for more information relating to the information supplied to the *Contractor*.

3.2 Parts of the *works* which the *Contractor* is to design.

The employer has completed the detailed design, refer to the **Lethabo Power Station FAB 1-3 Crawl Beam Installation Project Construction Technical Specification- 375-172707**

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed on the Site

The Contractor is to provide a detailed organogram at tender. The organogram must clearly indicate the employee's details. In the event of any person within the Contractor's organogram changing, the Contractor is to obtain approval for the replacement from the Project Manager.
The Contractor shall provide his own Responsible person as required by the Permit to Work system on site during the duration of the works.
Qualified people with adequate skills in construction knowledge and experience are involved from the beginning of the project, to maximize the benefits of the constructability analysis. This process includes examining design options, where applicable, that minimize construction costs while maintaining standards of safety, security, quality, cost, and schedule, and is initiated in the front-end planning process. The Contractor considers various phases of the project and demolition activities, where applicable, that includes manpower plans, organization, construction equipment usage, material storage and handling and preparation of construction facilities

4.1.2 BBBEE and preferencing scheme

Specify constraints which *Contractor* must comply with after contract award in regard to any Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures.

4.1.3 Accelerated Shared Growth Initiative – South Africa (ASGI-SA)

Not Applicable

4.2 Subcontracting

4.2.1 Preferred subcontractors

The *Contractor* will be required to provide the *Employer* with all information regarding his Sub*contractor*s. The *Employer* will need to approve all *Subcontractor*s to be used by the *Contractor*. The *Contractor* shall be responsible for all the *activities* performed by the *Subcontractor*s.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

The *Contractor* shall be responsible for all documentation and work performed by Sub*contractor*s. The *Contractor* ensures that all work performed by the *Subcontractor* is in accordance to the *Employer's* Works Information and meet all quality requirements. The *Employer* makes use of his quality control officers to conduct audits on work performed by the *Subcontractor*.

4.3 Plant and Materials

The *Contractor* provides all tools and equipment for the handling of material and the proper execution of the works.
The *Contractor* takes reasonable care to ensure that equipment used does not cause damage to any existing infrastructure. In the event that such damages do occur to the surrounding infrastructures, the *Contractor* is responsible for repairing such damages and is liable for all costs associated with the repairs.
The *Contractor* is to supply, deliver, offload, and temporarily store (as may be required) all materials needed to carry out the works.

4.3.1 Plant & Materials provided "free issue" by the *Employer*

It is required, for the proper coordination and execution of the works, that the *Contractor* has an office on site for the duration of the contract.
A site will be made available to the *Contractor* for his yard, within the power station security perimeter. The proposed site will be shown to the *Contractor* during the site meeting or clarification meeting. The yard is a raw site of approximately two standard shipping containers in size and will be used by the *Contractor* for the establishment of his offices, workshop and stores.
The *Contractor's* yard is subject to periodic inspection by the *Project Manager*.
The location of the nearest sewer manhole, power distribution point, potable water connection, storm water channel and road access point as provided when required.
The *Contractor* is responsible for connection to the closest point of supply.

4.3.2 *Contractor*'s procurement of Plant and Materials

The *Contractor* procures, transport, offload and store all plant and material to provide the Works as per the Works Information of this contract.

4.3.3 Spares and consumables

The Contractor shall provide a list of critical spares to be kept on site at all times.
The list of spares shall consist of the following items:

i. Strategic spares
ii. Stock items
iii. As required spares.

4.4 Tests and inspections before delivery

Refer to the **Lethabo Power Station FAB 1-3 Crawl Beam Installation Project Construction Technical Specification- 375-172707**

4.5 Marking Plant and Materials outside the Working Areas

All works plant and materials are marked according to sectional area planned works.
Plant and materials are clearly marked by the *Contractor* before usage and being included to the existing equipment.

4.6 *Contractor*'s Equipment (including temporary works).

The *Contractor* provides all the necessary equipment to provide the Works.
The *Contractor* will keep comprehensive records of all of the *Contractor's* equipment brought on and removed from site. The *Contractor* must comply with the Employer's site access procedures.

5 Construction

General

The *Contractor*:

1. Adhere to the South African Environment Protection Act, the waste management code of practice and the South African Occupational Health and Safety Act No. 85 of 1993, the regulations promulgated thereunder and Eskom Safety, Health, Environment and Quality (SHEQ) Policy 32-727 and Waste Management Procedure, as well as the National Building Regulations and SANS 10400 for all works.
2. Submits a comprehensive method statement (including a comprehensive risk assessment) detailing the proposed methods for the entire works to the *Project Manager* for acceptance prior to the start of the works. Refer to Section 6.3.5 for method statement requirements.
3. Submits a project specific safety file to the *Project Manager* for comments / acceptance.
4. Submits a detailed level 3 schedule for the *works* to the *Project Manager* for acceptance after contract award.
5. Takes all necessary precautions to ensure that none of the existing structures / facilities not forming part of the *works* is damaged during the assessment/inspection. The *Contractor* is liable for all damages that may occur and repairs are to be done at no additional cost to the *Employer*.
6. The *Contractor* disposes of all waste material at a waste disposal site to be approved by the *Project Manager*. The waste disposal site is selected to suit the classification of the materials to be disposed of. Certificates of disposal are required to be submitted to the *Project Manager*. For all scrap material, the *Contractor* submits with the tender the price per tonne for disposal of such material. In case of salvaged equipment, identified by the *Project Manager*, the *Contractor* is expected to safely remove such equipment and store it at the designated site as identified by the *Project Manager*. The list of all salvaged equipment is to be issued to the *Contractor* before the start of the *works*.
7. Continuously monitors the conditions within the working and surrounding areas for any hazardous substances or situations, and in such case, the *Contractor* is required to take necessary precautionary measures.
8. The *Contractor* ensures that a complete QCP, risk assessment, method statement and ITP's, temporary works calculations accompanied by a rigging study, where applicable are submitted to the Project Manager for review and acceptance before the works can commence. During reviews of the ITP's, the *Employer* provides the necessary intervention points.

9. All items that are assembled and constructed off site are listed and provided to the *Project Manager*. From this, an ITP is developed between the *Project Manager* and the *Contractor* to determine the intervention points.
10. Manages access to the working areas and the Site.
11. Manages activities on Site to ensure that no interference takes place between the *works* and that of others. The *Contractor* does not have exclusive access to the sites.
12. Liaise with the *Project Manager* regarding utilities and telephone facilities required for his site establishment. All services and facilities that are not specifically stated to be provided by the *Employer* and which are necessary for the *Contractor* to Provide the Works, are to be provided by the *Contractor*.
13. Liaises with the *Project Manager* regarding the location of waste disposal sites and rubbish dumps.
14. The *Contractor* completes daily site diaries which books are kept and signed by the *Contractor* and are also signed off daily by the *Supervisor*. The following is to be recorded (as a minimum) in the daily diaries:
    - Manpower and Equipment used,
    - Weather conditions,
    - Description of any unique occurrences, incidents or accidents,
    - Delays and reasons for the delays,
    - Industrial relations abnormalities,
    - Interface and access problems,
    - Description of activities to be performed,
    - Recording of on-site tests
15. The *Contractor* is responsible for the design and erection of all the temporary supports required for the *works*. In addition to the aforementioned, the *Contractor* adheres to the following:
    - The *Contractor* is restricted to the designated working areas
    - The *Contractor* is not to enter any other areas and ensures that his employees abide by the applicable regulations
    - The *Contractor's* Equipment does not impair the operation or access to the plant/building
    - The *Contractor* provides any temporary or expendable materials required for the storage of materials
    - The *Contractor* safeguards and secures all items whilst in the *Contractor's* custody and control, until completion of the works;
    - Plant and equipment not forming part of the *works* are not to be modified without written permission from the *Project Manager*. Modification in this sense includes, but is not limited to the following:
        - Welding onto existing plant,
        - Drilling into structural steel or concrete,
        - Cutting or removing
        - Loading adjacent structures.

Construction, Erection and Monitoring

1. The *Contractor* is responsible for the construction of all *works* in accordance with the accepted designs, drawings and specifications.
2. The *Contractor* is responsible for the safety of all personnel involved in the *works* as well as the safety of all personnel at Lethabo Power Station affected by the construction of the *works*.
3. The *Contractor* is required to confirm all site dimensions, levels and cast-in items positions on site prior to any construction *works*.

4. The *Contractor* notifies the *Project Manager* of any defects that have occurred or are foreseen in order to reduce further damages that may occur.
5. The Contractor provides the required level of construction monitoring in order to ensure that the construction is completed in accordance with the approved designs, drawings and specifications.
    - Technical quality assurance during construction to ensure that the construction is executed as per the approved design, specifications and procedures
    - Witnessing and approval (by signature) of intervention points where applicable to Engineering
    - Review and acceptance by signature of construction data books, as-built drawings and Operations and Maintenance manuals (where applicable) developed by the Contractor
    - Responding to technical queries and clarifications from the *Contractor* utilising documentation templates provided by the *Employer*
6. The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the works.

5.1 Temporary works, Site services & construction constraints

5.1.1 *Employer*'s Site entry and security control, permits, and Site regulations

Normal working hours must be maintained as far as possible The normal working hours on site will be from 07:15 am to 16:30 pm Monday to Thursday and 07:15 am to 12:00pm on Fridays. Should the *Contractor* wish to work outside these normal working hours, he should notify the *Project Manager* in writing.

5.1.2 Restrictions to access on Site, roads, walkways and barricades

In addition to the above there may be other restrictions once on the Site, plus rules relating to roads, walkways and the provision of barricades.

5.1.3 People restrictions on Site; hours of work, conduct and records

Restrictions and hours of work may apply on some Sites. It is very important that the *Contractor* keeps records of his people on Site, including those of his Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. These records may be needed when assessing compensation events.

5.1.4 Health and safety facilities on Site

As per Lethabo Power Station Health & Safety Specifications for *Contractor*s (**LFMS048**) attached to the Invitation to Tender.

5.1.5 Environmental controls, fauna & flora, dealing with objects of historical interest

Contractor shall comply with the LBE22005 Environmental spill management procedure and LBE22004 Environmental waste management procedure.

5.1.6 Title to materials from demolition and excavation

All waste to be disposed according to Lethabo Waste Management Work Instruction (240-65666252).

5.1.7 Cooperating with and obtaining acceptance of Others

- The *Contractor* co-operates with others in obtaining and providing information which they need in connection with the works. The Contractor also co-operates with Others and shares the Working Areas with them as stated in the *Works Information*.

- As the *Contractor's* activities interfaces with works done by Others, planning around those activities is shared and influenced by Others.

- The *Contractor* provides each programme (detailed) with information as described by clause 31.2 and includes in the programme any matters regarding the order and timing of the work of the Employer, Contractor and Others which the Contractor is take account of in his programme.

5.1.8 Publicity and progress photographs

All photographs taken are with the permission of the *Employer* only and such permission shall be obtained in writing from the General Manager via the *Project Manager*.

5.1.9 *Contractor*'s Equipment

All equipment for the works are provided by the Contractor and records of such are kept on site and communicated to the *Project Manager* in writing.
The *Contractor* will keep comprehensive records of all of the *Contractor's* equipment brought on and removed from site. The Contractor must comply with the *Employer's* site access procedures.

5.1.10 Equipment provided by the *Employer*

The *Employer* does not provide any equipment as such are priced for by the *Contractor.*

5.1.11 Site services and facilities

5.1.11.1 Site yard

It is required, for the proper co-ordination and execution of the *Works* that the *Contractor* (if required) has an office on site for the duration of the installation and optimisation. A site will be made available to the *Contractor* for his yard within the power station security area. The yard is a raw site and will be used by the *Contractor* for the establishment of his offices, workshop, and stores.

The Contractor's yard is subject to periodic inspection by the *Project Manager*. The location of the nearest sewer manhole, power distribution point, portable water connection storm water channel and road access point is indicated by the Employer. The *Contractor* is responsible for connection to the closest point of supply.

Upon Contract award the *Contractor* is to determine site requirements, submit a site layout plan and include site management plans to be approved by the Project Manager. The *Contractor* can only establish site once a signed/approved trenching assessment and Lethabo LFM051 Application Contractors site establishment forms have been received by the *Contractor.*

The site yard shall consist of the following as a minimum

- Proper barricading of the site yard by use of fencing and/or approved method by the *Project Manager.*
- The site is to have a paved floor or alternative method approved by the *Project Manager.*
- Sufficient lighting should the *Contractor* be working at night.
- Sufficient ablution facilities for the number of people employed on site.
- Sufficient eating facilities for Employees working on site.
- The *Contractor* to provide its own piping and cable to connect to a power source, sewage points, water points and Air supply points. The *Employer* is only responsible to provide a water point, power source, sewage point of connection and air points to the contractor no piping or cable shall be provided by the *Employer.*
- The site must have a board to indicate whom the site belongs to.
- The *Contractor* is to maintain the reverse parking already adopted at Lethabo Power Station at the allocated site.
- The Contractor is to have access Control for the allocated site, the *Employer* already has an access control to its facilities, but the *Contractor* is to maintain access control at the allocated site.

