NEC3 Engineering & Construction Contract

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

and **.....**
.....

for **The Provision of Construction and upgrade of MV & LV overhead and underground Lines in Cape Coastal Cluster as when required (Eastern Cape)**

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CONTRACT No.

Part C1: Agreements & Contract Data

Contents: **No of pages**

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:

THE PROVISION OF CONSTRUCTION AND UPGRADE OF MV & LV OVERHEAD AND UNDERGROUND LINES IN CAPE COASTAL CLUSTER (CCC
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.

The offered total of the Prices exclusive of VAT is	**RATES BASED AS PER BOQ**
Value Added Tax @ 15% is	**RATES BASED AS PER BOQ**
The offered total of the amount due inclusive of VAT is[1]	**RATES BASED AS PER BOQ**
(Excluding VAT).	

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: .....

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	Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Framework Information
Part C4	*Selection* and *Quotation* Procedure

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 .....

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	.....	.....
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	
		B: **Priced contract with bill of quantities**
	dispute resolution Option	**W1:** **Dispute resolution procedure**
	and secondary Options	
		X1: **Price adjustment for inflation**
		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)	**The Deligated (DCF) Project Manager for a particular project.**
	Address	
	Tel	
	Fax	
	e-mail	
10.1	The *Supervisor* is: (Name)	**The supervisor will be the Clerk of Works appointed for a particular project.**
	Address	

Tel No.

Fax No.

e-mail

11.2(3)	The Work Package are	**Various categories of Work Packages on THE PROVISION OF CONSTRUCTION AND UPGRADE OF MV & LV OVERHEAD AND UNDERGROUND LINES IN CAPE COASTAL CLUSTER (CCC)**
11.2(15)	The *boundaries of the site* are	**All projects to be executed in terms of this contract will be executed at various sites within the Cape Coastal Cluster - Eastern Cape.**
11.2(16)	The Site Information is in	**Part 4: Site Information of this contract.**
11.2(2)	The Framework Information is in	**Part 3: Work Package and all documents and drawings to which it makes reference, in terms of this contract.**
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	**One (1)week**
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	**TBA**
11.2(9)	The *key date*s and the *condition*s to be met are:	***Condition* to be met** / ***key date***
		1 **TBA** **[•]**
30.1	The *access dates* are:	**Part of the Site** / **Date**
		1 **TBA** **[•]**
31.1	The *Contractor* is to submit a first programme for acceptance within	**2 (two) weeks of the Contract Date.**
31.2	The *starting date* is	**TBA**
32.2	The *Contractor* submits revised programmes at intervals no longer than	**2 (two) 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* per project or section thereof if sectional**

		completion is applicable.
43.2	The *defect correction period* is	**1 (one) weeks upon notification of defect**
5	**Payment**	
50.1	The *assessment interval* is	**Period agreed upon by *Project Manager* and *Contractor* from the *Starting Date*.**
51.1	The *currency of this contract* is the	**South African Rand.**
51.2	The period within which payments are made is	**Either 14 (fourteen) days or 30 (thirty) days depending on the *Contractor's* BBBEE status at the date of payment.**
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:	**At the established Site Camp/ Office Area**
	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: are recorded within a calendar month**
	The *weather measurements* are supplied by	**The contractor using actual weather readings from the established site**

	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	**The nearest weather station of the South African Weather Service to the site**
	and which are available from:	**the South African Weather Bureau and included in Annexure A to this Contract Data provided by the *Employer***
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	**See clause Z 13.2**
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**	
B	**Priced contract with bill of quantities**	
60.6	The *method of measurement* is	**as stated in Part C2.1, Pricing Assumptions.**
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	**TO BE APPOINTED WHEN DISPUTE ARISE**
	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	**EAST LONDON, EASTERN CAPE, 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

X1 Price adjustment for inflation

X1.1(a) The *base date* for indices is **1 month prior to Tender Closing Date**

X1.1(c) The proportions used to calculate the Price Adjustment Factor are:

proportion	**linked to index for**	**Index prepared by**
0. 65 (65%)	**Labour (Table C-3a for labour rates)**	**SIEFSA**
0. 20 (20%)	**Transport (Table L-2 for road freight costs)**	**SIEFSA**
0.15 (15%)	**non-adjustable**	
Total **1.00**		

The prices will be fixed and firm rates for the first 12 months of the contract. At the anniversary date of the contract the prices will be adjusted by Contracts Management team for inflation using CPA. The relevant publications to be used are published by the SIEFSA.

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	**TBA**	**[•]**

X5 & X7 Sectional Completion and delay damages used together

X7.1 X5.1 Delay damages for late Completion of the *sections* of the *works* are:

section	**Description**	**Amount per day**
1	**TBA**	**R[•]**

	Remainder of the *works*		**R[●]**
	The total delay damages payable by the *Contractor* does not exceed:	**R [●]**	
X7	**Delay damages (but not if Option X5 is also used)**		
X7.1	Delay damages for Completion of the whole of the *works* are	**0.1% of Contract Value per day. Up to a limit not exceeding 10% of Contract Value**	
X16	**Retention (not used with Option F)**		
X16.1	The *retention free amount* is	**N/A**	
	The *retention percentage* is	**10%**	
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) Seven 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 *work*s, 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 *work*s, 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 applicat 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.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

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)[1] 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	**5%** **5%**
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:	**CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .**

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

11.2(3)	The *completion date* for the whole of the *works* is	**TBA**
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	
B	**Priced contract with bill of quantities**	
11.2(21) 11.2(31)	The *bill of quantities* is in The tendered total of the Prices is	**C2.1 The Bill of Quantities** **RATES BASED AS PER BOQ**
	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).*
B	**Priced contract with bill of quantities**	**Data for the Shorter Schedule of Cost Components**
41 in SSCC	The percentage for people overheads is:	**5% (Only applicable for compensation events)**
21 in SSCC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	 **Minus %**
22 in SSCC	The rates of other Equipment are:	**Equipment** | **Size or capacity** | **Rate**
61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are **Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates.** **Please insert another schedule if foreign resources may also be used**	**Category of employee** | **Hourly rate**
62 in SSCC	The percentage for design overheads is	**%**

63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:	

PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing assumptions:	**[03]**
C2.2	The *bill of quantities*	**[25]**

C2.1 Pricing assumptions

1. How work is priced and assessed for payment

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

Identified and defined terms 11

11.2 (21) The Bill of Quantities is the *bill of quantities* as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

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

- the quantity of the work which the *Contractor* has completed for each item in the Bill of Quantities multiplied by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the *Contractor* has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities 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 Bill, 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 Bill of Quantities. The Bill of Quantities is only a pricing document.

3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

There is no general provision in Option B for payment for materials on Site before incorporation into the *works*. If secondary Option X14 Advanced payment has not been used then the tendering contractor may obtain the same effect by inserting appropriate items in the method related charges where the *method of measurement* allows, or alternatively making allowance in the rates of the *bill of quantities* for the financing of Plant and Materials until they are incorporated in the *works.*

When compensation events arise, the default position is that the Bill of Quantities is not used to calculate the cost effect of the event. Defined Cost and the resulting Fee is used and Defined Cost includes all components of cost which the *Contractor* is likely to incur, including so called P & G items. Rates and lump sums from the Bill of Quantities, or from any other source, may be used instead of Defined Cost and the Fee only if the *Contractor* and *Project Manager* agree. If they are unable to agree, then Defined Cost

plus Fee is used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.
The P & G section of the bill is not used for the assessment of compensation events.

4. Measurement and payment

4.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m^2	square metre
m^2-pass	square metre pass
m^3	cubic metre
m^3-km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre
MPa	megapascal
No.	number
sum	Lump sum
t	tonne (1000kg)

4.2. General assumptions

4.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.

4.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.

4.2.3. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*.

4.2.4. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified

for payment by the *Project Manager* at each assessment date will be used for determining payments due.

4.2.5. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.

4.2.6. A **5 %** handling fee is applicable to all material purchased by the contractor

4.2.7. The contractor's offer for supply rates shall be approved by the relevant Quantity Surveyor. These will be fixed for the duration of the *Contract*.

4.3. Departures from the *method of measurement*

4.3.1.

4.4. Amplification of or assumptions about measurement items

The following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.

4.4.1.

C2.2 Price List

TRADE SECTIONS
Current Date: 11-August-25

SECTION	DESCRIPTION	SUPPLY TOTAL	LABOUR TOTAL	GRAND TOTAL
A	PRELIMINARY AND GENERAL ITEMS			
B	BUSH CLEARING & TREE FELLING			
C	EXCAVATIONS			
D	PLANTING OF POLES			
E	Single Phase MV Structure BONDING INCL (BIL DOWNWIRE,SPARK GAP DEVICE INCLUDED OR EXCLUDED AS PER DESIGN)			
F	ASSEMBLE MV STAYS			
G	ASSEMBLE SINGLE PHASE LV STRUCTURES			
H	ASSEMBLE LV STAYS			
I	POLE TOP BOX INSTALLATION			
J	CONDUCTOR STRINGING (TENSION, REGULATE & BIND IN)			
K	EQUIPMENT INSTALLATION			
L	EARTHING INSTALLATION			
M	SERVICE CONNECTION INSTALLATION			
N	SERVICE CONDUCTOR INSTALLATION			
O	UNDERGROUND CABLE INSTALLATION			
P	MV/LV CABLE TERMINATION			
Q	CABLE JOINT			
R	EQUIPMENT DISMANTLING			
S	LABELLING			
T	EQUIPMENT TESTING			
U	AS - BUILTS			
V	MISCELLANEOUS			
W	TRANSPORT			
X	LABOUR ONLY			
Y	INFILLS			
Z	ADHOC MATERIAL			
TOTAL EXCLUDING 15% VAT				
15% VAT				
TOTAL ENCLUDING 15% VAT				
NUMBER OF CONNECTIONS				
COST PER CONNECTION				