5.1.11.2 Supply of electricity

Electricity will be made available for construction purposes free of charge from power points which will be indicated by the *Project Manager*. The *Contractor* will be responsible for the provision of the reticulation system from the point of supply. Both 220 (AC) Volt and 380 (AC) Volt are available on request. All points of supply requested by the *Contractor* are provided in terms of quantity and location at the discretion of the *Project Manager*. No guarantees of power supply quality are given, and power supply breaks of some duration may occur without warning.

The *Contractor* makes arrangements at his own expense to improve continuity and quality of power where necessary for any reason and no claim of any nature relating to power failures is considered. No connection is made to the permanent installation at the Power Station without the prior acceptance of the *Project Manager*. The power supply is managed in accordance with the latest revision of the *Employer 's* safety regulations, Operating Regulations for High-Voltage Systems and Plant Safety Regulations. The *Contractor* shall ensure that all electrical equipment are tested and accompanied by COC or proof of tests certificates before connections to Eskom supply is permitted.

5.1.11.3 Lighting

The *Contractor* at his own expense provides temporary local lighting in accordance with the requirements of the Occupational Health and Safety Act where necessary. The *Project Manager* provides no local lighting. All construction lighting is the responsibility of the *Contractor*.

5.1.11.4 Water

Water is made available on request free of charge from water points on site. The *Contractor* supplies at his own cost all connections, fittings, piping work, temporary plumbing, and pumps necessary to lead water from the *Employer's* points of supply to the various points where it is required. The *Contractor* is responsible for maintaining his equipment and to removal at Completion of the whole of the *works*.

The *Project Manager* does not guarantee continuity of supply and the *Contractor* makes his own provision for standby supplies to maintain continuity of work. Claims of any nature relating to discontinuity of water supply are not considered.

Water wastage due to un-maintained pipe work or fittings provided by the *Contractor* will be calculated and will be for the cost of the *Contractor.*

5.1.11.5 Roads and vehicles

Main access roads are surfaced and complete and may be used by the *Contractor* with the necessary care. The *Employer* maintains the Site roads, described above, to a fair condition. Any costs incurred by the

Project Manager from damage caused to underground services, structures, etc. as a result of the *Contractor* not using the prescribed routes is recovered from the *Contractor*. The *Contractor* provides temporary access points from the prescribed routes and roads to the points where the *Contractor* is required to perform work, having first obtained permission in writing from the *Project Manager.*

All vehicles used on site, by the *Contractor* will be road worthy and fitted with fire extinguishers as required.

All road signs, traffic laws and regulations on site shall be adhered to by the *Contractor*. *Contractor's* employees failing to comply with the above will be denied access onto site.

5.1.11.6 Compressed Air

The *Contractor* provides at his own cost, all connection fittings and pipework necessary to lead the compressed air from the point of supply to the various points where it is required. Such fittings must be compatible with the Employer's fittings so that galvanic corrosion of pipework is prevented. The *Contractor* is required to maintain all his connections and remove them on completion of the *works*. Compressed air wastage due to un-maintained pipe work or fittings provided by the *Contractor* will be calculated and the cost will be recovered from *Contractor*.

5.1.11.7 Ventilation

The *Contractor* is responsible for adequate ventilation of the works.
The *Contractor* shall provide everything else necessary for providing the Works

5.1.12 Facilities provided by the *Contractor*

If it is required for the *Contractor* to have a site office for proper co-ordination and execution of the *Works,* the *Contractor* shall include in his establishment, rates for all further treatment of the yard areas that he considers necessary for his entire operation throughout his period of occupation. The *Contractor* also includes for all security fencing, security and access arrangements. Maintenance of the yard is the *Contractor's* responsibility and to the *Project Managers* acceptance.

Outfall drainage of all surface run-off drains is constructed by the *Contractor* to the acceptance of the *Project Manager* to minimise erosion and to effect control of contaminated water. The *Contractor's* plan for the layout of his yard area are accepted by the *Project Manager* prior to occupying the yard and the *Contractor* does not occupy any site area other than that allocated to him. The *Contractor's* plan states fully what measures are taken regarding removal and storage of topsoil, stabilisation of eroded areas and further loss of topsoil.

The *Contractor* complies with the environmental policy given in the Site regulations. The *Contractor* provides, erects and maintains for his own use adequate size office accommodation and stores together with such drainage, lighting, heating, and hot and cold-water services as may be required. Provision is also made for adequate parking and a turning area adjacent to all the aforesaid structures. The *Supervisor* prior to commencement of any work on Site accepts all designs and layouts for these provisions.

The *Contractor* dismantles and clears the yard of all such temporary structures and associated foundations and infrastructure at the direction of the *Supervisor* on Completion of the whole of the *works*. No such dismantling and clearance work is carried out without prior acceptance from the *Supervisor.*

i) Telecommunication

Neither a network point nor a telephone is available on site. Should the *Contractor* require one, he is to make his own arrangements with relevant authorities. Should the *Contractor* wish to use radio communication equipment on site, he will make his own arrangements with the relevant authorities. In this case, he is requested to liaise with the head of security at the station to ensure that there is no interference with existing channels or equipment.

ii) Sanitary Facilities and Refuse

The *Contractor* is to supply and maintain his own sanitary facilities at his *contractor's* yard. A refuge control

system will be established by the *Contractor*. All waste and refuge is collected and disposed of as directed by the *Project Manager.*

5.1.12.1 Site regulations

The *Contractor* complies with the Site Regulations, a copy of which is available at the *Project Manager's* offices. Any subject within the authority of the *Project Manager* may be addressed by a Site Regulation. Before work starts on Site, a kick-off meeting is held with the *Contractor* and the *Project Manager*, to explain in detail all requirements of the Site Regulations.

The *Contractor* is issued with a file of current Site Regulations at the project kick-off meeting. The file remains the property of the *Project Manager* and the *Contractor* is responsible for its maintenance and updating to include new or revised regulations as issued by the *Project Manager* during the course of the *works*.

5.1.12.2 Accommodation and transportation

The *Contractor* provides his own accommodation, meals and transport for all his employees engaged in the execution of *the works*. This includes the needs of his *Subcontractor*s. The cost for accommodation, meals as well as for transportation to and from Site is included in the Prices. The *Contractor*'s employees are not allowed to sleep on site.

5.1.12.3 Security

The *Contractor* provides security necessary for the protection of the *Works* at all times until the Completion of the whole of the *Works*. Access to the site is controlled and it is governed by the terms and conditions laid down by the Station Security Officials from time to time. The proposed site will be shown to the *Contractor* during site meeting or clarification meeting. The *Contractor* liaises via the *Project Manager* with the Power station Security staff in order to obtain temporary permits for his staff and vehicles which will be working within the station.

The *Contractor* submits his application for vehicle permit to the *Project Manager*. Personnel and vehicles entering and leaving the site are subject to routine searches. The *Contractor* must obtain a "Gate Permit" from the *Project Manager*, before materials and equipment can be removed from the site. The "Gate Permit" gives an itemised list of materials and equipment to be removed from site. If any *Contractor's* staff are transferred from Lethabo or leave Site, the person's permit is handed over to the *Supervisor*. The *Contractor* ensures that personnel leaving site are transported out of the security area and that the permit is returned.

No firearms, weapons, alcohol, illegal substances and cameras (including cell phones with cameras) are permitted on Site. No 'Private Work' is carried out for or on behalf of any *Employer's* employee. Any person suspected of being under the influence of alcohol is tested and if proved positive, is refused entry to the security area.

5.1.13 Existing premises, inspection of adjoining properties and checking work of Others

Details under this sub-paragraph are very contract specific and may be quite extensive in some cases. State requirements for the inspection with the owners of adjacent buildings and properties and representatives of local authorities before commencing with the *works* that have the potential to damage surrounding buildings and property. State whether *Contractor* is required to inspect the work of Others to which he is required to connect and if so by when to avoid delays to his work.

5.1.14 Survey control and setting out of the *works*

Provide information on survey controls established by the *Employer*, if any, and state requirements for survey control and the setting out of the *works*.

5.1.15 Excavations and associated water control

State any particular requirements for handling deep foundations and controlling water from excavations.

5.1.16 Underground services, other existing services, cable and pipe trenches and covers

Describe known services making reference to drawings containing known services and state requirements for locating, marking and recording such services.
State requirements for the treatment of existing services i.e. their termination, diversion or continued use, either temporarily or permanently, and set out the procedures relating thereto.
State requirements, as necessary, for the use and availability of detection equipment for the location of underground services.
State responsibility for damage to services, known and unknown, and requirements for working in close proximity to services etc.
State requirements and reinstatement procedures for the notification and repair of damage to services and any penalties applicable to the damage of services.

5.1.17 Hook ups to existing works

Requirements are notified when the works interfaces those existing and such requirements are communicated to the Project Manager.

5.2 Completion, testing, commissioning and correction of Defects

5.2.1 Work to be done by the Completion Date

This is mandatory. Core clause 11.2(2) defines Completion as when the *Contractor* has done all the work which the Works Information states he is to do by the Completion Date. Rather than list all work to be done by the Completion Date, state that all work is to be done by the Completion Date except for [●]. For example:

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

	Item of work	**To be completed by**
	As built drawings of	Within days after Completion
	Performance testing of the *works* in use as specified in paragraph of this Works Information.	See performance testing requirements.

5.2.2 Use of the *works* before Completion has been certified

Sectional completion will apply whereby completion of the system once completed will be handed over to the *Employer* for takeover; however the Employer rejects the Use of the Works for items that affect the safe and reliable operation of the Works. Documentation for such items is produced for Defect Corrections.

5.2.3 Materials facilities and samples for tests and inspections

The *Contractor* provides all necessary certificates as required by the works information.

5.2.4 Commissioning

Refer to **Lethabo Power Station FAB 1-3 Crawl Beam Installation Project Construction Technical Specification 375-172707**

5.2.5 Start-up procedures required to put the *works* into operation

The *Contractor* will work with the Appointed Operator and engineering representative of the plant to put the Works into operation after it has been safety cleared.

5.2.6 Take over procedures

The *Employer* will take over the plant after he is satisfied with the optimisation. The *Contractor* will need to be on standby for the first 5 days after hand over and must provide further telecommunication assistance for the whole testing duration. The *Contractor* must be available on site within 24 hours to provide technical assistance if required during the testing period.

5.2.7 Access given by the *Employer* for correction of Defects

After the works have been put into operation, the *Contractor* will be required to follow the Plant Safety Regulation to work on the Works. He shall not work without a Work Permit to gain access to the plant.

5.2.8 Performance tests after Completion

Refer to **Lethabo Power Station FAB 1-3 Crawl Beam Installation Project Construction Technical Specification 375-172707**

5.2.9 Training and technology transfer

Refer to **Lethabo Power Station FAB 1-3 Crawl Beam Installation Project Construction Technical Specification 375-172707**

5.2.10 Operational maintenance after Completion

Refer to **Lethabo Power Station FAB 1-3 Crawl Beam Installation Project Construction Technical Specification 375-172707**

6 Plant and Materials standards and workmanship

This section of the Works Information contains all the specifications for the work which is left behind; the permanent works. It is likely to be the largest section by far and may even be compiled in volumes, e. g. Section 6 Volume 1: Civil Engineering Works. In design and construct contracts, it may be compiled in accordance with systems within the *works*; e. g. Section 6 Volume 4: Crushers.

Because practice varies widely between employers it is not practical in a general template such as this to deal with all arrangements. Only the discipline based section subheadings are provided below in the order the *works* are likely to be constructed together with some notes of a general nature.

6.1 Investigation, survey and Site clearance

Some contracts may require the *Contractor* to carry out further investigation of existing facilities or of the Site before commencing final design. There could be constraints on Site clearance especially in pipeline or transmission grid servitudes.

6.2 Building works

Reference could be made to the latest Model Trade Preambles published by the Association of South African Quantity Surveyors. However these have been developed for use with the JBCC series of contracts and an approach where description of the work is made part of the bill of quantities, which is not the case in other forms of contract. Only parts of the Model Trade Preambles could be referenced by an ECC contract, with a covering note dealing with the changes in terminology. Further changes are required depending on which parts are to be selected.

This subsection would typically comprise
a) Particular specifications provided by the *Employer*
b) List of standardised specifications applicable to the *works* and
c) Variations to the standardised specifications

6.3 Civil engineering and structural works

6.3.1 Civil engineering and structural *works*

During the construction of the *works* there are numerous standards and specifications to which the *Contractor* must adhere to. The documents listed below, including normative references within, are not bound in this document but are obtained by the *Contractor* at his own expense and must be adhered to during the implementation of the *works*.