Bill No:1		PRELIMINARY AND GENERAL ITEMS				RATE 2024
No		DESCRIPTION	UNIT	QUANTITY	RATE	TOTAL
A	FIXED CHARGE ITEMS					
A.1	Site Establishment:	The Contractor shall establish the site camp and maintain throughout the construction period and allow for removal of such upon completion of Works. **The Eskom Representative reserves the right to negotiate the rates for rental arrangements based on the project scope and magnitude.**				
A.1.1.		Office and Meeting Room complete as per P&G's Guideline	Sum		3	R -
A.1.2.		Stores	Sum			R -
A.1.3.		Sanitation	Sum			R -
A.1.4.		Electricity	Sum			R -
A.1.5.		Supply and Install Diamond mesh fencing at 1.8 meters high	m			R -
A.1.6.		Supply and Install Diamond mesh Lockable Gate 1.8m high x 3.6m wide	each			R -
A.1.7.		Project Preparation	Sum			R -
A.2.	Sign Board Labour					
A.2.1		Contractor shall erect on site, maintain throughout the construction duration(Safety)	each			R -
		Project sign board	each			R -
A.3.	Health and Safety measures (In terms of 34-333)	Safety & Health, Environmental				
A.3.1	3.1.1	Compliance with OH&S Act & Construction Regulations. (for projects where task order value exceed R100,000-00)	Sum			R -
	3.1.2	H&S compliance for projects where task orders are below R100k. Excl P&G's	Sum			R -
	3.1.3	Maintenance of H&S file (only applicable for projects exceeding 2 months in duration)	Monthly			R -
A.4.	Materials Management					
A4.1		The Contractor shall make allowance to receive at Eskom stores, offload and stack the free-issue materials supplied to the contractor.	Sum			R -
A.5.	Contractual requirements	Comply ,maintain all insurance and statutory contributions, etc.				
A.5.1		Allowance to Comply ,maintain all insurance and statutory contributions, etc. **(Actual cost will be paid at the end of the project and proof of policy must be provided and must be compliant to contractual requirements)**	Sum			
			Sub-Total A			R -
B.	TIME RELATED ITEMS					
B.1	Site Establishment					
B.1.2.		Site office 6m x 3m with aircon	Weeks		5	R -
B.1.3.		Site Storage 6m x 3m	Weeks			R -
B.1.4.		Water	Weeks			R -
B.1.5.		Sanitation (service)	Weeks			R -
B.1.6.		Electricity (Eskom/Munic supply)	Weeks			R -
B.1.7.		Electricity (Generator 6.5kVA)	Weeks			R -
B.2	Accommodation	Accommodation Allowance is for the Contractors Staff excluding the casual labourers which are assumed to be residing in the area where the works are executed.				
B.2.1.		Staff Accommodation Allowance	Weeks			R -
B.3	Security					
B.3.1.		Security on site - 24 Hour Unarmed Security (Must be registered with the appropriate body)	Weeks			Cost + plus 7 % fee
B.4.	Labour	The Contractor need to submit Weekly Time Sheets for all hourly compensation claims and a Daily attendance register				
B.4.1.		*Supervisor per team*	hourly			R -
B.4.2.		*Construction Manager (SACPMP Registered)*	hourly			R -
B.4.3.		*Storeman* *(Storeman is required to reconcile and quantify All material on site including Eskom supplied material using the correct material return to stores forms. The Storeman shall adhere to the implementation and maintenance plan for Materials Management System for the duration of the contract).*	hourly			R -
B.4.4.		Community Liaison Officer	Daily (Max)			R -
B.4.5.		Safety Officer *(SACPMP Registered)*	hourly			R -
			Sub-Total B			**R -**
			Total P & G's Carried To Summary			**R -**

BILL OF ACTIVITIES										
ITEM	**REFERENCE DRAWING**	**DESCRIPTION**	**UNIT**	**SUPPLY QTY**	**SUPPLY RATE**	**SUPPLY TOTAL**	**LABOUR QTY**	**LABOUR RATE**	**LABOUR TOTAL**	**GRAND TOTAL**
A		**PRELIMINARY AND GENERAL ITEMS**							**R -**	**R -**
		SUB-TOTAL A								
B		**BUSH CLEARING & TREE FELLING**								
In the event where the contractor is required to cut, remove and clear trees on site. This activity shall be used to execute such work provided that the quotation submited is from a contractor who meets all the necessary requirements for Bush Clearing plus fee.										
1		Bush Clearing and Tree Felling (Scattered Formation)	Sum					Cost plus 5%		
2		Bush Clearing and Tree Felling (Dense Formation)	Sum					Cost plus 5%		
		SUB-TOTAL B				**R -**			**R -**	**R -**
C		**EXCAVATIONS**								
Excavate only as per Eskom Standard for Holes and Trenches for Poles, Stays and Struts. All material will be elsewhere measured.										
1		Excavations of holes where method is not specified below (cost to include all associated costs i.e. labour, fuel, equipment - rock drilling, TLB, compressor etc) - Contractor to submit a quotation to the Project Manager prior to commencement of this item. Once the quotation is accepted, then the contractor can commence. Proof of invoice for all hiring equipment etc are to be submitted as supporting documentation. The 5% handling fee will only be applied to costs associated with 3rd party payments i.e. hiring of equipment, feul etc. 5% will not be added to the labour component)						cost plus 5%		
2		**STAYS & STRUTS**								
2.1	D-DT-0350	LV Stay Back-Actor or Hand pickable	Each					5	R -	R -
2.2	D-DT-0350	LV Stay auger (bobcat or similar auger)	Each					2	R -	R -
2.3	D-DT-0350	LV Stay Back-Actor or TLB	Each						R -	R -
		LV Stay (Rock drill)	Each						R -	
2.4	D-DT-0350	LV Strut Back-Actor or Hand pickable excavation 9m strut	Each						R -	R -
2.5	D-DT-0350	LV/MV Strut Back-Actor or Hand Excavations 11m strut	Each						R -	R -
2.6	D-DT-0350	LV Strut Back-Actor or TLB	Each						R -	R -
2.7	D-DT-0337	MV/LV Strut Back-Actor or Hand Excavations 12m strut	Each						R -	R -
2.8	D-DT-0337	MV/LV Strut Back-Actor or Hand Excavations 15 & 15m strut	Each						R -	R -
		MV/LV Strut (Rock drill)	Each						R -	R -
2.9	D-DT-0350	LV Short Strut Back-Actor or Hand Excavations	Each						R -	R -
2.10	D-DT-0350	LV Short Strut Bobcat or similar Auger (Two Auger Holes)	Each						R -	R -
		LV Short Strut Rock drill	Each						R -	R -
2.11	D-DT-0350	MV Stay Back-Actor or TLB	Each						R -	R -
2.12	D-DT-0350	MV Stay Back-Actor or Hand Excavations	Each						R -	R -
2.13	D-DT-0350	MV Stay Bobcat or similarly Auger	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
		MV Stay (Rock drill)	Each						R -	
2.14	D-DT-0350	MV/LV Strut Bobcat or similar Auger 9m strut (Two Auger Holes)	Each						R -	R -
2.15	D-DT-0350	MV/LV Strut Bobcat or similar Auger 11m strut (Two Auger Holes)	Each						R -	R -
2.16	D-DT-0350	MV/LV Strut Bobcat or similar Auger 12m strut (Two Auger Holes)	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL	
2.17	D-DT-0350	MV/LV Strut Bobcat or similar Auger 14m strut (Two Auger Holes)	Each						R -	R	-
2.18	D-DT-0350	MV/LV Strut Bobcat or similar Auger 15m strut (Two Auger Holes)	Each						R -	R	-
3		**WOOD POLES**									
2.1	D-DT-0338	2.5m Pole Wood Back-Actor or Hand (0.5m Deep)	Each						R -	R	-
2.2	D-DT-0338	2.5m Pole Wood Bobcat or similar Auger (0.5m Deep)	Each						R -	R	-
2.3	D-DT-0330	5m Pole Wood Back-Actor or Hand (1.0m Deep)	Each						R -	R	-
2.2	D-DT-0330	5m Pole Wood Bobcat or similar Auger (1.0m Deep)	Each						R -	R	-
2.4	D-DT-0330	5m Pole Wood Hard Rock Drilling (1.0m Deep)	Each						R -	R	-
2.5	D-DT-0330	5m Pole Wood Back-Actor or Hand (1.5m Deep)	Each						R -	R	-
2.6	D-DT-0330	5m Pole Wood auger (1.5m Deep)	Each						R -	R	-
2.7	D-DT-0330	7m Pole Wood Back-Actor or Hand (1.3m Deep)	Each						R -	R	-
2.8	D-DT-0330	7m Pole Wood Bobcat or similar Auger (1.3m Deep)	Each						R -	R	-
		7m Pole Wood Rock drill (1.3m Deep)	Each						R -	R	-
2.9	D-DT-1866	8m Wooden Pole/X-Arm 160-179 Top Diameter Back-Actor or Hand (1.3m Deep)	Each						R -	R	-
2.10	D-DT-1866	8m Wooden Pole/X-Arm 160-179 Top Diameter auger (1.3m Deep)	Each						R -	R	-
		8m Wooden Pole/X-Arm 160-179 Top Diameter Rock drill (1.3m Deep)	Each						R -	R	-
2.11	D-DT-0330	9m Pole Wood Back-Actor or Hand (1.5m Deep)	Each						R -	R	-