All references to standard/codes/publications are to be the latest issue of each, together with the latest additions and/or amendments thereto, as of the date of contract, unless otherwise indicated. This list is not all-inclusive and does not relieve the *Contractor* from complying with all applicable codes.

The following specifications are required to be complied to:

1. List of Applicable Standards	
240-56364545	Structural Design and Engineering Standard
2. SANS 10400	**3. The Application of the National Building Regulations**

4. SANS 2001-BS1	**5. Construction works Part BS1: Site clearance**
6. SANS 2001-CS1	**7.** Construction works Part CS1: Structural steelwork
8. SANS 1200 A	**9. Standardized specification for civil engineering construction Section A: General**
10. SANS 1200 HA	**11.** Standardized specification for civil engineering construction Section HA: Structural steelwork (sundry items)
12. SANS 1200 HB	**13.** Standardized specification for civil engineering construction Section HB: Cladding and sheeting
14. SANS 1200 HC	**15.** Standardized specification for civil engineering construction Section HC: Corrosion protection of structural steelwork

6.4 Particular Specifications

6.4.1 General

The following codes are required to be complied to:

i. SANS 1200 A**: General**
ii. **SANS 1921-1:** Construction and management requirements for works contracts, Part 1:

General engineering and construction works

The table below indicates specifications pertaining to SANS 1200 A and must be read in conjunction with the code.

Clause	Particular Specification
5.1	**Survey**
5.1.1	**Add:** The *Contractor* is responsible for the complete surveying and setting out of the *works* including the establishment of any beacons and benchmarks required to complete the works. The *Contractor* is required to consult the Surveyor-General's office to obtain information on available registered beacons near Lethabo Power Station to use for the establishment of any required benchmarks close to the *works*.
6.2	**Degrees Of Accuracy**
6.2 b)	Degree of accuracy II is applicable to the *works*.

6.4 Structural Steelwork

The following codes are required to be complied to:

i. SANS 2001 CS1: Structural Steelwork
ii. SANS 1200 H: Structural Steelwork (Only Clause 8 – Measurement and Payment)

iii. AWS D1.1: Structural welding code – steel

iv. SANS 1921-3: Construction and management requirements for works contracts, Part 3: Structural steelwork

v. SANS 50025-2: Hot rolled products of structural steels – Part 2- Technical delivery conditions for non-alloy structural steels

vi. SANS 1700: Fasteners

vii. SANS 10162: The structural use of steel

The table below indicates particular specifications pertaining to SANS 2001-CS1 and must be read in conjunction with the code.

Clause	Particular Specification
4.1	**Materials**
4.1.1	Add the following: All structural steelwork is required to be grade S355JR
4.1.4.1	Electrodes for electric welding are required to be E7018.
4.1.5.1	Ordinary bolts to be grade 8.8 with class 8 nuts, as a minimum
4.2	**Drawings**
4.2.4	Fabrication drawings (shop detailing)
4.2.4	The following clause is added: "Fabrication drawings are to be prepared by the *Contractor*. These are issued to the *Project Manager* for acceptance in the form of two paper prints and in "PDF" electronic format. The *Contractor* may not commence with fabrication until written acceptance from the *Project Manager* is received."
4.2.4.2	Attachments to facilitate erections may not remain as part of the permanent structure.
4.2.4.7	Connections to allow movements are as shown on the Drawings.
4.3	**Workmanship (General)**
4.3.1.1	All steel elements are marked to be traceable to a specific cast or heat of steel.
4.3.6	Holing
4.3.6	The following clause is added: "Flame cutting of holes is not permitted."
4.4	**Workmanship (Welding)**
4.4.4.3	Tack welds are not to be incorporated into the final welds.
4.5	**Workmanship (Bolting)**
4.5.1.3	The maximum protrusion beyond the nut is not less than 3mm, but not greater than 5mm.
4.5.1.4	Washers under nuts and bolt heads on flat surfaces are required.
4.6	**Workmanship - Erection**
4.6.5	• On site welding is not permitted
5.3	**Non-destructive testing of welds**
5.3.3	• Fillet welds are required to undergo magnetic particle

Clause	Particular Specification
	inspection (20 % of welds)
5.3.4	• All butt welds and full penetration welds are required to undergo ultrasonic non-destructive testing (100 % of welds)
Variations	
Cl 5.2	Add the following: Properly documented evidence of previous qualification of welders are acceptable.
Additional Clauses	
1	All materials are to be new and as specified in this document and on the relevant Drawings.
2	Materials not listed in this specification or on the relevant Drawings are not permitted.
3	In the event of any specified steel not being available, the *Contractor* advises the *Project Manager* in writing. The *Project Manager* is to reply in writing on alternative materials and / or sections.
4	Fabrication drawings are prepared by the *Contractor*. The drawings are issued to the *Project Manager* for acceptance in the form of two paper prints and in "PDF" electronic format and in Native Format (dgn or dwg). The *Contractor* does not commence with fabrication until written acceptance from the *Project Manager* is received.
5	All gutters and down pipes are provided to ensure free water flow away from the *works*.
6	Handling and lifting plant have sufficient capacity to ensure that steelwork is placed in its final position without distortion or undue stressing of members.
7	Except where otherwise authorised in writing by the *Supervisor*, the *Contractor* ensures that the work is carried out strictly in accordance with the relevant drawings supplied to the *Contractor* by the *Project manager* or supplied by the *Contractor* and accepted by the *Project Manager*
8	Tolerances: • Tolerances for overall dimensions (length, width, height, etc.) are 3mm unless otherwise specified by the drawing. • Tolerances for door locations are +/- 9mm. • Tolerances for stiffener, channels, angles and bars are +/- 3mm non-accumulative, unless noted of the drawing. • Tolerances for attachments such as supports, plates and pipes are located within 3mm of the required drawing location. • The centre line of a bolt hole is aligned within 1.5mm of the drawing dimension. • Bolt hole spacing is 3mm (non-accumulative) and 6mm (overall) of the drawing dimension. • Bolt hole diameter is within 2mm of the drawing

Clause	Particular Specification
	dimension. • Special tolerances are shown on the *Employer's* drawings and take precedence. Unless otherwise specified by the drawing, tolerances for all overall dimensions (length, width, height, etc.) are within 3mm.
9	The *Project Manager* may instruct the *Contractor* to replace any welding equipment which is unsuitable or unsatisfactory for the service in which it is being used.

The table below indicates particular specifications pertaining to SANS 1921-3 and must be read in conjunction with the code.

Clause	Particular Specification
4.2	**Responsibility for design and construction**
4.2.1	The responsibility strategy assigned to the *Contractor* is "B" for the portion of *works* designed by the *Employer*.
4.2.2	The structural engineer is The *Employer's*, Structural Design CoE for the *works* designed by the *Employer*.
4.3	**Planning, programme and method statement**
4.3.2	Programme
4.3.2.1	The requirements for sequencing of the *works* are: The sequence of the work is as per the project Schedule.
4.3.2.1	The procedures to be followed where required are as shown on the Drawings or defined within the scope of work.
4.3.3	Method Statements
4.3.3.2	The steelwork *Contractor* provides the steelwork structural engineer with a detailed method statement for the erection of each structure. Add the following: The methodology for any work that will be carried out after hours must be accepted one week prior to the event.
4.4	**Quality assurance**
4.4.3	Inspections, tests and certification
4.4.3.4	The following items and procedures need to be tested/certified by a recognised body: Welders qualification Material certificates
4.5	**Drawings, information and calculations**
4.5.1	Format, number and register
4.5.1.1	Information, Drawings and calculations provided to the steelwork *Contractor* will be provided in the following format: 2D drawings provided electronically in PDF format.
4.5.1.2	The steelwork *Contractor* is to provide information in the following format:

Clause	Particular Specification
	Electronic in PDF format.
4.5.3	Drawings and other information provided by the steelwork *Contractor*
4.5.3.1	Drawings and other information are to be submitted in accordance with the steelwork *Contractor*'s accepted programme.
4.5.3.4	The steelwork *Contractor* is required to submit the following additional information with general arrangement drawings to the *Employer* for approval: Erection methodologies. Detail drawings marked up for each part, if different from the supplied details
4.7	**Site establishment**
4.7.6	The steelwork *Contractor* is required to make his own arrangements for the provision of the following services: Compressed air Welding machines Cutting torches and gas Lifting attachments
4.11	Health and Safety
4.11.1	The specific health and safety requirements are as per the requirements in conditions of contract.
4.11.3	The steelwork *Contractor* is required to submit a report on the assessment and management of risk.
4.11.4	The steelwork *Contractor* is required to enclose the steelwork for the protection of the public and others.

6.5 Additional Requirements and Specifications

i. The *Contractor* is responsible for the stability of the entire structure and all structural elements during all the erection stages.

ii. All dimensions are required to be verified on site by the *Contractor* before any fabrication of steelwork commences.

iii. All welding is required to be conducted by coded welders. Supporting documentation is also required to be submitted to the *Project Manager* for acceptance. All welding is required to comply with AWS D1.1 and 240-106628253 - Standard for Welding Requirements on Eskom Plant.

iv. All welds are required to be inspected using visual aids. The *Contractor* is required to record these examinations.

v. The Contractor is required to supply all bolts, washers, nuts etc. for the structural steelwork.

vi. Welded connections are required to be welded all around with a minimum of 6 mm fillet welds unless otherwise stated on the Drawings. Butt welds are required to be full penetration welds.

6.6 Structural Steelwork (Sundry Items)

The following codes are required to be complied to:

i. SANS 1200 **HA: Structural steelwork (sundry items)**

The table below indicates particular specifications pertaining to SANS 1200 HA and must be read in conjunction with the code.

Clause	Particular Specification
Variations	
Cl 5.1.2	Add the following: The said shop details and other drawings are to be submitted in duplicate to the *Project Manager* for acceptance at least 10 working days prior to fabrication.
Cl 5.2.10	Add the following: Where no corrosion protection system is specified, open grid flooring is to be hot dipped galvanised.
Cl 7.1	Add the following: Test certificates and cast analysis certificates are to be supplied to the *Project Manager* by the *Contractor*.

6.7 Corrosion Protection of Structural Steel

The following codes are required to be complied to:

i. SANS 1200 HC: Corrosion Protection of Structural Steel
ii. SANS 10064: The preparation of steel surfaces for coating
iii. SANS 121: Hot dip galvanized coatings on fabricated iron and steel articles

The table below indicates particular specifications pertaining to SANS 1200 HC and must be read in conjunction with the code.

Clause	Particular Specification
Variations	
Cl 5.3	Add the following: All burrs and sharp areas are to be removed by: Chamfering or Ground to a smooth radius of at least 1mm.
Cl 5.4.1	Add the following: The method of cleaning and preparing the substrate of steelwork prior to the application of the coating system is to be in accordance with the applicable provisions of SANS 10064
Cl 5.4.3.1. b)	Add the following: Dry abrasive blast cleaning: Silica sand abrasive material not permitted. Blast cleaning media is not recycled.
Cl 5.7	Add the following: The coating system is to be hot-dip galvanising which is carried out in accordance with SANS 121:2011.
Additional Clauses	

Clause	Particular Specification
1	Surface preparation and painting is to be carried out as indicated on the Drawing.

6.7.1 Deliverables

The *Contractor* provides the following document deliverables as part of the *works*.

6.7.2 Planning phase

1. A Level 3 schedule (schedule with defined activities) for the design scope clearly highlighting all activities involved, major milestones and provision.
2. Detailed Method Statement (including constructability analysis) for the execution of the works.
3. Risk Assessments
4. Project specific safety file
5. Project Quality Control Plan

6.7.3 Pre-Construction

1. Detailed method statements for the construction of the works
2. Inspection and Test Plans (ITP's) indicating all intervention points
3. Quality Control Plans (QCP's)
4. Construction Programme
5. Project Specific Safety File (updated)
6. Any temporary works required as part of construction signed by a professionally registered Structural Engineer/Technician
7. Detailed Risk Assessments (updated)

6.7.3 Post Construction/Installation

1. QA returnables (monthly)
2. Data books as detailed in Section 7.2.1
3. Load testing certificate.

7 List of drawings

7.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

Drawing number	Revision	Title
0.63/57848, Sheet 1	**0**	Lethabo Power Station; Fly Ash Bunker No. 1, 2 & 3; General layout of crawl beams at levels 1467,40; 1470,50 & 1473,50

0.63/57848, Sheet 2	**0**	Lethabo Power Station; Fly Ash Bunker No. 1, 2 & 3; Storeroom level 1467,40; Crawl beam (No. 2) general arrangement and details
0.63/57848, Sheet 3	**0**	Lethabo Power Station; Fly Ash Bunker No. 1, 2 & 3; Conveyor level 1470,50; Crawl beam (No. 1) general arrangement and details
0.63/57848, Sheet 4	**0**	Lethabo Power Station; Fly Ash Bunker No. 1, 2 & 3; Conveyor level 1473,50; Crawl beam (No. 3) general arrangement and details

C3.2 *Contractor*'s Works Information

This section of the Works Information will always be contract specific depending on the nature of the *works*. It is most likely to be required for design and construct contracts where the tendering contractor will have proposed specifications and schedules for items of Plant and Materials and workmanship, which once accepted by the *Employer* prior to award of contract now become obligations of the *Contractor* per core clause 20.1.