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
2.12	D-DT-0330	9m Pole Wood auger (1.5m Deep)	Each						R -	R -
2.13	D-DT-0330	9m Pole Wood Bobcat or similar Auger (1.5m Deep)	Each						R -	R -
		9m Pole Wood Rock drill (1.5m Deep)	Each						R -	R -
2.14	D-DT-0330	10m Pole Wood Back-Actor or Hand (1.7m Deep)	Each						R -	R -
2.15	D-DT-0330	10m Pole Wood Bobcat or similar auger (1.7m Deep)	Each						R -	R -
		10m Pole Wood Rock drill (1.7m Deep)	Each						R -	R -
2.16	D-DT-0330	11m Pole Wood Back-Actor or Hand (1.8m Deep)	Each						R -	R -
2.17	D-DT-0330	11m Pole Wood Bobcat or similar auger (1.8m Deep)	Each						R -	R -
		11m Pole Wood Rock drill (1.8m Deep)	Each						R -	R -
2.18	D-DT-0330	12m Pole Wood Back-Actor or Hand (2.0m Deep)	Each						R -	R -
2.19	D-DT-0330	12m Pole Wood Bobcat or similar auger (2.0m Deep)	Each						R -	R -
		12m Pole Wood Rock drill (2.0m Deep)	Each						R -	R -
2.20	D-DT-0330	13m - 16m Pole Wood Back-Actor or Hand (2.2m Deep)	Each						R -	R -
2.21	D-DT-0330	13m - 16m Pole Wood Bobcat or similar auger (2.2m Deep)	Each							R -
		13m - 16m Pole Wood Rock drill (2.2m Deep)	Each						R -	R -
2.22	D-DT-0330	18m Pole Wood Back-Actor or Hand (2.4m Deep)	Each						R -	R -
2.23	D-DT-0330	18m Pole Wood Bobcat or similar auger (2.4m Deep)	Each						R -	R -
		18m Pole Rock drill (2.4m Deep)	Each						R -	R -
4		**CONCRETE POLES**								
4.1	D-DT-0330	11m Pole Concrete Back-Actor or Hand (1.8m Deep)	Each						R -	R -
4.2	D-DT-0330	11m Pole Concrete Bobcat or similar auger (1.8m Deep)	Each						R -	R -
4.3	D-DT-0330	11m Pole Concrete Hard Rock Drilling (1.8m Deep)	Each						R -	R -
4.4	D-DT-0330	12m Pole Concrete Pole Back-Actor or Hand (2m Deep)	Each						R -	R -
4.5	D-DT-0330	12m Pole Concrete Pole Bobcat or similar auger (2m Deep)	Each						R -	R -
4.6	D-DT-0330	12m Pole Concrete Hard Rock Drilling (1.0m Deep)	Each						R -	R -
4.7	D-DT-0330	13m Pole Concrete Back-Actor or Hand (2.2m Deep)	Each						R -	R -
4.8	D-DT-0330	13m Pole Concrete Bobcat or similar auger (2.2m Deep)	Each						R -	R -
4.9	D-DT-0330	13m Pole Concrete Hard Rock Drilling (1.0m Deep)	Each						R -	R -
4.10	D-DT-0330	14m Pole Concrete Back-Actor or Hand (2.3m Deep)	Each						R -	R -
4.11	D-DT-0330	14m Pole Concrete Bobcat or similar auger (2.3m Deep)	Each						R -	R -
4.12	D-DT-0330	14m Pole Concrete Hard Rock Drilling (2.3m Deep)	Each						R -	R -
5		**Heavy Conductor Wood Poles**								
5.1	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 700mm Diameter	Each						R -	R -
5.2	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 800mm Diameter	Each						R -	R -
5.3	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1000mm Diameter	Each						R -	R -
5.4	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1000mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil cement is excluded	Each						R -	R -
5.5	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1000mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
5.6	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1200mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.7	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1200mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
5.8	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1800mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
5.9	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1800mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
5.10	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1800mm Diameter - *Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded*	Each						R -	R -
5.11	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 2000mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
5.12	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 2200mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
5.13	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 2500mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
5.14	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 700mm Diameter	Each						R -	R -
5.15	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 800mm Diameter	Each						R -	R -
5.16	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1000mm Diameter	Each						R -	R -
5.17	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1000mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil	Each						R -	R -
5.18	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1000mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
5.19	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1200mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
5.20	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1200mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
5.21	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1800mm Diameter - *Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded*	Each						R -	R -
5.22	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1800mm Diameter - *Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded*	Each						R -	R -
5.23	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1800mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
5.24	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 2000mm Diameter - *Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded*	Each						R -	R -
5.25	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 2200mm Diameter - *Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded*	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.26	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 2500mm Diameter - *Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded*	Each						R -	R -
5.27	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 700mm Diameter	Each						R -	R -
5.28	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 800mm Diameter	Each						R -	R -
5.29	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1000mm Diameter	Each						R -	R -
5.30	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1000mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
5.31	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1000mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
5.32	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1200mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
5.33	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1200mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
5.34	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1800mm Diameter - *Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded*	Each						R -	R -
5.35	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1800mm Diameter - *Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded*	Each						R -	R -
5.36	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1800mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
5.37	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 2000mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
5.38	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 2200mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
5.39	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 2500mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6		**Heavy Conductor Concrete Poles**								
6.1	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 700mm Diameter	Each						R -	R -
6.2	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 900mm Diameter	Each						R -	R -
6.3	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1000mm Diameter	Each						R -	R -
6.4	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1200mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil	Each						R -	R -
6.5	D-DT-0330 & 240-758831148	11m Pole Back-Actor or Hand - 1800mm Deep x 1200mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil	Each						R -	R -
6.6	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1250mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
6.7	D-DT-0330 & 240-758831148	11m Pole Back-Actor or Hand - 1800mm Deep x 1250mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.8	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1500mm Diameter	Each						R -	R -
6.9	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 1500mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
6.10	D-DT-0330 & 240-758831148	11m Pole Back-Actor or Hand - 1800mm Deep x 1500mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.11	D-DT-0330	11m Pole Back-Actor or Hand - 1800mm Deep x 2000mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil	Each						R -	R -
6.12	D-DT-0330 & 240-758831148	11m Pole Back-Actor or Hand - 1800mm Deep x 2000mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.13	D-DT-0330 & 240-758831148	11m Pole Back-Actor or Hand - 1800mm Deep x 2000mm Diameter Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6.14	D-DT-0330 & 240-758831148	11m Pole Back-Actor or Hand - 1800mm Deep x 2500mm Diameter Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6.15	D-DT-0330 & 240-758831148	11m Pole Back-Actor or Hand - 1800mm Deep x 3000mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6.16	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 700mm Diameter	Each						R -	R -
6.17	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 900mm Diameter	Each						R -	R -
6.18	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1000mm Diameter	Each						R -	R -
6.19	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1200mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil	Each						R -	R -
6.20	D-DT-0330 & 240-758831148	12m Pole Back-Actor or Hand - 2000mm Deep x 1200mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.21	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1250mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
6.22	D-DT-0330 & 240-758831148	12m Pole Back-Actor or Hand - 2000mm Deep x 1250mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.23	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1500mm Diameter	Each						R -	R -
6.24	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 1500mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil	Each						R -	R -
6.25	D-DT-0330 & 240-758831148	12m Pole Back-Actor or Hand - 2000mm Deep x 1500mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.26	D-DT-0330	12m Pole Back-Actor or Hand - 2000mm Deep x 2000mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil	Each						R -	R -
6.27	D-DT-0330 & 240-758831148	12m Pole Back-Actor or Hand - 2000mm Deep x 2000mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.28	D-DT-0330 & 240-758831148	12m Pole Back-Actor or Hand - 2000mm Deep x 2000mm Diameter Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
6.29	D-DT-0330 & 240-758831148	12m Pole Back-Actor or Hand - 2000mm Deep x 2500mm Diameter Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6.30	D-DT-0330 & 240-758831148	12m Pole Back-Actor or Hand - 2000mm Deep x 3000mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6.31	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 700mm Diameter	Each						R -	R -
6.32	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 900mm Diameter	Each						R -	R -
6.33	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1000mm Diameter	Each						R -	R -
6.34	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1200mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
6.35	D-DT-0330 & 240-758831148	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1200mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.36	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1250mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
6.37	D-DT-0330 & 240-758831148	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1250mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.38	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1500mm Diameter	Each						R -	R -
6.39	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1500mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
6.40	D-DT-0330 & 240-758831148	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 1500mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil. cement is excluded	Each						R -	R -
6.41	D-DT-0330	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 2000mm Diameter - Add 6 Pockets of Cement to Moistened Excavated Soil. cement is excluded	Each						R -	R -
6.42	D-DT-0330 & 240-758831148	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 2000mm Diameter - Clay and Turf - Add 8 Pockets of Cement to Moistened Imported Soil	Each						R -	R -
6.43	D-DT-0330 & 240-758831148	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 2000mm Diameter Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6.44	D-DT-0330 & 240-758831148	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 2500mm Diameter Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
6.45	D-DT-0330 & 240-758831148	13m - 14m Pole Back-Actor or Hand - 2200mm Deep x 3000mm Diameter - Add 12 Pockets of Cement to Moistened/Imported Excavated Soil. cement is excluded	Each						R -	R -
7		**Free Standing Poles**								
7.1	2-WT/0000	9m Pole Free Standing 18kN Back-Actor or Hand (1.5m Deep) - Soil Type 1 & 2	Each						R -	R -
7.2	D-DT-1650	12m Pole Free Standing 8kN Back-Actor or Hand (2.5m Deep) - Soil Type 1 & 2	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
7.3	D-DT-1650	12m Pole Free Standing 8kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.4	D-DT-1650	12m Pole Free Standing 8kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.5	D-DT-1651	12m Pole Free Standing 15kN Back-Actor or Hand (2.5m Deep) - Soil Type 1 & 2	Each						R -	R -
7.6	D-DT-1651	12m Pole Free Standing 15kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.7	D-DT-1651	12m Pole Free Standing 15kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.8	D-DT-1652	12m Pole Free Standing 27kN Back-Actor or Hand (2.5m Deep) - Soil Type 1 & 2	Each						R -	R -
7.9	D-DT-1652	12m Pole Free Standing 27kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.10	D-DT-1652	12m Pole Free Standing 27kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.11	D-DT-1653	12m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.12	D-DT-1653	12m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.13	D-DT-1653	12m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.14	D-DT-1653	12m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.15	D-DT-1654	12m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.16	D-DT-1654	12m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.17	D-DT-1654	12m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.18	D-DT-1654	12m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.19	D-DT-1655	12m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.20	D-DT-1655	12m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.21	D-DT-1655	12m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.22	D-DT-1655	12m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.23	D-DT-1656	12m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.24	D-DT-1656	12m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.25	D-DT-1656	12m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.26	D-DT-1656	12m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.27	D-DT-1657	12m Pole Free Standing 106kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.28	D-DT-1657	12m Pole Free Standing 106kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
7.29	D-DT-1657	12m Pole Free Standing 106kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.30	D-DT-1650	13m Pole Free Standing 8kN Back-Actor or Hand (2.5m Deep) - Soil Type 1 & 2	Each						R -	R -
7.31	D-DT-1650	13m Pole Free Standing 8kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.32	D-DT-1650	13m Pole Free Standing 8kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.33	D-DT-1651	13m Pole Free Standing 15kN Back-Actor or Hand (2.5m Deep) - Soil Type 1 & 2	Each						R -	R -
7.34	D-DT-1651	13m Pole Free Standing 15kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.35	D-DT-1651	13m Pole Free Standing 15kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.36	D-DT-1652	13m Pole Free Standing 27kN Back-Actor or Hand (2.5m Deep) - Soil Type 1 & 2	Each						R -	R -
7.37	D-DT-1652	13m Pole Free Standing 27kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.38	D-DT-1652	13m Pole Free Standing 27kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.39	D-DT-1653	13m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.40	D-DT-1653	13m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.41	D-DT-1653	13m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.42	D-DT-1653	13m Pole Free Standing 42kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.43	D-DT-1654	13m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.44	D-DT-1654	13m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.45	D-DT-1654	13m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.46	D-DT-1654	13m Pole Free Standing 58kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.47	D-DT-1655	13m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.48	D-DT-1655	13m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.49	D-DT-1655	13m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.50	D-DT-1655	13m Pole Free Standing Terminal Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -
7.51	D-DT-1656	13m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.52	D-DT-1656	13m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.53	D-DT-1656	13m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
7.54	D-DT-1656	13m Pole Free Standing 73kN Back-Actor or Hand (2.5m Deep) - Soil Type 4	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
7.55	D-DT-1657	13m Pole Free Standing 106kN Back-Actor or Hand (2.5m Deep) - Soil Type 1	Each						R -	R -
7.56	D-DT-1657	13m Pole Free Standing 106kN Back-Actor or Hand (2.5m Deep) - Soil Type 2	Each						R -	R -
7.57	D-DT-1657	13m Pole Free Standing 106kN Back-Actor or Hand (2.5m Deep) - Soil Type 3	Each						R -	R -
SUB-TOTAL C						**R -**			**R -**	**R -**
D		**PLANTING OF POLES**								
Planting including backfilling and compaction are measured here. The costs are also inclusive of plant and equipment required to plant the Structures. Stay, Struts and Flying Stay are elsewhere measured. All backfill material included in price. Any other soil type claimed than specified by designer to be supported by DCP soil clasification test completed by the contractor and reviewed by the designer according to 240-75883148 annex A. (At least 60% of tested hole must be the soil type claimed to be approved)										
		CLASSIFICATION OF SOIL TYPE 1, 2, 3 AND 4								
		Soil Type 1 - Competent soil with equal or better consistency (strength or toughness) than would be encoutered in stiff cohesive soils or medium dense cohesion less soils above the water table. Firm of stiff cohesive soils: moulding of soil with fingers is difficult to impossible. Excavation with a spade is difficult and picking is required. Medium dense non-cohesive soils: Considerable resistance to shovelling or penetration by hand bar. Texture: Cohesive soils: Very stiff clay, sandy clay, silty clay, sandy silts and silty sands. Cohesionless soils: compact, well graded gravels, sand and gravel sand mixtures, permanently above all water tables. The DPC will have a low penetration rate with DCP value of 7-8. The maximum bearing at foundation depth shall be 300kPa.								

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
		Soil Type 2 - A less competent soil than type 1 soil with equal or better consistency than would be encountered in firm to stiff swelling cohesive soils or dry, poor graded loose to medium dense soils above the water table. Firm of stiff swelling cohesive soils: Soil can be moulding with fingers with strong to very strong pressure. Freshly exposed surface shows faint heel mark when stood upon. Excavation with shovel is difficult. Medium dense to loose soils: Having little to considerable resistance to shovelling or penetration with hand bar. Texture: Cohesive soils: Firm to stiff cla, sandy clay, sandy silt and silty sands. Clayey soil will have a smooth texture and will tend to stick to the DCP rod when removed. Cohesionless soils: Poor to well graded sands, gravels and gravel-sand mix, permanently above all water tables. Dry sand will have a course textue. The DCP will have visible penetration rate with DCP value of 5-6. The maximum bearing at foundation depth shall be 150kPa.								
		Soil Type 3 - Dry to loose cohesionless soil or very soft to soft cohesive soil. Soft to very soft cohesive soils: Mouldable with ease to manageable with fingers. Forms faint to distinct heel marks on freshly exposed surface when stood upon. Very loose to loose cohesionless soils: Easily excavated with spade and penetrable with hand bar. Texture: Cohesive soils: Soft to very soft clay, sandy clay, sandy silt and silty sands. Clay will stick to the DCP rod whilst sand will provide a clean rod when remmoved after the test. Cohesionless soils: Poorly graded sands, gravels and gravel-sand mixtures, permanenty above all water tables. The DCP will have a high pernetration rate with a DCP value of 3-4. The maximum bearing at foundation depth shall be 100kPa.								
		Soil Type 4 - Type 4 soils are for submerged sohesion less and cohesive soils. This also includes all soils below the permanent water table, including soils below a re-occuring perched water table, or permeable soils in low-laying areas subjected to seanal flooding. The DCP will have a very high penetration rate with a DCP value of 1-2. The maximum bearing at foundation depth to be used shall be 50kPa. Note: the DCP value might be high at the time of testing as the water table might be low at the time.								
1		Extra over for Importation of soil where deemed to exceed the normal requirement as per activities below	m3						R -	R -
2		Extra over for hiring of equipment not catered for within the activities below	Sum							
3		**PLANTING BY HAND (VEHICLE IN-ACCESSIBLE)**								
3.1	D-DT-0058	POLE,WOOD 5.0 X 80-100 TOP DIA	Each						R -	R -
3.2	D-DT-0050	POLE,WOOD 7.0X100-120 TOP DIA	Each						R -	R -
3.3	D-DT-0050	POLE,WOOD 7.0X120-139 TOP DIA	Each						R -	R -
3.4	D-DT-0055	POLE:140-159MM TOP DIA X LG 9 M;WOOD	Each						R -	R -
3.5	D-DT-0055	POLE:160-179MM TOP DIA X LG 9 M;WOOD	Each						R -	R -
3.6	D-DT-0055	POLE:180-199MM TOP DIA X LG 9 M;WOOD	Each						R -	R -
3.7	D-DT-0052	POLE,WOOD 10.0m x 160-179	Each						R -	R -
3.8	D-DT-0052	POLE,WOOD 10.0m x 180-199	Each						R -	R -
3.9	D-DT-0052	POLE,WOOD 10.0m x 200-219	Each						R -	R -
3.10	D-DT-0051	POLE:140-159MM TOP DIA X LG 11M ;WOOD	Each						R -	R -
3.11	D-DT-0051	POLE:160-179MM TOP DIA X LG 11M ;WOOD	Each						R -	R -
3.12	D-DT-0051	POLE:180-199MM TOP DIA X LG 11M ;WOOD	Each						R -	R -
3.13	D-DT-0051	POLE:200-219MM TOP DIA X LG 11M ;WOOD	Each						R -	R -
3.14	D-DT-0053	POLE:160-179MM TOP DIA LG 12 M;WOOD	Each						R -	R -
3.15	D-DT-0053	POLE:180-199MM TOP DIA X LG 12 M;WOOD	Each						R -	R -
3.16	D-DT-0053	POLE:200-219MM TOP DIA X LG 12 M;WOOD	Each						R -	R -
3.17	D-DT-0053	POLE:PINE;160MM TOP DIA X LG 12 M;WOOD	Each						R -	R -
3.18	D-DT-0056	POLE,WOOD 13.0 x 160-179	Each						R -	R -
3.19	D-DT-0056	POLE,WOOD 13.0 x 180-199	Each						R -	R -
3.20	D-DT-0056	POLE,WOOD 13.0 x 200-219	Each						R -	R -
3.21	D-DT-0054	POLE,WOOD 14.0 x 160-179	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
3.22	D-DT-0054	POLE,WOOD 14.0 x 180-199	Each						R -	R -
3.23	D-DT-0054	POLE,WOOD 14.0 x 200-219	Each						R -	R -
3.24	D-DT-0057	POLE,WOOD 15.0 x 160-179	Each						R -	R -
3.25	D-DT-0057	POLE,WOOD 15.0 x 180-199	Each						R -	R -
3.26	D-DT-0057	POLE,WOOD 15.0 x 200-219	Each						R -	R -
4		**PLANTING BY CRANE (VEHICLE ACCESSIBLE)**								
4.1	D-DT-0055	POLE:140-159MM TOP DIA X LG 9 M;WOOD	Each						R -	R -
4.2	**D-DT-0055**	**POLE:160-179MM TOP DIA X LG 9 M;WOOD**	**Each**						**R -**	**R -**
4.3	**D-DT-0055**	**POLE:180-199MM TOP DIA X LG 9 M;WOOD**	**Each**						**R -**	**R -**
4.4	D-DT-0052	POLE,WOOD 10.0m x 160-179	Each						R -	R -
4.5	D-DT-0052	POLE,WOOD 10.0m x 180-199	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
4.6	D-DT-0052	POLE,WOOD 10.0m x 200-219	Each						R -	R -
4.7	D-DT-0051	POLE:140-159MM TOP DIA X LG 11M ;WOOD	Each						R -	R -
4.8	**D-DT-0051**	**POLE:160-179MM TOP DIA X LG 11M ;WOOD**	**Each**						**R -**	**R -**
4.9	**D-DT-0051**	**POLE:180-199MM TOP DIA X LG 11M ;WOOD**	**Each**						**R -**	**R -**
4.10	D-DT-0051	POLE:200-219MM TOP DIA X LG 11M ;WOOD	Each						R -	R -
4.11	D-DT-0053	POLE:160-179MM TOP DIA LG 12 M;WOOD	Each						R -	R -
4.12	D-DT-0053	POLE:180-199MM TOP DIA X LG 12 M;WOOD	Each						R -	R -
4.13	D-DT-0053	POLE:200-219MM TOP DIA X LG 12 M;WOOD	Each						R -	R -
4.14	D-DT-0053	POLE:PINE;160MM TOP DIA X LG 12 M;WOOD	Each						R -	R -
4.15	D-DT-0056	POLE,WOOD 13.0 x 160-179	Each						R -	R -
4.16	D-DT-0056	POLE,WOOD 13.0 x 180-199	Each						R -	R -
4.17	D-DT-0056	POLE,WOOD 13.0 x 200-219	Each						R -	R -
4.18	D-DT-0054	POLE,WOOD 14.0 x 160-179	Each						R -	R -
4.19	D-DT-0054	POLE,WOOD 14.0 x 180-199	Each						R -	R -
4.20	D-DT-0054	POLE,WOOD 14.0 x 200-219	Each						R -	R -
4.21	D-DT-0057	POLE,WOOD 15.0 x 160-179	Each						R -	R -
4.22	D-DT-0057	POLE,WOOD 15.0 x 180-199	Each						R -	R -
4.23	D-DT-0057	POLE,WOOD 15.0 x 200-219	Each						R -	R -
5		**PLANTING OF POLES IN VARIOUS SOIL TYPES**								
5.1	**D-DT-0058**	**5m Wooden Pole 80-100mm Top Diameter Soil Type 1**	**Each**						**R -**	**R -**
5.2	D-DT-0058	5m Wooden Pole 80-100mm Top Diameter Soil Type 2	Each						R -	R -
5.3	D-DT-0058	5m Wooden Pole 80-100mm Top Diameter Soil Type 3	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.4	D-DT-0058	5m Wooden Pole 80-100mm Top Diameter Soil Type 4	Each						R -	R -
5.5	D-DT-0066	6m Wooden Pole/X-Arm 160-179 Top Diameter Soil Type 1	Each						R -	R -
5.6	D-DT-0066	6m Wooden Pole/X-Arm 160-179 Top Diameter Soil Type 2	Each						R -	R -
5.7	D-DT-0066	6m Wooden Pole/X-Arm 160-179 Top DiameterSoil Type 3	Each						R -	R -
5.8	D-DT-0066	6m Wooden Pole/X-Arm 160-179 Top Diameter Soil Type 4	Each						R -	R -
5.9	**D-DT-0050**	**7m Wooden Pole 100-120mm Top Diameter Soil Type 1**	**Each**						**R -**	**R -**
5.11	D-DT-0050	7m Wooden Pole 100-120mm Top Diameter Soil Type 2	Each						R -	R -
5.12	D-DT-0050	7m Wooden Pole 100-120mm Top DiameterSoil Type 3	Each						R -	R -
5.13	D-DT-0050	7m Wooden Pole 100-120mm Top Diameter Soil Type 4	Each						R -	R -
5.14	D-DT-0050	7m Wooden Pole 120-139mm Top Diameter Soil Type 1	Each						R -	R -
5.15	D-DT-0050	7m Wooden Pole 120-139mm Top Diameter Soil Type 2	Each						R -	R -
5.16	D-DT-0050	7m Wooden Pole 120-139mm Top DiameterSoil Type 3	Each						R -	R -
5.17	D-DT-0050	7m Wooden Pole 120-139mm Top Diameter Soil Type 4	Each						R -	R -
5.18	D-DT-1866	8m Wooden Pole/X-Arm 160-179 Top Diameter Soil Type 1	Each						R -	R -
5.19	D-DT-0050	8m Wooden Pole/X-Arm 160-179 Top Diameter Soil Type 2	Each						R -	R -
5.20	D-DT-0050	8m Wooden Pole/X-Arm 160-179 Top DiameterSoil Type 3	Each						R -	R -
5.21	D-DT-0050	8m Wooden Pole/X-Arm 160-179 Top Diameter Soil Type 4	Each						R -	R -
5.22	D-DT-0055	9m Wooden Pole 140-159mm Top Diameter Soil Type 1	Each						R -	R -
5.23	D-DT-0055	9m Wooden Pole 140-159mm Top Diameter Soil Type 2	Each						R -	R -
5.24	D-DT-0055	9m Wooden Pole 140-159mm Top DiameterSoil Type 3	Each						R -	R -
5.25	D-DT-0055	9m Wooden Pole 140-159mm Top Diameter Soil Type 4	Each						R -	R -
5.26	**D-DT-0055**	**9m Wooden Pole 160-179 mm Top Diameter Soil Type 1**	**Each**						**R -**	**R -**
5.27	D-DT-0055	9m Wooden Pole 160-179 mm Top Diameter Soil Type 2	Each						R -	R -
5.28	D-DT-0055	9m Wooden Pole 160-179 mm Top Diameter Soil Type 3	Each						R -	R -
5.29	D-DT-0055	9m Wooden Pole 160-179 mm Top Diameter Soil Type 4	Each						R -	R -
5.30	**D-DT-0055**	**9m Wooden Pole 180-199mm Top Diameter Soil Type 1**	**Each**						**R -**	**R -**
5.31	D-DT-0055	9m Wooden Pole 180-199mm Top Diameter Soil Type 2	Each						R -	R -
5.32	D-DT-0055	9m Wooden Pole 180-199mm Top Diameter Soil Type 3	Each						R -	R -
5.33	D-DT-0055	9m Wooden Pole 180-199mm Top Diameter Soil Type 4	Each						R -	R -
5.34	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.35	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.36	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.37	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H4 Soil Type 4	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.38	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.39	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.40	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.41	D-DT-0052	10m Wooden Pole 160-179mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.42	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.43	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.44	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.45	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.46	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.47	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.48	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.49	D-DT-0052	10m Wooden Pole 180-199mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.50	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.51	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.52	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.53	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.54	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.55	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.56	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.57	D-DT-0052	10m Wooden Pole 200-219mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.58	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.59	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.60	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.61	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.62	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H4 Soil Type 1	Each						R -	R -
5.63	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H4 Soil Type 2	Each						R -	R -
5.64	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H4 Soil Type 3	Each						R -	R -
5.65	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H4 Soil Type 4	Each						R -	R -
5.66	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.67	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.68	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.69	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.70	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H5 Soil Type 1	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.71	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H5 Soil Type 2	Each						R -	R -