Typical sub headings could be

a) *Contractor*'s design
b) Plant and Materials specifications and schedules
c) Other

This section could also be compiled as a separate file.

PART 4: SITE INFORMATION

Document reference	Title	No of pages
	This cover page	1
C4.1	Site Information	8
	Total number of pages	9

C4 Site Information

Core clause 11.2(16) states

“Site Information is information which

- describes the Site and its surroundings and
- is in the documents which the Contract Data states it is in.”

In Contract Data, reference has been made to this Part 4 of the contract for the location of Site Information

C4.1: Information about the *site* at time of tender which may affect the work in this contract:

1. Site Procedures and Regulations

1.1 Health and Safety Requirements

The *Contractor* and his sub-*Contractor*s ensure at all times compliance with safety regulations imposed by any Act of Parliament, ordinance or any regulation or by-law of any local or statutory authority.

- The *Contractor* acts in accordance with the health and safety requirements stated in the Works Information.
- In carrying out its obligations to the *Employer* in terms of this contract; in Providing the Works; in using Plant, Materials and Equipment; and while at the Site for any reason, the *Contractor* complies and procures and ensures the compliance by its employees, agents, Sub-*Contractor*s, and mandataries with:
- the provisions of the Occupational Health and Safety Act 85 of 1993 (as amended) and all regulations in force from time to time in terms of that Act (“the OHSA”); and the Eskom “Health, Safety and Environmental specifications for *Contractor*s” document attached to the Works Information (as amended from time to time) and such other Eskom Safety Regulations as are applicable to the *works* and are provided in writing to the *Contractor* (collectively “the Eskom Regulations”). The Eskom Regulations may be amended from time to time by the *Employer* and all amendments will be provided in writing to the *Contractor*. The *Contractor* complies with the provisions of the latest written version of the Eskom Regulations with which it has been provided; and the health and safety plan prepared by the *Contractor* in accordance with the SHEQ Requirements
  (The OHSA and the Eskom Regulations are collectively referred to as the “SHEQ Requirements”.)
- The *Contractor,* at all times, considers itself to be the “*Employer*” for the purposes of the OHSA and shall not consider itself under the supervision or management of the *Employer* with regard to compliance with the SHEQ Requirements, the *Contractor* shall furthermore not consider itself to be a subordinate or under the supervision of the *Employer* in respect of these matters. The *Contractor* is at all times responsible for the supervision of its employees, agents, Sub-*Contractor*s, and mandataries and takes full responsibility and accountability for ensuring they are competent, aware of the SHEQ Requirements and execute the *works* in accordance with the SHEQ Requirements
- The *Contractor* acknowledges that it is fully aware of the requirements of all the above and undertakes to employ only people who have been duly authorized in terms thereof and who have received sufficient training to ensure that they can comply therewith.
- The *Contractor* ensures that all statutory appointments and appointments required by any Eskom Regulations are made and that all appointees fully understand their responsibilities and are trained and competent to execute their duties. The *Contractor* supervises the execution of their duties by all such appointees.
- The *Contractor* shall appoint a person who will liaise with the Eskom Safety Officer responsible for the premises relevant to this contract. The person so appointed shall, on request: supply the Eskom Safety Officer with copies of minutes of all Health and Safety Committee meetings, whenever he is required to do so; supply the Eskom Safety Officer with copies of all appointments in respect of employees employed on this contract, in terms of the Act and Regulations and shall advise the Eskom Safety Officer of any changes thereto.

The *Employer*, or any person appointed by the *Employer*, may, at any stage during the duration of this contract:

- conduct health and safety audits regarding all aspects of compliance with the SHEQ Requirements, at any off-site place of work, or the site establishment of the *Contractor.* refuse any employee, Sub *Contractor,* or agent of the *Contractor* access to the premises if such person has been found to commit an unsafe act or any unsafe working practice or is found not to be qualified or authorised in terms of the SHEQ Requirements.
- issue the *Contractor* with a stop order should the *Employer* become aware of any unsafe working procedure or condition or any non-compliance with any provision of the SHEQ Requirements.
- The *Contractor* immediately reports any disabling injury as well as any threat to health or safety of which it becomes aware at the *works* or on the Site to the *Project Manager.*

- The *Contractor* undertakes not to do, or not to allow anything to be done which will contravene any of the provisions of the Act, Regulations or Safety and Operating Procedures.
- The *Contractor* appoints a person, qualified in accordance with the SHEQ Requirements, as the liaison with the Eskom Safety Officer for all matters related to health and safety, this person shall be reachable 24 hours a day.
- The *Contractor* confirms that it has been provided with sufficient written information regarding the health and safety arrangements and procedures applicable to the *works* to ensure compliance by it and all employees, agents, Sub-*Contractor*s, or mandataries with the SHEQ Requirements while Providing the Works in terms of this contract. As such, the *Contractor* confirms that this contract and the relevant Eskom Regulations referred to in this contract constitute written arrangements and procedures between the *Contractor* and the *Employer* regarding health and safety for the purposes of section 37(2) of the OHSA.
- The *Contractor* agrees that the *Employer* is relieved of any and all of its responsibilities and liabilities in terms of Section 37(1) of OHSA in respect of any acts or omissions of the *Contractor*, and the *Contractor*'s employees, agents, or Sub-*Contractor*s, to the extent permitted by the OHSA.
- The *Contractor* hereby indemnifies the *Employer* and holds the *Employer* harmless in respect of any and all loss, costs, claims, demands, liabilities, damage, penalties or expense that may be made against the *Employer* and/or suffered or incurred by the *Employer* (as the case may be) as a result of, any failure of the *Contractor*, its employees, agents, Sub-*Contractor*s and/or mandataries to comply with their obligations in terms of clause 16, and/or the failure of the *Employer* to procure the compliance by the *Contractor* , its employees, agents, Sub *Contractor*s and/or mandataries with their responsibilities and/or obligations in terms of or arising from the OHSA.

- In carrying out his obligation as the mandatory to the *Employer* for this contract in terms of the National Environmental Management Act No.107 of 1998, the *Contractor* ensures that he complies with the Act when Providing the Services or using plant, materials, or equipment.

1.2 Permit to Work System

- NO work shall be carried out without a "PERMIT TO WORK"
- The *Contractor*'s Responsible Person(s) must satisfy himself that all sources of possible danger are isolated. Details of the Permit to Work system can be found in the Plant Safety Regulations for Lethabo Power Station, Eskom OPR 3305. The *Contractor* must also make provision for his Authorise Supervisor(s) that is trained according to the procedure mentioned above.
- A Master Permit to Work is used on declared major outages, details can be found in local procedure LBA 00085. Permit changes are made during the dead time, if it is required by the *Contractor* that a certain supply be made available, or plant tested than this can be applied for at the Outage Management Meeting at least 1 day in advance.
- Plant with a prohibitive sign attached may only be operated by appointed Eskom personnel. Any *Contractor* employee found tampering with such plant will be permanently removed from Site.

1.3 Safety Induction Course

- All the employees of the *Contractor* must attend a safety induction course before they will be allowed to work on the Site. It is the responsibility of the *Contractor* to ensure that all employees have attended the safety induction.
- A list of employees requiring safety induction must be submitted at least 2 days in advance of arrival on site with the date and time of arrival so that the safety induction can be arranged.

1.4 IBI Awareness Techniques

- "To prevent incidents and ensure continuous improvement of Lethabo Power Stations business performance in all areas affecting safety, reliability and production, it is expected of all ***CONTRACTORS*** service personnel, to attend a three(3) hour training session on Integrated Business Improvement Awareness, which has to be done as soon as work has commenced; This is to ensure familiarisation and use of error-prevention tools/techniques inclusive of, Pre and Post-job briefs, Risk Assessments, Self-checks(STAR principle), Job observations, Effective communications e.g.3- way, Questioning attitude, Procedural adherence, Hand overs and other related topics.
- A monthly IBI scorecard to be completed indicating the use of error prevention tools/ techniques; The assigned employee fulfilling the role of IBI representative has to attend the IBI representative's forum fortnightly, on Tuesdays, duration one hour.
- An IBI representative appointed by the *Contractor*/Supplier/Consultant to attend the IBI Representative Forum One (1) hour every Tuesday (forth nightly).
- IBI Awareness training will be provided by Lethabo Power Station personnel, free of charge, course bookings can be arranged by contacting Rabie Heymans on extension 5094".

1.5 Transportation of passengers: open LDV's:

- No *Eskom employee* or *Contractor* would be allowed to transport passengers on the back of open light delivery vehicles (LDV's).
- It is a legal requirement to provide safe transportation of *Eskom* and *Contractor* employees – therefore the following will be enforced:

  i. All passengers must be transported in a closed vehicle with proper and adequate seating, fitted with safety belt for the number of passengers to be transported. NO passengers may be transported on the back of a light delivery vehicle (LDV) whether open or closed.
  ii. Tools and equipment must be properly secured.
  iii. Only authorised drivers may transport passengers.
  iv. Proof must be submitted on request in terms of valid roadworthiness of the vehicle/s.
  v. The above must apply to on site and off-site transportation of passengers.

1.6 Eskom Life Saving Rules:

Five Life-saving Rules have been developed that will apply to all Eskom employees, agents, consultants, and *Contractor*s.

- **Rule 1:** Open, Isolate, Test, Earth, Bond, and/or Insulate before touch - that is any plant operating above 1 000 V.
- **Rule 2:** Hook up at heights - no person may work at height where there is a risk of falling.
- **Rule 3:** Buckle up – no person may drive any vehicle on Eskom business and/or on Eskom premises: unless the driver and all passengers are wearing seat belts.
- **Rule 4:** Be sober (no person is allowed to work under the influence of drugs and alcohol.
- **Rule 5:** Use a permit to work – where an authorization limitation exists, no person shall work without the required permit to work.
- **Additional:** Texting and talking on the cell phone while driving or walking is prohibited.

1.7 Local Safety Procedures

- The *Contractor* adheres to all local procedures. A list of local procedures is available on request from the *Employer.*

1.8 Incidents / Accidents

- Incidents and accidents must be reported and investigated as detailed in LBA 00030. All incidents must also be reported to the *Employer* within 24 hours.
- First aid must be made available either by the *Contractor* or use can be made of the Lethabo medical centre at a fee. The availability of the *Contractor's* own first aid does not relieve the *Contractor* of his obligation to report and investigate the incident in accordance with Lethabo Procedure.

1.9 Fire Prevention

- Fire prevention and protection requirements to which *Contractor*s must comply are detailed in LBA 00030.

1.10 Protective Equipment and Clothing

- The *Contractor* supplies his own personal protective equipment necessary to carry out the *works* and the *Contractor* shall ensure that all overalls for his staff have clearly identifying **company LOGO's**
- The *Contractor* is also responsible to inspect and maintain such equipment as required in terms of the OHS Act and local procedures.

1.11 Inspection of Equipment

- The *Contractor's* equipment is inspected by an authorised Eskom employee on arrival at the site.
- The following documentation is required to accompany the equipment where applicable: copies of all test certificates and maintenance records.
- Lifting equipment and electrical equipment must be marked with a unique number, code, or colour code for identification. If the equipment is found to be in an unsatisfactory condition or if insufficient maintenance has been carried out on the equipment, then it will not be approved for use on Site. A list of all lifting equipment and electrical equipment must be submitted to the *Employer* at least 2 days prior to the occupation date. This list must indicate the unique number and description of the equipment.