5.72	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H5 Soil Type 3	Each						R -	R -
5.73	D-DT-0051	11m Wooden Pole 140-159mm Top Diameter 75MPA H5 Soil Type 4	Each						R -	R -
5.74	**D-DT-0051**	**11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 1**	**Each**						**R -**	**R -**
5.75	D-DT-0051	11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.76	D-DT-0051	11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.77	D-DT-0051	11m Wooden Pole 160-179mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.78	**D-DT-0051**	**11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 1**	**Each**						**R -**	**R -**
5.79	D-DT-0051	11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.80	D-DT-0051	11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.81	D-DT-0051	11m Wooden Pole 180-199mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.82	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.83	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.84	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.85	D-DT-0051	11m Wooden Pole 200-219mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.86	**D-DT-0053**	**12m Wooden Pole 160-179mm Top Diameter Soil Type 1**	**Each**						**R -**	**R -**
5.87	D-DT-0053	12m Wooden Pole 160-179mm Top Diameter Soil Type 2	Each						R -	R -
5.88	D-DT-0053	12m Wooden Pole 160-179mm Top Diameter Soil Type 3	Each						R -	R -
5.89	D-DT-0053	12m Wooden Pole 160-179mm Top Diameter Soil Type 4	Each						R -	R -
5.90	**D-DT-0053**	**12m Wooden Pole 180-199mm Top Diameter Soil Type 1**	**Each**						**R -**	**R -**
5.91	D-DT-0053	12m Wooden Pole 180-199mm Top Diameter Soil Type 2	Each						R -	R -
5.92	D-DT-0053	12m Wooden Pole 180-199mm Top Diameter Soil Type 3	Each						R -	R -
5.93	D-DT-0053	12m Wooden Pole 180-199mm Top Diameter Soil Type 4	Each						R -	R -
5.94	D-DT-0053	12m Wooden Pole 200-219mm Top Diameter Soil Type 1	Each						R -	R -
5.95	D-DT-0053	12m Wooden Pole 200-219mm Top Diameter Soil Type 2	Each						R -	R -
5.96	D-DT-0053	12m Wooden Pole 200-219mm Top Diameter Soil Type 3	Each						R -	R -
5.97	D-DT-0053	12m Wooden Pole 200-219mm Top Diameter Soil Type 4	Each						R -	R -
5.98	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.99	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.100	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.101	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.102	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.103	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H5 Soil Type 2	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.104	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.105	D-DT-0056	13m Wooden Pole 160-179mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.106	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.107	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.108	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.109	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.110	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.111	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.112	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.113	D-DT-0056	13m Wooden Pole 180-199mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.114	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.115	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.116	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.117	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.118	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.119	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.120	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.121	D-DT-0056	13m Wooden Pole 200-219mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.122	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.123	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.124	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.125	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.126	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.127	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.128	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.129	D-DT-0054	14m Wooden Pole 160-179mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.130	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.131	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.132	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.133	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.134	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.135	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.136	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H5 Soil Type 3	Each						R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.137	D-DT-0054	14m Wooden Pole 180-199mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.138	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H4 Soil Type 1	Each						R -	R -
5.139	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H4 Soil Type 2	Each						R -	R -
5.140	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H4 Soil Type 3	Each						R -	R -
5.141	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H4 Soil Type 4	Each						R -	R -
5.142	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H5 Soil Type 1	Each						R -	R -
5.143	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H5 Soil Type 2	Each						R -	R -
5.144	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H5 Soil Type 3	Each						R -	R -
5.145	D-DT-0054	14m Wooden Pole 200-219mm Top Diameter H5 Soil Type 4	Each						R -	R -
5.146	D-DT-0057	15m Wooden Pole 160-179mm Top Diameter Soil Type 1	Each						R -	R -
5.147	D-DT-0057	15m Wooden Pole 160-179mm Top Diameter Soil Type 2	Each						R -	R -
5.148	D-DT-0057	15m Wooden Pole 160-179mm Top Diameter Soil Type 3	Each						R -	R -
5.149	D-DT-0057	15m Wooden Pole 160-179mm Top Diameter Soil Type 4	Each						R -	R -
5.150	D-DT-0057	15m Wooden Pole 190-199mm Top Diameter Soil Type 1	Each						R -	R -
5.151	D-DT-0057	15m Wooden Pole 190-199mm Top Diameter Soil Type 2	Each						R -	R -
5.152	D-DT-0057	15m Wooden Pole 190-199mm Top Diameter Soil Type 3	Each						R -	R -
5.153	D-DT-0057	15m Wooden Pole 190-199mm Top Diameter Soil Type 4	Each						R -	R -
5.154	D-DT-0057	15m Wooden Pole 200-219mm Top Diameter Soil Type 1	Each						R -	R -
5.155	D-DT-0057	15m Wooden Pole 200-219mm Top Diameter Soil Type 2	Each						R -	R -
5.156	D-DT-0057	15m Wooden Pole 200-219mm Top Diameter Soil Type 3	Each						R -	R -
5.157	D-DT-0057	15m Wooden Pole 200-219mm Top Diameter Soil Type 4	Each						R -	R -
5.158	D-DT-0049	16m Wooden Pole 180-199mm Top Diameter Soil Type 1	Each						R -	R -
5.159	D-DT-0049	16m Wooden Pole 180-199mm Top Diameter Soil Type 2	Each						R -	R -
5.160	D-DT-0049	16m Wooden Pole 180-199mm Top Diameter Soil Type 3	Each						R -	R -
5.161	D-DT-0049	16m Wooden Pole 180-199mm Top Diameter Soil Type 4	Each						R -	R -
5.162	D-DT-0049	16m Wooden Pole 200-219mm Top Diameter Soil Type 1	Each						R -	R -
5.163	D-DT-0049	16m Wooden Pole 200-219mm Top Diameter Soil Type 2	Each						R -	R -
5.164	D-DT-0049	16m Wooden Pole 200-219mm Top Diameter Soil Type 3	Each						R -	R -
5.165	D-DT-0049	16m Wooden Pole 200-219mm Top Diameter Soil Type 4	Each						R -	R -
5.166	D-DT-0048	18m Wooden Pole 180-199mm Top Diameter Soil Type 1	Each						R -	R -
5.167	D-DT-0048	18m Wooden Pole 180-199mm Top Diameter Soil Type 2	Each						R -	R -
5.168	D-DT-0048	18m Wooden Pole 180-199mm Top Diameter Soil Type 3	Each						R -	R -
5.169	D-DT-0048	18m Wooden Pole 180-199mm Top Diameter Soil Type 4	Each						R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
5.170	D-DT-0048	18m Wooden Pole 200-219mm Top Diameter Soil Type 1	Each						R -	R -
5.171	D-DT-0048	18m Wooden Pole 200-219mm Top Diameter Soil Type 2	Each						R -	R -
5.172	D-DT-0048	18m Wooden Pole 200-219mm Top Diameter Soil Type 3	Each						R -	R -
5.173	D-DT-0048	18m Wooden Pole 200-219mm Top Diameter Soil Type 4	Each						R -	R -
6		**Concrete Poles**								
6.1	D-DT-0017	11m Concrete Pole 10kN Ultimate Load	Each						R -	R -
6.2	D-DT-0015	12m Concrete Pole 10kN Ultimate Load	Each						R -	R -
6.3	D-DT-0016	13m Concrete Pole 10kN Ultimate Load	Each						R -	R -
6.4	D-DT-0018	14m Concrete Pole 10kN Ultimate Load	Each						R -	R -
7		**Free Standing(Unsupported)**								
7.1	PA09599B01	9m Concrete Pole 18kN	Each						R -	R -
7.2	D-DT-1650	12m Concrete Pole 8kN	Each						R -	R -
7.3	D-DT-1651	12m Concrete Pole 15kN	Each						R -	R -
7.4	D-DT-1652	12m Concrete Pole 27kN	Each						R -	R -
7.5	D-DT-1653	12m Concrete Pole 42kN	Each						R -	R -
7.6	D-DT-1654	12m Concrete Pole 58kN	Each						R -	R -
7.7	D-DT-1655	12m Concrete Pole 65kN - Terminal Structure	Each						R -	R -
7.8	D-DT-1656	12m Concrete Pole 73kN	Each						R -	R -
7.9	D-DT-1657	12m Concrete Pole 106kN	Each						R -	R -
7.10	D-DT-1650	13m Concrete Pole 8kN	Each						R -	R -
7.11	D-DT-1651	13m Concrete Pole 15kN	Each						R -	R -
7.12	D-DT-1652	13m Concrete Pole 27kN	Each						R -	R -
7.13	D-DT-1653	13m Concrete Pole 42kN	Each						R -	R -
7.14	D-DT-1654	13m Concrete Pole 58kN	Each						R -	R -
7.15	D-DT-1655	13m Concrete Pole 65kN - Terminal Structure	Each						R -	R -
7.16	D-DT-1656	13m Concrete Pole 73kN	Each						R -	R -
7.17	D-DT-1657	13m Concrete Pole 106kN	Each						R -	R -
SUB-TOTAL D						**R -**			**R -**	**R -**
E		**Single Phase MV Structure BONDING INCL (BIL DOWNWIRE,SPARK GAP DEVICE INCLUDED OR EXCLUDED AS PER DESIGN)**								
		Supply and erect MV support structures as per Eskom DDT 0400, 1300, 1700, 1800 drawings and OU specific SI Engineering instructions. Auxiliary equipment such as bonding, jumpers, jumper terminations, pole and x-arm mounting and mounting hardware, conductor attachment hardware and insulators to be included. Poles are measured elsewhere, crossarms are included. Stay, strut material measured elsewhere. Pole, stay and strut excavations are measured elsewhere. Where road crossing structures are to be used the line hardware needs to be changed to include : For intermediate a suitable fullwrap road crossing tie and for a strain structure a 3bolt suitable pistol grip. Other relevant road crossing hardware to be included where required. Road crossings to be inserted in BOQ where required and marked with "RX" as part of the description. All line hardware purchased will be paid elsewhere as cost plus fee.								
		Intermediate - 0 deg								
1.1	D-EC2063	Phase / Phase - Delta intermediate 0 degrees D2063 - A-Frame with 4kN Posts + Bird Perch	Each			R -			R -	R -
1.2	D-EC2063	Phase / Phase - Delta intermediate 0 degrees D2063 - A-Frame 10kN Posts + Bird Perch & road-xing ties	Each			R -			R -	R -
1.3	D-EC2063	Phase / Phase - Delta intermediate 0 degrees D2063 - A-Frame with 4kN Posts + Bird Perch with spark gap	Each			R -			R -	R -
1.4	D-EC2063	Phase / Phase - Delta intermediate 0 degrees D2063 - A-Frame 10kN Posts + Bird Perch & road-xing ties with spark gap	Each			R -			R -	R -
1.5	1300	PHASE / PHASE - STAGGEREDVERTICAL (450mm SPACING) - INTERMEDIATE - 0° DEVIATION	Each			R -			R -	R -

BILL OF ACTIVITIES											
ITEM	**REFERENCE DRAWING**	**DESCRIPTION**	**UNIT**	**SUPPLY QTY**	**SUPPLY RATE**	**SUPPLY TOTAL**	**LABOUR QTY**	**LABOUR RATE**	**LABOUR TOTAL**	**GRAND TOTAL**
1.6	1300	Phase / phase – Staggered Vertical (450mm spacing) – Intermediate - 0° Deviation Rx	Each			R -			R -	R -
1.7	1310	PHASE / PHASE - STAGGEREDVERTICAL (600mm SPACING) - INTERMEDIATE - 0° DEVIATION	Each			R -			R -	R -
1.8	1310	Phase / phase – Staggered Vertical (600mm spacing) – Intermediate - 0° Deviation Rx	Each			R -			R -	R -
1.9	1320	Phase / phase – Delta (450mm Stud) – Intermediate - 0° Deviation	Each			R -			R -	R -

BILL OF ACTIVITIES											
ITEM	**REFERENCE DRAWING**	**DESCRIPTION**	**UNIT**	**SUPPLY QTY**	**SUPPLY RATE**	**SUPPLY TOTAL**	**LABOUR QTY**	**LABOUR RATE**	**LABOUR TOTAL**	**GRAND TOTAL**
1.10	1320	Phase / phase – Delta (450mm Stud) – Intermediate - 0° Deviation Rx	Each			R -			R -	R -
1.11	1330	PHASE / PHASE - DELTA (600mmSTUD) - INTERMEDIATE - 0° DEVIATION	Each			R -			R -	R -
1.12	1330	Phase / phase – Delta (600mm Stud) – Intermediate - 0° Deviation Rx	Each			R -			R -	R -
1.13	1330	Phase / phase – Delta (600mm Stud) – Intermediate - 0° Deviation With Spark Gap Device	Each			R -			R -	R -
1.14	1330	Phase / phase – Delta (600mm Stud) – Intermediate - 0° Deviation With Spark Gap Device -Rx	Each			R -			R -	R -
1.15	1340	PHASE / PHASE - DELTA / 2,5mWOOD X-ARM - INTERMEDIATE - 0° DEVIATION	Each			R -			R -	R -
1.16	1340	PHASE / PHASE - DELTA / 2,5mWOOD X-ARM - INTERMEDIATE - 0° DEVIATION RX	Each			R -			R -	R -
1.17	1340B	Phase / phase – Delta/2.5M Wooden X-arm – Intermediate - 0° Deviation	Each			R -			R -	R -
1.18	1340B	Phase / phase – Delta/2.5M Wooden X-arm – Intermediate - 0° Deviation Rx	Each			R -			R -	R -
1.19	1340B	Phase / phase – Delta/2.5M Wooden X-arm – Intermediate - 0° Deviation With Spark Gap Device	Each			R -			R -	R -
1.20	1340B	Phase / phase – Delta/2.5M Wooden X-arm – Intermediate - 0° Deviation With Spark Gap Device-Rx	Each			R -			R -	R -
1.21	1390	Phase / phase - T-frame / 2m Steel X-arm – Intermediate - 0° Deviation	Each			R -			R -	R -
1.22	1390	Phase / phase - T-frame / 2m Steel X-arm – Intermediate - 0° Deviation - RX	Each			R -			R -	R -
1.23	1390	Phase / phase - T-frame / 2m Steel X-arm – Intermediate - 0° Deviation - With Spark Gap device	Each			R -			R -	R -
1.24	1390	Phase / phase - T-frame / 2m Steel X-arm – Intermediate - 0° Deviation - With Spark Gap device - RX	Each			R -			R -	R -
1.25	1370	Phase / phase - H-Pole / 4,5m Wood X-arm – Intermediate - 0° Deviation	Each			R -			R -	R -
1.26	1370	Phase / phase - H-Pole / 4,5m Wood X-arm – Intermediate - 0° Deviation -RX	Each			R -			R -	R -
1.27	1370	Phase / phase - H-Pole / 4,5m Wood X-arm – Intermediate - 0° Deviation -With Spark Gap device	Each			R -			R -	R -
1.28	1370	Phase / phase - H-Pole / 4,5m Wood X-arm – Intermediate - 0° Deviation -With Spark Gap device-RX	Each			R -			R -	R -
2		**Strainer - Small (1 - 30) deg**								
2.1	1301	PHASE / PHASE - VERTICAL (450mmSPACING) - INTERMEDIATE - SMALL(1°-±10°) DEVIATION	Each			R -			R -	R -
2.2	1301	PHASE / PHASE - VERTICAL (450mmSPACING) - INTERMEDIATE - SMALL(1°-±10°) DEVIATION Rx	Each			R -			R -	R -
2.3	1302	PHASE / PHASE - VERTICAL (450mmSPACING) - INTERMEDIATE - MEDIUM(±10°-30°) DEVIATION	Each			R -			R -	R -
2.4	1302	PHASE / PHASE - VERTICAL (450mmSPACING) - INTERMEDIATE - MEDIUM(±10°-30°) DEVIATION Rx	Each			R -			R -	R -
2.5	1311	PHASE / PHASE - VERTICAL (600mmSPACING) - INTERMEDIATE - SMALL (1°-±10°) DEVIATION	Each			R -			R -	R -
2.6	1311	PHASE / PHASE - VERTICAL (600mmSPACING) - INTERMEDIATE - SMALL (1°-±10°) DEVIATION Rx	Each			R -			R -	R -
2.7	1312	Phase / phase – Vertical (600mm spacing) – Intermediate - Medium (10-30°) Deviation	Each			R -			R -	R -
2.8	1312	Phase / phase – Vertical (600mm spacing) – Intermediate - Medium (10-30°) Deviation Rx	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
2.9	1371	Phase / phase – H-Pole / 4.5m Wood x-arm – Intermediate – Small (1 –10°) deviation	Each			R -			R -	R -
2.10	1371	Phase / phase – H-Pole / 4.5m Wood x-arm – Intermediate – Small (1 –10°) deviation-RX	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
2.11	1391	Phase / phase - T-frame/ 2m Steel X-arm – Intermediate - Small (1- +/- 10°) Deviation	Each			R -			R -	R -
2.12	1391	Phase / phase - T-frame/ 2m Steel X-arm – Intermediate - Small (1- +/- 10°) Deviation -RX	Each			R -			R -	R -
3		**Strainer - 0 deg**								
3.1	1303	PHASE / PHASE - VERTICAL (450mmSPACING) - STRAIN - 0° DEVIATION	Each			R -			R -	R -
3.2	1303	PHASE / PHASE - VERTICAL (450mmSPACING) - STRAIN - 0° DEVIATION Rx	Each			R -			R -	R -
3.3	1313	PHASE / PHASE - VERTICAL (600mmSPACING) - STRAIN - 0° DEVIATION	Each			R -			R -	R -
3.4	1313	PHASE / PHASE - VERTICAL (600mmSPACING) - STRAIN - 0° DEVIATION Rx	Each			R -			R -	R -
3.5	1340	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation	Each			R -			R -	R -
3.6	1340	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation Rx	Each			R -			R -	R -
3.7	1340B	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation	Each			R -			R -	R -
3.8	1340B	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation Rx	Each			R -			R -	R -
3.9	1340B	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation With Spark Gap Device	Each			R -			R -	R -
3.10	1340B	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation With Spark Gap Device-Rx	Each			R -			R -	R -
3.11	1343	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation	Each			R -			R -	R -
3.12	1343	Phase / phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation - Rx	Each			R -			R -	R -
3.13	1373	Phase / phase - H-Pole / 4,5m Wood X-arm – Strain – 0° Deviation	Each			R -			R -	R -
3.14	1373	Phase / phase - H-Pole / 4,5m Wood X-arm – Strain – 0° Deviation -RX	Each			R -			R -	R -
4		**Strainer - Medium (1 - 60) deg**								
4.1	1304	PHASE / PHASE - VERTICAL (450mmSPACING) - STRAIN - SMALL(1°-30°) DEVIATION	Each			R -			R -	R -
4.2	1304	PHASE / PHASE - VERTICAL (450mmSPACING) - STRAIN - SMALL(1°-30°) DEVIATION - Rx	Each			R -			R -	R -
4.3	1314	PHASE / PHASE - VERTICAL (600mmSPACING) - STRAIN - SMALL(1°-30°) DEVIATION	Each			R -			R -	R -
4.4	1314	PHASE / PHASE - VERTICAL (600mmSPACING) - STRAIN - SMALL(1°-30°) DEVIATION - Rx	Each			R -			R -	R -
4.5	1334	PHASE / PHASE - DELTA / 1,3mSTEEL X-ARM - STRAIN - MEDIUM (1°-60°) DEVIATION	Each			R -			R -	R -
4.6	1334	PHASE / PHASE - DELTA / 1,3mSTEEL X-ARM - STRAIN - MEDIUM (1°-60°) DEVIATION Rx	Each			R -			R -	R -
4.7	1344	Phase / phase – Delta/2.5M Wooden X-arm –Strain - Medium (1-60°) Deviation	Each			R -			R -	R -
4.8	1344	Phase / phase – Delta/2.5M Wooden X-arm –Strain - Medium (1-60°) Deviation -Rx	Each			R -			R -	R -
4.9	1374	Phase / phase - H-Pole / 4,5m Wood X-arm – Strain - Medium(1°- 60°) Deviation	Each			R -			R -	R -
4.10	1374	Phase / phase - H-Pole / 4,5m Wood X-arm – Strain - Medium(1°- 60°) Deviation -RX	Each			R -			R -	R -
5		**Strainer - Terminal**								
5.1	1346	Phase / phase – Delta/2.5M Wood X-arm – Strain - Terminal	Each			R -			R -	R -
5.2	1346	Phase / phase – Delta/2.5M Wood X-arm – Strain - Terminal -Rx	Each			R -			R -	R -
5.3	1376	Phase / phase - H-Pole / 4,5m Wood X-arm – Strain – Terminal	Each			R -			R -	R -
5.4	1376	Phase / phase - H-Pole / 4,5m Wood X-arm – Strain – Terminal -RX	Each			R -			R -	R -
6		**Take-Off**								