1.12 Documentation

The *Contractor* is responsible to have the following documentation available on site in accordance with LBA 00030:

- A copy of the OHS Act.
- Copies of all site accident report forms as required by the OHS Act.
- Copies of minutes of health and safety meetings held on site.
- Copies of inspection reports produced by the accident prevention officer

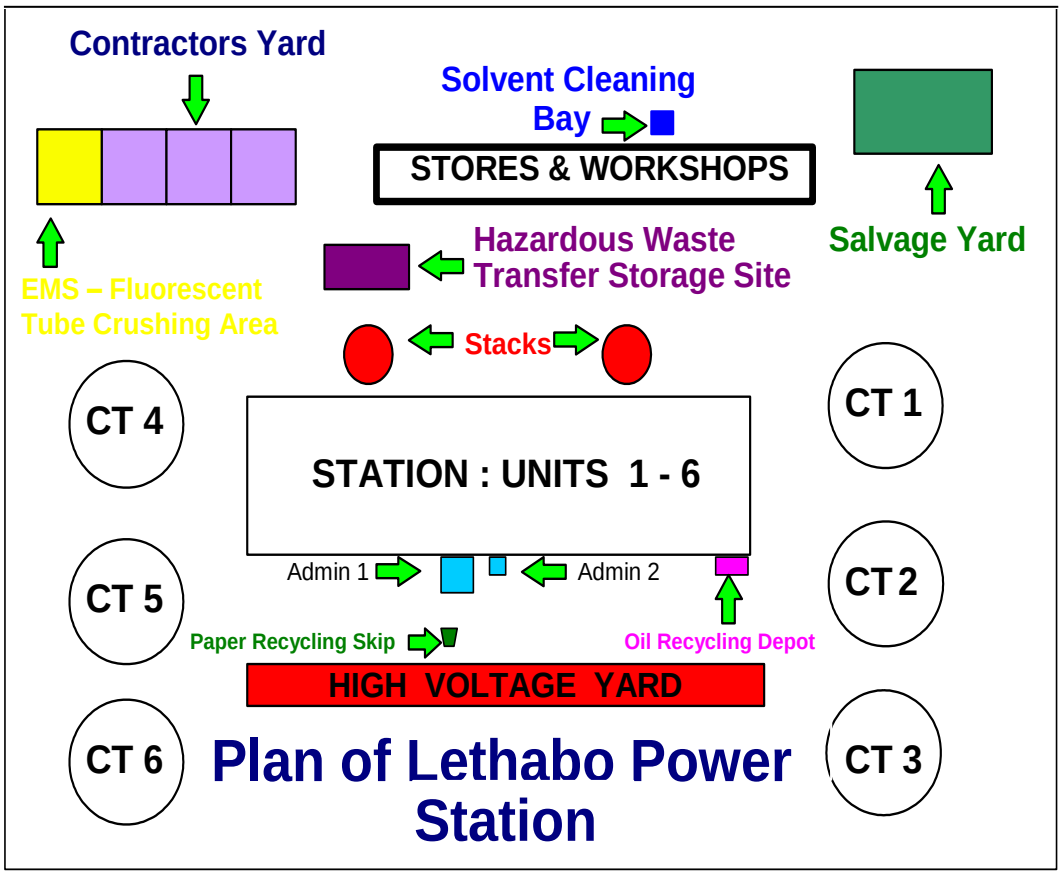
1.13 Environmental Policy and Waste Handling

Lethabo Environmental Statement of commitment must be adhered to.
The contractor shall submit to Eskom an EMP to be reviewed and approved by Eskom environmental officer, one week before the commencement of *works*.

1.14 Disposal of Waste

Waste shall be removed promptly to the designated disposal area. No stockpiling will be permitted.

- Domestic waste to the white waste bins
- Production waste in the marked bins i.e., coal and ash only
- Paper and cans to their respective recycling bins
- Contact Civil Engineering for the disposal of building rubble
- Scrap metal, Wood & Rubber, Redundant Valves, Pipes, and Equipment etc. to be placed in the marked bins in the new Salvage Yard. Solvents and cloths used to the Cleaning Bay.



1.15 Hazardous Waste Disposal and Handling

- Hazardous / toxic waste includes all waste which contains elements or compounds listed as hazardous substances in terms of the Hazardous Substances Act No. 15 of 1973.
- Any *Contractor* who produces hazardous waste on site will be responsible for the safe removal of such waste to a registered Class I site by a waste removal and disposal body.
- The *Contractor* is required to produce a certificate of safe disposal in accordance with LBA 00054.
- The *Contractor* must ensure that persons handling hazardous waste have undergone suitable training and are acquainted with cleaning methods in case of a spillage.
- The *Contractor* is also responsible for the safe removal of their hazardous waste to Lethabo's Hazardous Waste Store. Other requirements for hazardous waste are detailed in LBA 00030.
- In order to ensure effective hazardous waste management, a copy of the *Contractors'* hazardous waste inventory must be supplied to the *Employer* at least 2 days prior to the occupation date.

Abbreviated list of Hazardous Materials

Acids and alkalis	Hydrocarbons	Pesticides & insecticides
Antimony and its compounds	Inorganic cyanides	Pharmaceuticals
Arsenic compounds	Inorganic compounds containing halogens	Phosphorus and its compounds
Asbestos	Inorganic compounds containing sulphur	Selenium and its compounds
Barium compounds	Laboratory chemicals	Silver compounds

Beryllium compounds	Lead compounds	Tarry & petroleum products
Biocides & Phyto pharmaceutics	Medical wastes	Tellurium and its compounds
Boron compounds	Mercury compounds	Thallium and its compounds
Cadmium and its compounds	Nickel and its compounds	Vanadium compounds
Chromium compounds	Organic halogen compounds	Zinc compounds
Copper compounds	Paints and paint sludges	Waste with flash point < 60°C
Heterocyclic organic compounds	Peroxides, chlorates	

1.16 Plant & Materials

- The *Employer* may at his own discretion, supply any Plant and Materials as may be required by the *Contractor* to Provide the Works.
- The *Contractor* is to notify the *Employer* in writing, 48 hrs in advance, of such Plant and Materials required.

1.17 Access to and Departure from the Site:

- The Site is at Lethabo Power Station situated ± 18 km South of Vereeniging on the Viljoensdrift - Deneysville Road, Free State. Access to the site will be via the main security gate only. The *Employer* informs the *Contractor* of the access procedures, and it should be expected that such procedures may change depending on the prevailing security situation.
- The *Contractor* allows in his price and program for delays at the security gate.
The *Employer* reserves the right for its Security personnel to search persons or vehicles entering or leaving the premises. This includes but is not limited to briefcases and toolboxes.

1.18 Temporary Gate Permits

- The *Contractor* provides the *Employer* with the personal details of their staff at least two days prior to the occupation date. All names and details to be submitted to the *Employer* who arranges for all gate permits.

1.19 Equipment or Material Access and Removal

Access

- The *Contractor* ensures that all equipment and materials brought through the security gate is signed in at the main security gate on an OV18 form.

Removal

- The *Contractor* is not allowed to remove any equipment or materials from site without producing the relevant OV18 forms or the equipment lists.
- If the equipment or material is to be removed the same day, on which they were brought on to site, then the OV18 form will need to be produced at the gate when leaving the site.
- If the equipment or material is removed after this time then a Non-Returnable Gate Release will be provided by the *Project Manager*, on receipt of the original OV18, with which the *Contractor* brought the equipment on site.
- *Contractor* to provide his own scaffolding.

1.20 Site or Area Establishment and Evacuation

Application for Site Establishment:

- Sites are allocated according to availability, the period for which the *Contractor* is going to be on site, or if special circumstances warrant the allocation of a site. Documentation to support this application can be submitted.
- The location of the site or area is indicated during the site or area take-over inspection.

Site Establishment:

- The *Contractor* does not occupy any site or area other than that allocated to him.
- The *Contractor* does not occupy the site or area prior to the take-over inspection.
- The *Contractor* maintains the site or area provided to him to the satisfaction of the *Employer*.
- The *Employer* subjects the *Contractor's* site or area to periodic inspection.

Site Evacuation:

- The *Contractor* advises the *Employer* in writing, five (5) days in advance of evacuation in accordance with LBA 00030. Immediately prior to evacuation the necessary take-over inspection must take place.

1.21 Electrical Equipment / Appliances, Lighting and Power:

- Any electrical equipment or appliances used by the *Contractor* must comply with all relevant safety regulations and requirements as detailed in LBA 00030 and be maintained in safe and proper working condition.
- The *Employer* has the right to stop the *Contractor's* use of any electrical equipment or appliance, which in the *Employer's* opinion does not conform to the foregoing.
- The *Contractor* provides at his own expense any temporary local lighting and ensures that it is in accordance with the requirements of the Factories Inspector.
- The *Contractor* provides at his own expense, all temporary wiring and cabling to route power from the point of supply to the various points where it is required, maintain same and remove on completion.

1.22 Water

- The *Contractor* provides at his own cost, all connection fittings, pipework, temporary plumbing, and pumps necessary to lead the water from the point of supply to the various points where it is required, maintain same and remove on completion.
- Such fittings must be compatible with the *Employer's* fittings so that galvanic corrosion of pipework is prevented
- Water wastage due to un-maintained pipe work or fittings provided by the *Contractor* will be calculated and will be for the cost of the *Contractor.*

1.23 Compressed Air

- The *Contractor* provides at his own cost, all connection fittings and pipe-work necessary to lead the compressed air from the point of supply to the various points where it is required, maintain same and remove on completion. Such fittings must be compatible with the *Employer's* fittings so that galvanic corrosion of pipework is prevented
- Compressed air wastage due to un-maintained pipe work or fittings provided by the *Contractor* will be calculated and will be for the cost of the *Contractor.*

1.24 Ventilation

- The *Contractor* is responsible for adequate ventilation of the *works*.

1.25 Security

- The *Contractor* is responsible for all security on *site*, fencing off, night watch and access control to secure all plant, materials, and the w*orks* itself. All these measures must be in accordance with any relevant regulations and standards and subject to the *Employer's* approval.

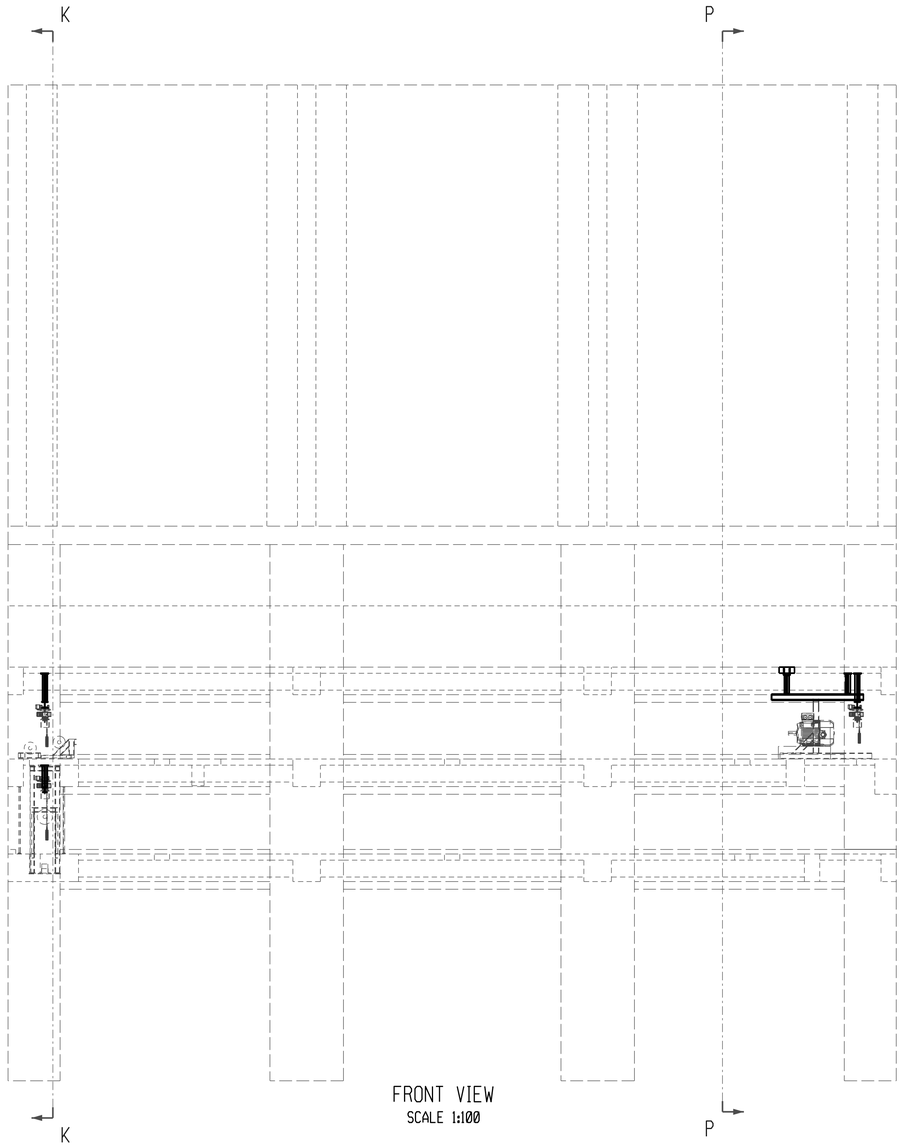
- It is also the *Contractors* responsibility to ensure the security of all completed portions of the w*orks* prior to Completion.

1.26 Offices, Workshops and Stores

- The *Contractor* shall provide, erect, and maintain for his own use, any additional office accommodation and stores he requires, together with drainage, lighting, heating, and hot and cold-water services as required.
- The *Contractor's* site establishment price includes all treatment of the site that he considers necessary for his entire operation throughout his period of occupation and under all weather conditions.
- The *Contractor* also includes for all security and access arrangements that he considers necessary.