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
6.1	1811	Phase / phase Take-off – Vertical (600mm spacing)	Each			R -			R -	R -
6.2	1811	Phase / phase Take-off – Vertical (600mm spacing)-RX	Each			R -			R -	R -
6.3	1814	Phase / phase Take-off - 2,5m Wooden X-arm	Each			R -			R -	R -
6.4	1814	Phase / phase Take-off - 2,5m Wooden X-arm-RX	Each			R -			R -	R -
6.5	1815	Phase / phase Take-off - 2 x 2,5m Wooden X-arm	Each			R -			R -	R -
6.6	1815	Phase / phase Take-off - 2 x 2,5m Wooden X-arm-RX	Each			R -			R -	R -
6.7	1816	Phase / phase Take-off - H-Pole (3,5m Wooden X-arm)	Each			R -			R -	R -
6.8	1816	Phase / phase Take-off - H-Pole (3,5m Wooden X-arm)-RX	Each			R -			R -	R -
6.9	1817	Phase / phase Take-off - H-Pole (2 x 3,5m Wooden X-arm)	Each			R -			R -	R -
6.10	1817	Phase / phase Take-off - H-Pole (2 x 3,5m Wooden X-arm) -RX	Each			R -			R -	R -
		Assemble Three Phase MV Structures BONDING INCL (BIL DOWNWIRE,SPARK GAP DEVICE INCLUDED OR EXCLUDED AS PER DESIGN)								
7		**Intermediate - 0 deg**								
7.1	D-EC2063	3 Phase Delta intermediate 0 degrees D2063 - A-Frame with 4kN Posts + Bird Perch	Each			R -			R -	R -
7.2	D-EC2063	3 Phase Delta intermediate 0 degrees D2063 - A-Frame 10kN Posts + Bird Perch & road-xing ties	Each			R -			R -	R -
7.3	D-EC2063	3 Phase Delta intermediate 0 degrees D2063 - A-Frame with 4kN Posts + Bird Perch with spark gap	Each			R -			R -	R -
7.4	D-EC2063	3 Phase Delta intermediate 0 degrees D2063 - A-Frame 10kN Posts + Bird Perch & road-xing ties with spark gap	Each			R -			R -	R -
7.5	D-DT-1700	3 Phase - Staggered Vertical (450mm Spacing)	Each			R -			R -	R -
7.6	D-DT-1710	3 Phase - Staggered Vertical (600mm Spacing)	Each			R -			R -	R -
7.7	D-DT-1720	3 Phase - Delta (450mm Stud)	Each			R -			R -	R -
7.8	D-DT-1730	3 Phase - Delta (Intermediate 'T' Crossarm)	Each			R -			R -	R -
7.9	D-DT-1740	3 Phase - Delta / 2,5m Wood Crossarm	Each			R -			R -	R -
7.10	D-DT-1750	3 Phase - Delta / 4,5m Wood Crossarm	Each			R -			R -	R -
7.11	D-DT-1760	3 Phase - H-Pole / 3,5m Wood Crossarm	Each			R -			R -	R -
7.12	D-DT-1770	3 Phase - H-Pole / 4,5m Wood Crossarm	Each			R -			R -	R -
7.13	D-DT-1785	MV Heavy Conductor - 3 Phase Staggered Vertical 800mm Spacing	Each			R -			R -	R -
7.14	D-DT-1790	MV Heavy Conductor - 3 Phase - Delta - 3500mm Wooden Crossarm	Each			R -			R -	R -
7.15	D-DT-1793	MV Heavy Conductor - 22kV H-Pole Suspension Structure General Arrangement	Each			R -			R -	R -
7.16	D-DT-1870	Three Phase T-Frame / 2m Steel Crossarm	Each			R -			R -	R -
7.17	1740	3 Phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation	Each			R -			R -	R -
7.18	1740	3 Phase – Delta/2.5M Wooden X-arm –Strain - 0° Deviation Rx	Each			R -			R -	R -
7.19	D-DT-1870B	Three Phase T-Frame / 2m Steel Cross arm, Horizontal Configuration	Each			R -			R -	R -
7.20	1740B	3 Phase - Delta / 2,5m Wood X-arm – Intermediate - 0° Deviation	Each			R -			R -	R -
7.21	1740B	3 Phase - Delta / 2,5m Wood X-arm – Intermediate - 0° Deviation -RX	Each			R -			R -	R -
7.22	1740B	3 Phase - Delta / 2,5m Wood X-arm – Intermediate - 0° Deviation -With Spark Gap Device	Each			R -			R -	R -
7.23	1740B	3 Phase - Delta / 2,5m Wood X-arm – Intermediate - 0° Deviation -With Spark Gap Device-RX	Each			R -			R -	R -
7.24	1750	3 Phase - Delta / 4,5m Wood X-arm – Intermediate - 0° Deviation -RX	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
7.25	1750	3 Phase - Delta / 4,5m Wood X-arm – Intermediate - 0° Deviation -With Spark Gap Device	Each			R -			R -	R -
7.26	1750	3 Phase - Delta / 4,5m Wood X-arm – Intermediate - 0° Deviation -With Spark Gap Device-RX	Each			R -			R -	R -
7.27	1710	3 Phase - Staggered Vertical (600mm Spacing) Intermediate 0° Deviation Rx	Each			R -			R -	R -
7.28	1770	3 Phase - H-Pole / 4,5m Wood X-arm – Intermediate - 0° Deviation -RX	Each			R -			R -	R -
7.29	1770	3 Phase - H-Pole / 4,5m Wood X-arm – Intermediate - 0° Deviation - With Spark Gap Device	Each			R -			R -	R -
7.30	1770	3 Phase - H-Pole / 4,5m Wood X-arm – Intermediate - 0° Deviation - With Spark Gap Device -RX	Each			R -			R -	R -
7.31	1790	Heavy Conductor - 3 Phase Delta-3500mm Wooden X-arm Intermediate 0° Deviation Rx	Each			R -			R -	R -
7.32	1710	3 Phase - Staggered Vertical (600mm Spacing) Intermediate 0° Deviation Rx	Each			R -			R -	R -
8		**Intermediate - (0 - 10) deg**								
8.1	D-DT-1701	3 Phase - Vertical (450mm Spacing)	Each			R -			R -	R -
8.2	D-DT-1711	3 Phase - Vertical (600mm Spacing)	Each			R -			R -	R -
8.3	D-DT-1771	3 Phase - H-Pole / 4,5m Wood Crossarm	Each			R -			R -	R -
8.4	D-DT-1871	Three Phase T-Frame / 2m Steel Crossarm	Each			R -			R -	R -
8.5	1771	3 Phase - H-Pole / 4,5m Wood X-arm – Intermediate - Small(1°-±10°) Deviation -RX	Each			R -			R -	R -
8.6	1711	3 Phase - Vertical (600mm Spacing) Intermediate-Small (1- ±10°) Deviation Rx	Each			R -			R -	R -
9		**Intermediate - (15 - 30) deg**								
9.1	D-DT-1702	3 Phase - Vertical (450mm Spacing)	Each			R -			R -	R -
9.2	D-DT-1712	3 Phase - Vertical (600mm Spacing)	Each			R -			R -	R -
9.3	1712	3 Phase - Vertical (600mm Spacing) Intermediate-Medium (±15-30°) Deviation Rx	Each			R -			R -	R -
10		**Strainer - 0 deg**								
10.1	D-DT-1703	3 Phase - Vertical (450mm Spacing)	Each			R -			R -	R -
10.2	D-DT-1713	3 Phase - Vertical (600mm Spacing)	Each			R -			R -	R -
10.3	D-DT-1733	3 Phase - Delta / 1,3m Steel Crossarm	Each			R -			R -	R -
10.4	D-DT-1743	3 Phase - 600mm Phase Spacing Delta / 2,5m Wood Crossarm	Each			R -			R -	R -
10.5	D-DT-1747	3 Phase - 600mm Phase Spacing Delta / 2 x 2,5m Wood Crossarm	Each			R -			R -	R -
10.6	D-DT-1747	3 Phase - 800mm Phase Spacing Delta / 2 x 2,5m Wood Crossarm	Each			R -			R -	R -
10.7	D-DT-1753	3 Phase - Delta / 4,5m Wood Crossarm	Each			R -			R -	R -
10.8	D-DT-1763	3 Phase - Delta / 3,5m Wood Crossarm	Each			R -			R -	R -
10.9	D-DT-1767	3 Phase - H-Pole / 2 x 3,5m Wood Crossarm	Each			R -			R -	R -
10.10	D-DT-1773	3 Phase - H-Pole / 4,5m Wood Crossarm	Each			R -			R -	R -
6.3	1814	Phase / phase Take-off - 2,5m Wooden X-arm	Each			R -			R -	R -
10.12	D-DT-1783	3 Phase - Trips	Each			R -			R -	R -
10.13	D-DT-1786	MV Heavy Conductor - 22kV 3 Phase - Vertical 800mm Spacing	Each			R -			R -	R -
10.14	D-DT-1794	MV Heavy Conductor - 22kV H-Pole Braced	Each			R -			R -	R -
10.15	1767	3 Phase - H-Pole / 2 x 3,5m Wood X-arm – Strain - 0° Deviation -RX	Each			R -			R -	R -
10.16	1773	3 Phase - H-Pole / 4,5m Wood X-arm - Strain - 0° Deviation-RX	Each			R -			R -	R -
10.17	1777	3 Phase – H-Pole / 2 x 4,5m Wood X-arm – Strain - 0° Deviation -RX	Each			R -			R -	R -
10.18	1713	3 Phase - Vertical (600mm Spacing) Strain 0° Deviation Rx	Each			R -			R -	R -
10.19	1743	3 Phase - Delta / 2,5m Wood X-arm - Strain – 0° Deviation -RX	Each			R -			R -	R -
10.20	1747	3 Phase - Delta / 2 x 2,5m Wood X-arm - Strain - 0° Deviation -RX	Each			R -			R -	R -