1.27 Sanitary Facilities

- The *Contractor* shall provide service, maintain, and remove on completion any additional facilities required and allow for it in his *Price*.
- The *Contractor's* employees who work with asbestos are not allowed to use the *Employer's* ablution or messing facilities at the workplace during and after stripping of lagging materials, for fibres that may be attached to workers clothing, or to any other article.



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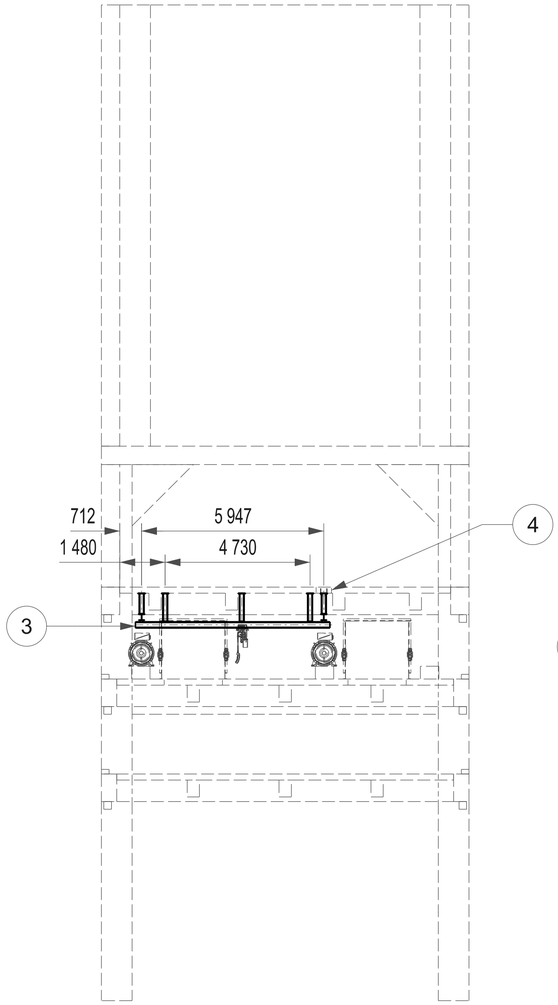

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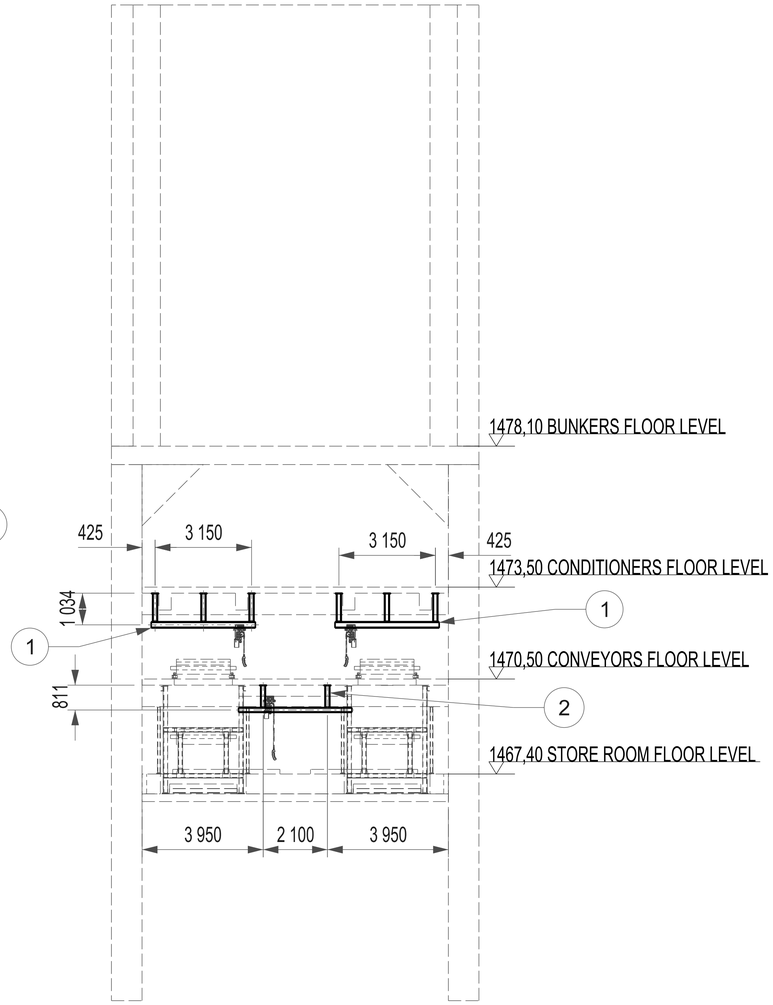

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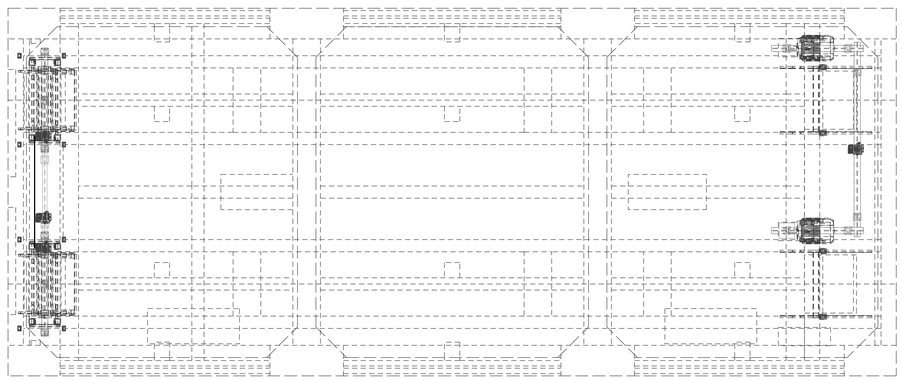

TOP VIEW
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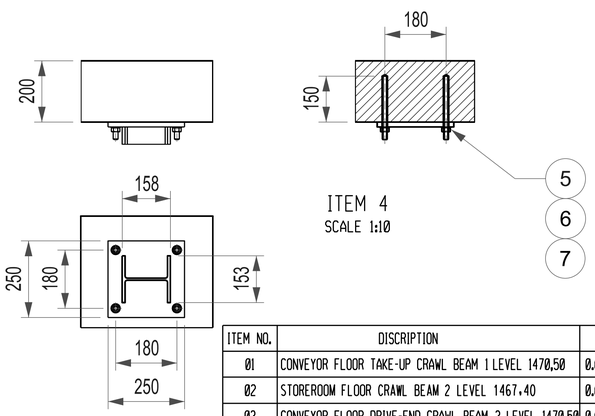

ITEM 4
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ITEM NO.	DISCRIPTION	DRAWING NUMBER	QTY
01	CONVEYOR FLOOR TAKE-UP CRAWL BEAM 1 LEVEL 1470,50	0.63/57848 SHT03 REV 01	2
02	STOREROOM FLOOR CRAWL BEAM 2 LEVEL 1467.40	0.63/57848 SHT02 REV 01	1
03	CONVEYOR FLOOR DRIVE-END CRAWL BEAM 3 LEVEL 1470,50	0.63/57848 SHT04 REV 01	1
04	ANCHOR DETAILS		15
05	CHEMICAL ANCHOR BOLT M16x200 GRADE 8.8 DIN 939		60
06	M16 WASHER DIN ISO 7091 GRADE 8		60
07	M16 NUT ISO 4032 GRADE 8		60

D.O.	REV	DATE	REVISION	REV BY	CHKD BY	APP BY	AUTH BY	KKS APP	REFERENCE DRAWINGS
	00	02/02/2023	FIRST ISSUE						0.63/13278 FAB NO.2 & 3 CONCRETE DETAILS & SECTIONS TO FLOORS AT LEVEL 1467,40 & 1470,50
									0.63/13252 FAB NO.2 & 3 CONCRETE DETAILS ROOF SLAB AT LEVEL 1492,30 & SECTIONS
									0.63/13291 FAB NO.2 & 3 CONCRETE DETAILS & SECTIONS TO FLOORS AT LEVEL 1473,50 & 1478,10
									0.63/14578 ASHCONVEYOR SYSTEM DETAILED ARRANGEMENTOF DRIVE END & TAKE-UP FOR CONVEYORS

AUTHORISED FOR ESKOM BY: JOHAN BRINK
CODIFICATION BY:
APPROVED BY:
CHECKED BY: SUVEN GOVENDER
CREATED BY: M. DLAMINI 13/06/2023
SCALE: NTS

CLASSIFICATION
PBS PATH: *

Eskom
ESKOM HOLDINGS SOC Ltd
REG No 2002/015527/30

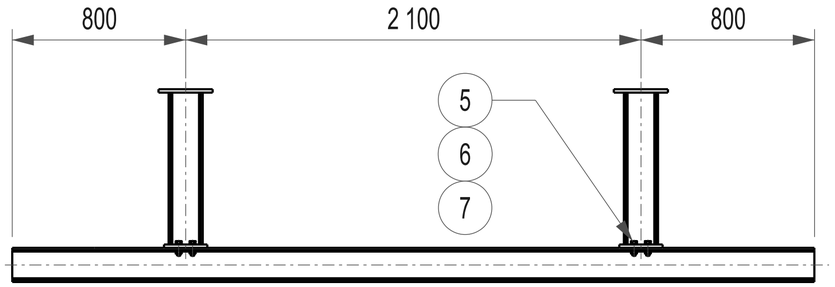
LETHABO POWER STATION

FLY ASH BUNKER 1,2 & 3
GENERAL LAYOUT OF CRAWL BEAMS AT LEVELS 1467,40 & 1470,50

ESKOM DRAWING NO: 0.63/57848
SHT: 01
REV: 01
SIZE: A1L

DRAWING CLASSIFICATION: CONTROLLED DISCLOSURE

ITEM NO.	DISCRIPTION	MATERIAL	STANDARD	QTY
01	H BEAM 152x152x30 LENGTH 3700mm	S355JR	SANS 50025	1
02	H BEAM 152x152x30 LENGTH 700mm	S355JR	SANS 50025	3
03	BASE PLATE 250x250x16PLT	S235JRG2	EN 10025	3
04	BASE PLATE 200x160x16PLT	S235JRG2	EN 10025	3
05	M16x55 HEXAGON BOLT	GRADE 8.8	ISO 4014	8
06	M16 HEXAGON NUT	GRADE 8	ISO 4032	8
07	M16 FLAT WASHER	GRADE 8	ISO 7091	8



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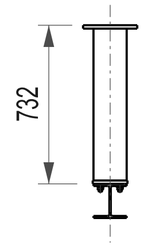

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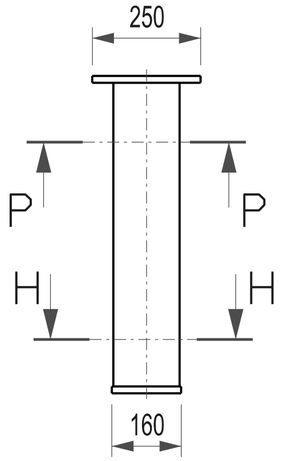

ITEM 2
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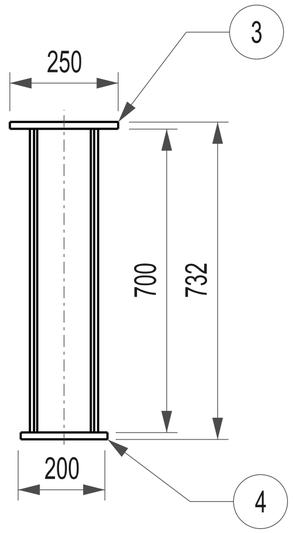

ITEM 2
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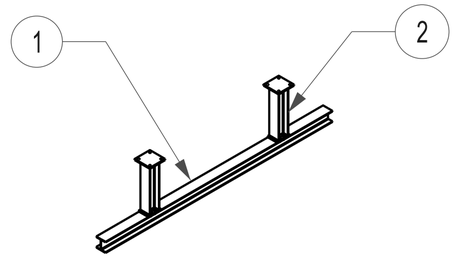

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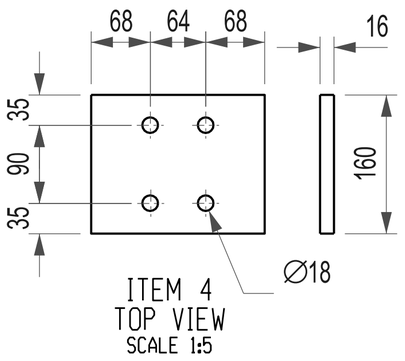

ITEM 4
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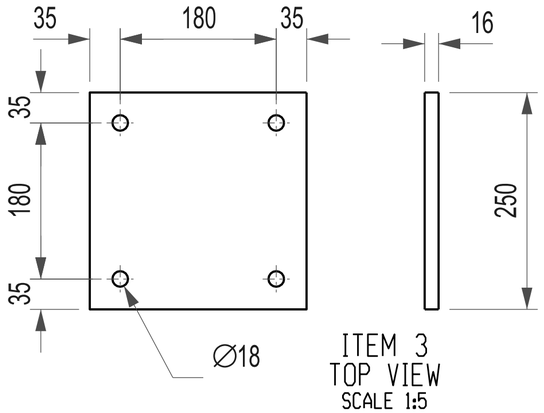
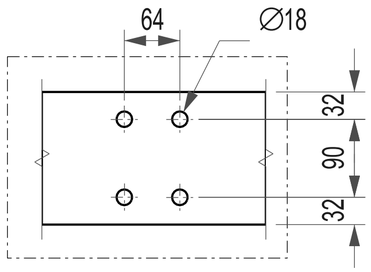


ITEM 3
TOP VIEW
SCALE 1:5



DETAIL E
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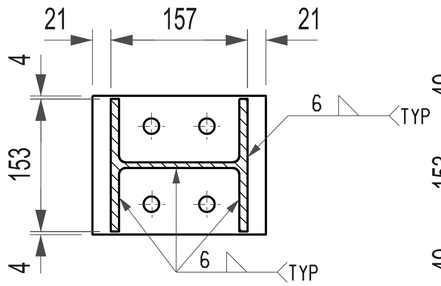
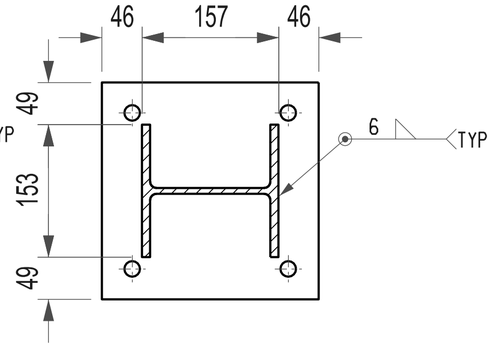
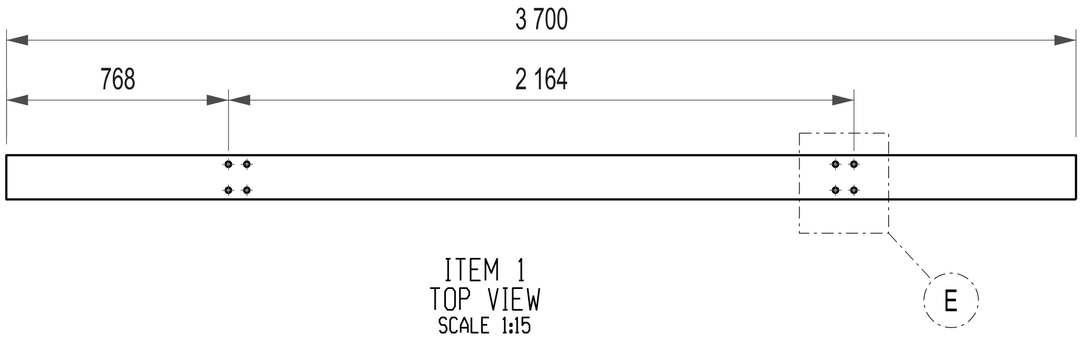


SECTION H-H
SCALE 1:5



SECTION P-P
SCALE 1:5



ITEM 1
TOP VIEW
SCALE 1:15

NOTES

1. ALL STRUCTURAL STEEL TO BE GRADE S355JR TO SANS:50025 (SERIES)
2. ALL WELDING TO BE IN ACCORDANCE WITH AWS D1.1
3. UNLESS OTHERWISE SHOWN, ALL WELDS TO BE 6mm FULL CONTINUOUS FILLET WELDS WITH E70XX ELECTRODE.
4. ALL BOLTS TO BE GRADE 8.8 U.O.N.
5. ALL BOLTS, NUTS, WASHERS, ETC. REQUIRED FOR ERECTION TO BE SUPPLIED BY THE CONTRACTOR. ALL NUTS TO SEAT ON WASHERS.
6. CORROSION PROTECTION IN ACCORDANCE WITH ESKOM SPECIFICATION.
7. ALL CRAWL BEAMS ARE TO BE LOAD TESTED IN ACCORDANCE TO SANS 1824
8. THE SAFE WORKING LOAD (SWL) IS TO BE CLEARLY INDICATED ON BOTH SIDES OF THE CRAWL BEAM.
9. ALL DIMENSIONS, LEVELS, ETC. TO BE VERIFIED ON SITE, BEFORE CONSTRUCTION COMMENCES.
10. REFER ANY DISCREPANCIES OR AMBIGUITIES TO ESKOM FOR CLARIFICATION BEFORE ANY WORK COMMENCES OR IS CONTINUED WITH.
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D.O.	REV	DATE	REVISION	REV BY	CHKD BY	APP BY	AUTH BY	KKS APP	REFERENCE DRAWINGS
D.O.	00	02/02/2023	FIRST ISSUE						

AUTHORISED FOR ESKOM BY:	JOHAN BRINK
CODIFICATION BY:	
APPROVED BY:	NDUMISO NGUBANE Pr. Eng. No: 20210197 1
CHECKED BY:	SUVEN GOVENDER
CREATED BY:	M. DLAMINI
SCALE	NTS
CLASSIFICATION	
PBS PATH	

Eskom
ESKOM HOLDINGS SOC Ltd
REG No 2002/015527/30

LETHABO POWER STATION

FLY ASH BUNKER 1,2 & 3

GENERAL LAYOUT OF CRAWL BEAM 2

LEVEL 1467,40

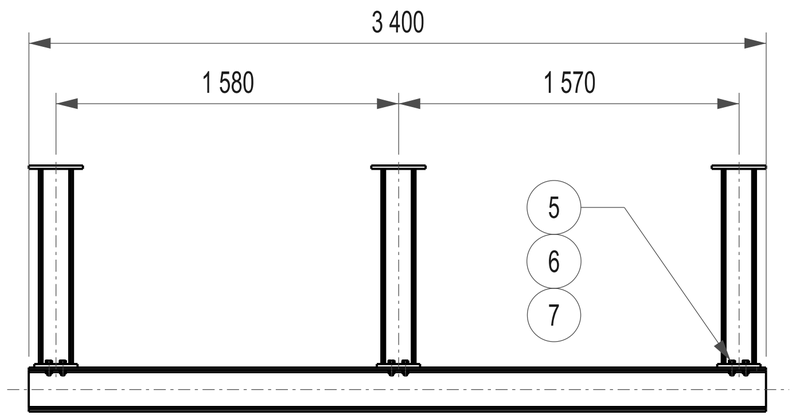
STOREROOM FLOOR

ESKOM DRAWING NO	SHT	REV
0.63/57848	02	01

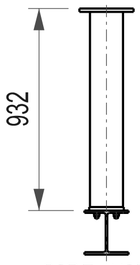
DRAWING CLASSIFICATION: CONTROLLED DISCLOSURE

SIZE A2L

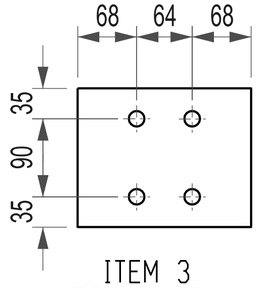
ITEM NO.	DISCRIPTION	MATERIAL	STANDARD	QTY
01	H BEAM 203x203x46 LENGTH 3400mm	S355JR	SANS 50025	1
02	H BEAM 152x152x30 LENGTH 900mm	S355JR	SANS 50025	3
03	BASE PLATE 250x250x16PLT	S235JRG2	EN 10025	3
04	BASE PLATE 200x160x16PLT	S235JRG2	EN 10025	3
05	M16x55 HEXAGON BOLT	GRADE 8.8	ISO 4014	12
06	M16 HEXAGON NUT	GRADE 8	ISO 4032	12
07	M16 FLAT WASHER	GRADE 8	ISO 7091	12



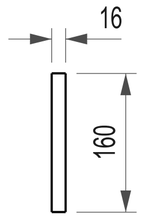
FRONT VIEW
SCALE 1:20

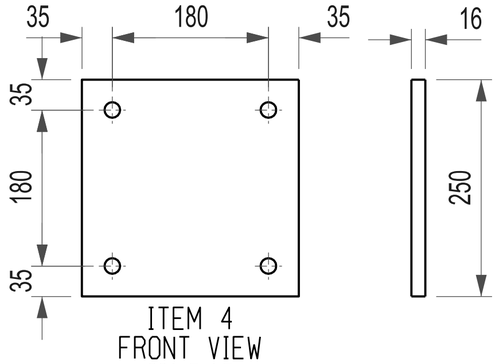


SIDE VIEW
SCALE 1:20

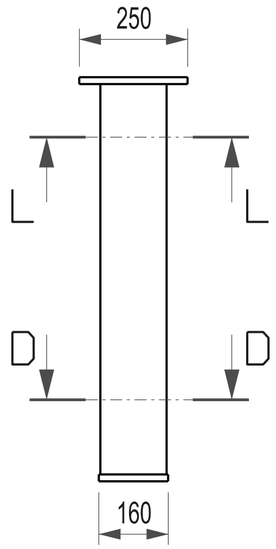


ITEM 3
FRONT VIEW
SCALE 1:5

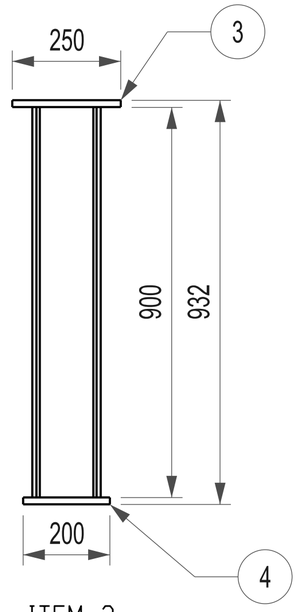




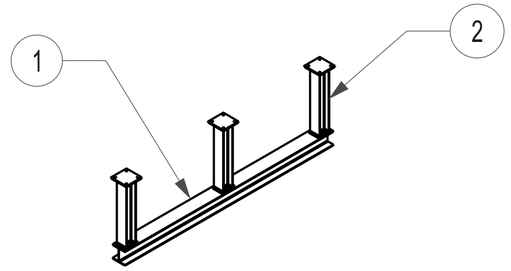
ITEM 4
FRONT VIEW
SCALE 1:5



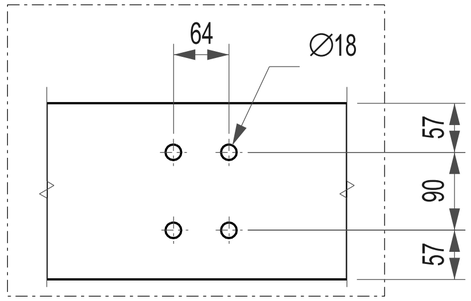
ITEM 2
FRONT VIEW
SCALE 1:10



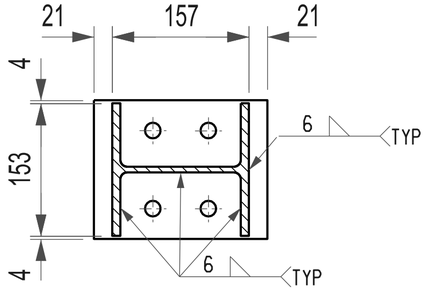
ITEM 2
SIDE VIEW
SCALE 1:10



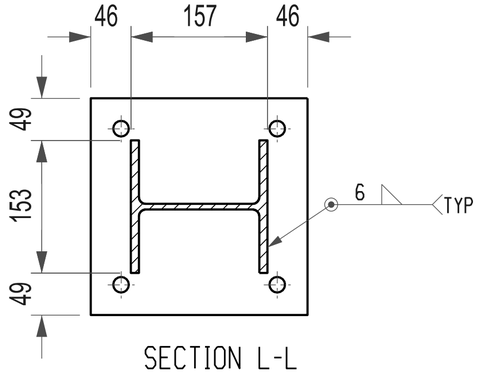
ISOMETRIC VIEW
SCALE 1:50



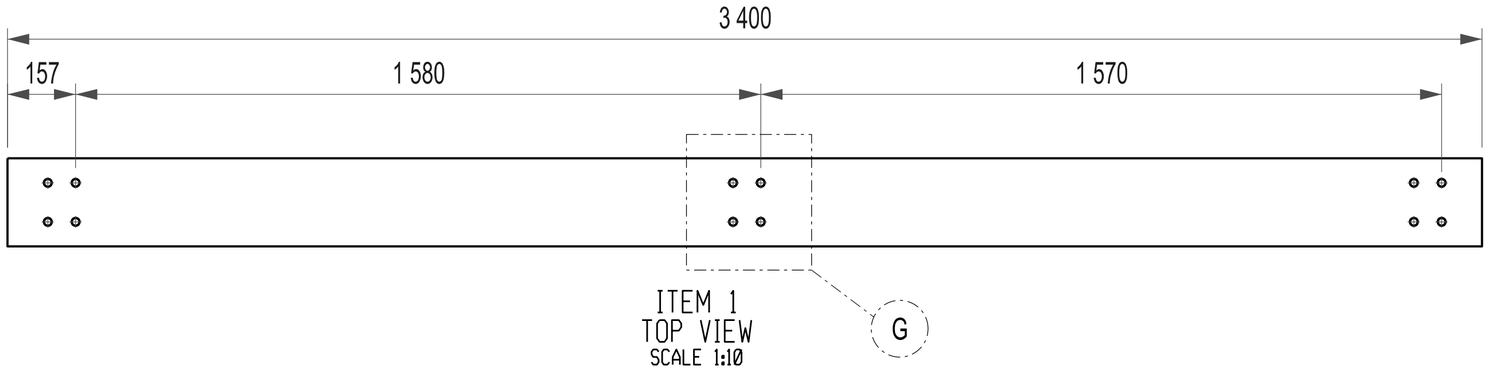
DETAIL G
SCALE 1:5



SECTION D-D
SCALE 1:5



SECTION L-L
SCALE 1:5



ITEM 1
TOP VIEW
SCALE 1:10

NOTES

1. ALL STRUCTURAL STEEL TO BE GRADE S355JR TO SANS:50025 (SERIES)
2. ALL WELDING TO BE IN ACCORDANCE WITH AWS D1.1
3. UNLESS OTHERWISE SHOWN, ALL WELDS TO BE 6mm FULL CONTINUOUS FILLET WELDS WITH E70XX ELECTRODE.
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D.O.	REV	DATE	REVISION	REV BY	CHKD BY	APP BY	AUTH BY	KKS APP	REFERENCE DRAWINGS
D.O.	00	02/02/2023	FIRST ISSUE						

AUTHORISED FOR ESKOM BY: JOHAN BRINK
CODIFICATION BY:
APPROVED BY: NDUMISO NGUBANE Pr. Eng. No: 202101971
CHECKED BY: SUVEN GOVENDER
CREATED BY: M. DLAMINI
SCALE: NTS

CLASSIFICATION
PBS PATH

Eskom
ESKOM HOLDINGS SOC Ltd
REG No 2002/015527/30

LETHABO POWER STATION

FLY ASH BUNKER 1,2 & 3

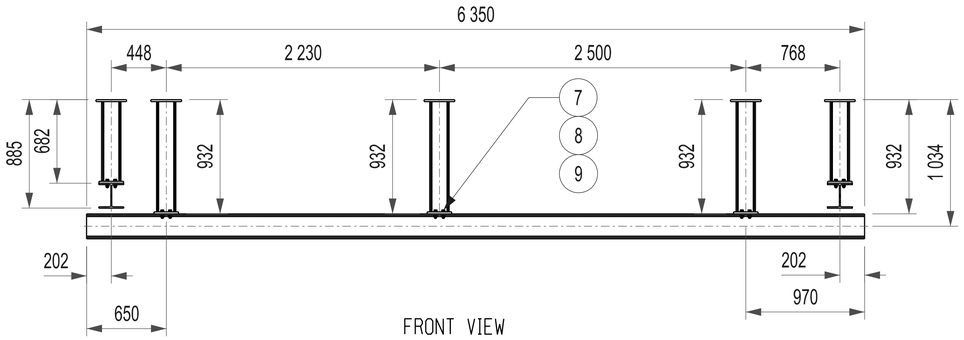
GENERAL LAYOUT OF TAKE-UP CRAWL BEAM 1

LEVEL 1470,50

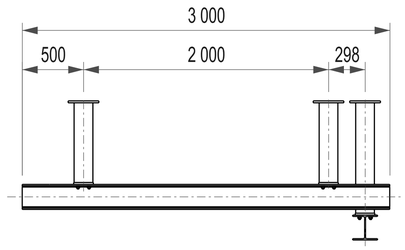
CONVEYOR FLOOR

ESKOM DRAWING NO: 0.63/57848
SHT: 03
REV: 01

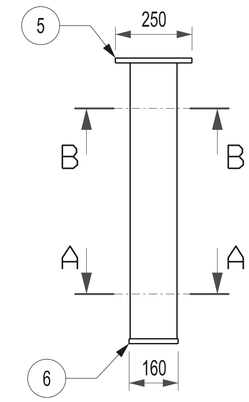
DRAWING CLASSIFICATION: CONTROLLED DISCLOSURE
SIZE A2L



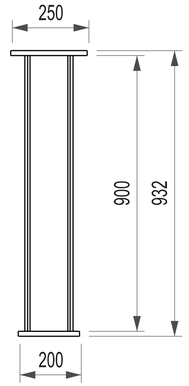
FRONT VIEW
SCALE 1:25



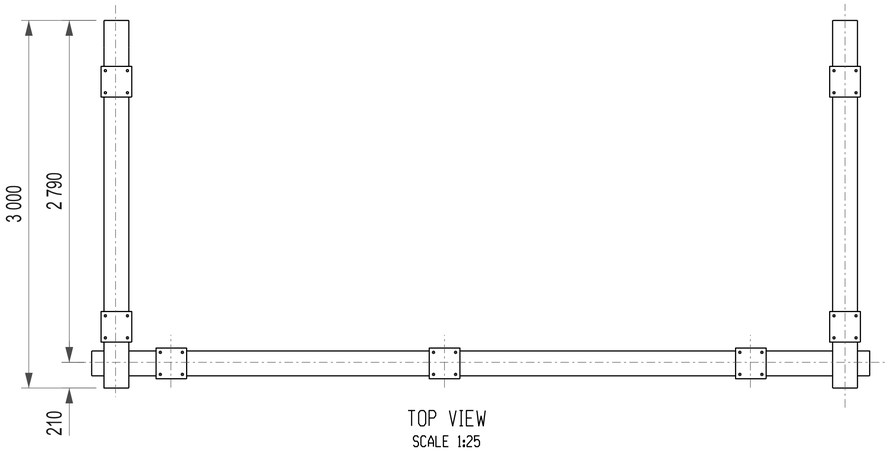
SIDE VIEW
SCALE 1:25



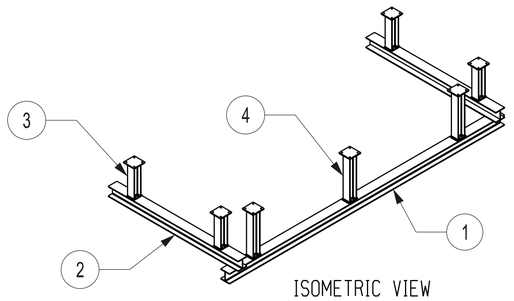
ITEM 4
FRONT VIEW
SCALE 1:10



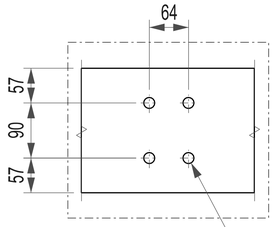
ITEM 4
SIDE VIEW
SCALE 1:10



TOP VIEW
SCALE 1:25

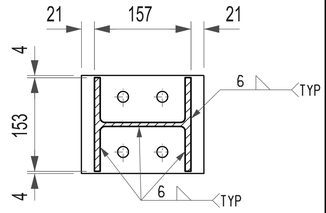


ISOMETRIC VIEW
SCALE 1:50Ø

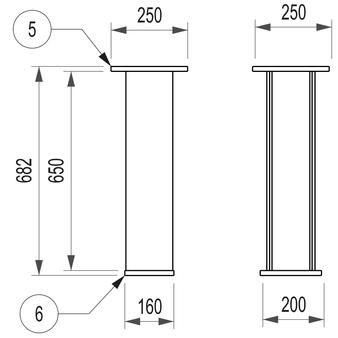


DETAIL K
SCALE 1:5

Ø18

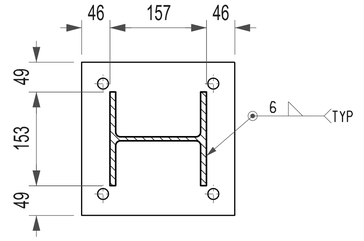


SECTION A-A
SCALE 1:5

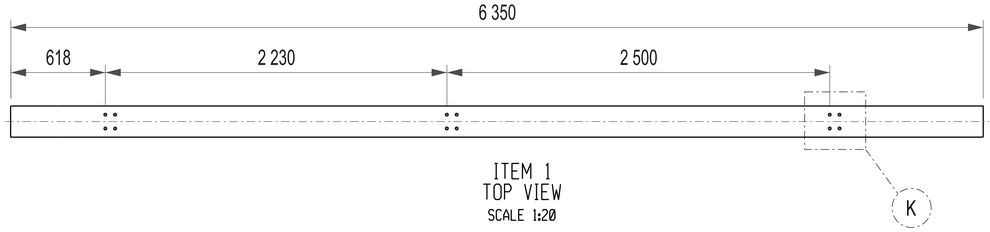


ITEM 3
FRONT VIEW
SCALE 1:10

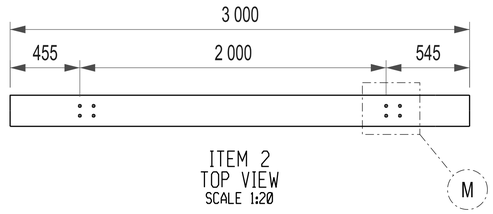
ITEM 3
SIDE VIEW
SCALE 1:10



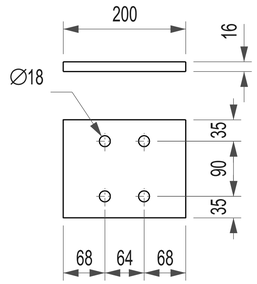
SECTION B-B
SCALE 1:5



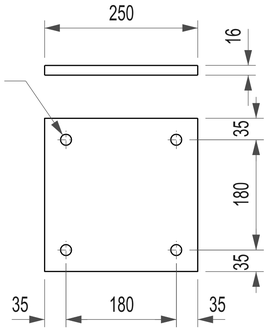
ITEM 1
TOP VIEW
SCALE 1:20



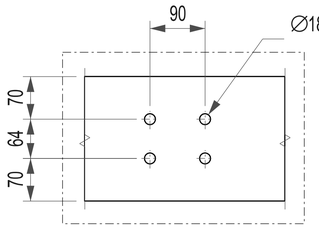
ITEM 2
TOP VIEW
SCALE 1:20



ITEM 6
SCALE 1:5



ITEM 5
SCALE 1:5



DETAIL M
SCALE 1:5

NOTES

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ITEM NO.	DISCRIPTION	MATERIAL/DRAWING NUMBER	STANDARD	QTY
01	H BEAM 203x203x46 LENGTH 6350mm	S355JR	SANS 50025	01
02	H BEAM 203x203x46 LENGTH 3000mm	S355JR	SANS 50025	02
03	H BEAM 152x152x30 LENGTH 650mm	S355JR	SANS 50025	04
04	H BEAM 152x152x30 LENGTH 900mm	S355JR	SANS 50025	03
05	BASE PLATE 250x250x16PLT	S235JRG2	EN 10025	07
06	BASE PLATE 200x160x16PLT	S235JRG2	EN 10025	07
07	M16x55 HEXAGON BOLT	GRADE 8.8	ISO 4014	28
08	M16 HEXAGON NUT	GRADE 8	ISO 4032	28
09	M16 FLAT WASHER	GRADE 8	ISO 7091	28

D.O.	REV	DATE	REVISION	REV BY	CHKD BY	APP BY	AUTH BY	KKS APP	REFERENCE DRAWINGS
	00	02/02/2023	FIRST ISSUE						0.19/7256 CONVEYOR PROFILE NO.29

AUTHORISED FOR ESKOM BY: JOHAN BRINK
CODIFICATION BY: -
APPROVED BY: NDUMISO NGUBANE Pr. Eng. Nos: 202101971
CHECKED BY: SUVEN GOVENDER
CREATED BY: M. DLAMINI 13/02/2023
SCALE: NTS
CLASSIFICATION
PBS PATH

Eskom
ESKOM HOLDINGS SOC Ltd
REG No 2002/015527/30

LETHABO POWER STATION

FLY ASH BUNKER 1,2 & 3
GENERAL LAYOUT OF DRIVE END CRAWL BEAM 4
LEVEL 1470,50
CONVEYOR FLOOR

ESKOM DRAWING NO. 0.63/57848 | SHT 04 | REV 01

SIZE A1L

DRAWING CLASSIFICATION: CONTROLLED DISCLOSURE