10.21	1753	3 Phase - Delta / 4,5m Wood X-arm - Strain – 0° Deviation -RX	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
10.22	1763	3 Phase - H-Pole / 3,5m Wood X-arm - Strain - 0° Deviation -RX	Each			R -			R -	R -
10.23	1785	3 Phase - Staggered Vertical (800mm spacing) 0° Deviation Rx Wood Poles Rx	Each			R -			R -	R -
10.24	1786	3 Phase - Vertical (800mm spacing) Strain 0° Deviation 10kN Wood Poles Rx	Each			R -			R -	R -
10.25	1783	3 Phase – Trips – Strain - 0° Deviation (Front view) -RX	Each			R -			R -	R -
10.26	1794	Heavy Conductor H-Pole Braced In-Line strain-RX	Each			R -			R -	R -
11		**Strainer - Small (1 - 30) deg**								
11.1	D-DT-1704	3 Phase - Vertical (450mm Spacing)	Each			R -			R -	R -
11.2	D-DT-1714	3 Phase - Vertical (600mm Spacing)	Each			R -			R -	R -
11.3	D-DT-1734	3 Phase - Delta / 1,3m Steel Crossarm	Each			R -			R -	R -
11.4	D-DT-1787	MV Heavy Conductor - 22kV 3 Phase - Vertical 800mm Spacing	Each			R -			R -	R -
11.5	1714	3 Phase - Vertical (600mm Spacing) Strain - Small(1-30°) Deviation Rx	Each			R -			R -	R -
11.6	1787	3 Phase - Vertical (800mm spacing) Strain 0-30° Deviation 10kN Wood Poles Rx	Each			R -			R -	R -
12		**Strainer - Medium (1 - 60) deg**								
12.1	D-DT-1744	3 Phase - Delta / 2,5m Wood Crossarm	Each			R -			R -	R -
12.2	D-DT-1748	3 Phase - Delta / 2 x 2,5m Wood Crossarm	Each			R -			R -	R -
12.3	D-DT-1754	3 Phase - Delta / 4,5m Wood Crossarm	Each			R -			R -	R -
12.4	D-DT-1754	3 Phase - Delta / 2 x 4,5m Wood Crossarm	Each			R -			R -	R -
12.5	D-DT-1764	3 Phase - H-Pole / 3,5m Wood Crossarm	Each			R -			R -	R -
12.6	D-DT-1768	3 Phase - Pole / 2 x 3,5m Wood Crossarm	Each			R -			R -	R -
12.7	D-DT-1774	3 Phase - H-Pole / 4,5m Wood Crossarm	Each			R -			R -	R -
12.8	D-DT-1778	3 Phase - Pole / 2 x 4,5m Wood Crossarm	Each			R -			R -	R -
12.9	D-DT-1795	MV Heavy Conductor - 22kV H-Pole Braced	Each			R -			R -	R -
12.10	1744	3 Phase - Delta / 2,5m Wood X-arm - Strain – Medium(1°-60°) Deviation - RX	Each			R -			R -	R -
12.11	1748	3 Phase - Delta / 2 x 2,5m Wood X-arm - Strain - Medium(1°-60°) Deviation -RX	Each			R -			R -	R -
12.12	1754	3 Phase - Delta / 4,5m Wood X-arm - Strain – Medium(1°-60°) Deviation - RX	Each			R -			R -	R -
12.13	1754	3 Phase - Delta / 2x4,5m Wood X-arm - Strain – Medium(1°-60°) Deviation -RX	Each			R -			R -	R -
12.14	1764	3 Phase - H-Pole / 3,5m Wood X-arm - Strain - Medium(1°-60°) Deviation -RX	Each			R -			R -	R -
12.15	1768	3 Phase - H-Pole / 2 x 3,5m Wood X-arm – Strain - Medium(1°-60°) Deviation -RX	Each			R -			R -	R -
12.16	1774	3 Phase – H-Pole / 4,5m Wood X-arm - Strain - Medium(1°-60°) Deviation -RX	Each			R -			R -	R -
12.17	1778	3 Phase – H-Pole / 2 x 4,5m Wood X-arm – Strain – Medium(1°-60°) Deviation -RX	Each			R -			R -	R -
12.18	1795	Heavy Conductor H-Pole Braced Angle strain (1-60˚)-RX	Each			R -			R -	R -
13		**Strainer - Large (61- 90) deg**								
13.1	D-DT-1705	3 Phase - Vertical (450mm Spacing)	Each			R -			R -	R -
13.2	D-DT-1715	3 Phase - Vertical (600mm Spacing)	Each			R -			R -	R -
13.3	D-DT-1735	3 Phase - Delta / 1,3m Steel Crossarm	Each			R -			R -	R -
13.4	D-DT-1742	3 Phase - Delta 2,5m Wood Crossarm / 1700 Steel Crossarm	Each			R -			R -	R -
13.5	D-DT-1742	3 Phase - Delta 2,5m Wood Crossarm / 2,5m Wood Crossarm	Each			R -			R -	R -
13.6	D-DT-1745	3 Phase - Delta 2 x 2,5m Wood Crossarm / 1700 Steel Crossarm	Each			R -			R -	R -
13.7	D-DT-1745	3 Phase - Delta 2 x 2,5m Wood Crossarm / 2 x 2,5m Wood Crossarm	Each			R -			R -	R -
13.8	D-DT-1745	3 Phase - Delta 1 x 2,5m Wood Crossarm / 1700 Steel Crossarm	Each			R -			R -	R -
13.9	D-DT-1745	3 Phase - Delta 2,5m Wood Crossarm 2,5m Wood Crossarm	Each			R -			R -	R -
13.10	D-DT-1784	3 Phase - Trips	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
13.11	D-DT-1788	MV Heavy Conductor - 22kV 3 Phase - Vertical 800mm Spacing	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
13.12	D-DT-1791	MV Heavy Conductor - 22kV 3 Phase - Vertical 800mm Spacing (Double Wood Poles)	Each			R -			R -	R -
13.13	D-DT-1792	MV Heavy Conductor - 22kV 3 Phase - Vertical 800mm Spacing (Double Wood Poles)	Each			R -			R -	R -
13.14	D-DT-1873	3 Phase - H-Pole / 2 x 4.5m Wooden Crossarm	Each			R -			R -	R -
13.15	1715	3 Phase - Vertical (600mm Spacing) Strain - Large(30-90°) Deviation Rx	Each			R -			R -	R -
13.16	1745	3 Phase - Delta /2 x 2,5m wood x-arms/1700 WOOD x-arm - strain - (60° - 90°) deviation-RX	Each			R -			R -	R -
13.17	1745	3 Phase - Delta /2 x 2,5m wood x-arms/ 3x2.5 wood x-arms - strain - (60° - 90°) deviation	Each			R -			R -	R -
13.18	1745	3 Phase - Delta /2 x 2,5m wood x-arms/ 3x2.5 wood x-arms - strain - (60° - 90°) deviation-RX	Each			R -			R -	R -
13.19	1784	3 Phase – Trips – Strain - Large(1°-90°) Deviation (Front view) -RX	Each			R -			R -	R -
13.20	1873	3 Phase H-pole /2X4.5m Wooden X-arm Strain Large (60-90˚) Deviation Rx	Each			R -			R -	R -
14		**Strainer - Terminal**								
14.1	D-DT-1706	3 Phase - Vertical (450mm Spacing)	Each			R -			R -	R -
14.2	D-DT-1716	3 Phase - Vertical (600mm Spacing)	Each			R -			R -	R -
14.3	D-DT-1736	3 Phase - Delta / 1,3m Steel Crossarm	Each			R -			R -	R -
14.4	D-DT-1746	3 Phase - Delta / 2,5M Wood Crossarm	Each			R -			R -	R -
14.5	D-DT-1749	3 Phase - Delta / 2 x 2,5m Wood Crossarm	Each			R -			R -	R -
14.6	D-DT-1756	3 Phase - Delta / 4,5M Wood Crossarm	Each			R -			R -	R -
14.7	D-DT-1766	3 Phase - H-pole / 3,5m Wood Crossarm	Each			R -			R -	R -
14.8	D-DT-1769	3 Phase - H-pole / 2 x 3,5m Wood Crossarm	Each			R -			R -	R -
14.9	D-DT-1776	3 Phase - H-pole / 4,5m Wood Crossarm	Each			R -			R -	R -
14.10	D-DT-1779	3 Phase - H-pole / 2 x 4,5m Wood Crossarm	Each			R -			R -	R -
14.11	D-DT-1789	MV Heavy Conductor - 22kV 3 Phase - Vertical 800mm Spacing	Each			R -			R -	R -
14.12	D-DT-1796	MV Heavy Conductor - 22kV H-Pole Braced	Each			R -			R -	R -
14.13	1746	3 Phase - Delta / 2,5m Wood X-arm - Strain – Terminal -RX	Each			R -			R -	R -
14.14	1749	3 Phase - Delta / 2 x 2,5m Wood X-arm - Strain - Terminal -RX	Each			R -			R -	R -
14.15	1756	3 Phase - Delta / 4,5m Wood X-arm - Strain – Terminal -RX	Each			R -			R -	R -
14.16	1766	3 Phase - H-Pole / 3,5m Wood X-arm - Strain - Terminal -RX	Each			R -			R -	R -
14.17	1769	3 Phase - H-Pole / 2 x 3,5m Wood X-arm - Strain – Terminal -RX	Each			R -			R -	R -
14.18	1776	3 Phase – H-Pole / 4,5m Wood X-arm - Strain - Terminal -RX	Each			R -			R -	R -
14.19	1779	3 Phase – H-Pole / 2 x 4,5m Wood X-arm – Strain – Terminal-RX	Each			R -			R -	R -
14.20	1789	3 Phase - Vertical (800mm spacing) Strain -Terminal (10kN Wood Poles) Rx	Each			R -			R -	R -
14.21	1716	3 Phase - Vertical (600mm Spacing) Strain - Terminal Rx	Each			R -			R -	R -
14.22	1796	Heavy Conductor H-Pole Braced Terminal structure-RX	Each			R -			R -	R -
14.23	1793	Heavy Conductor H-Pole Suspension Structure-RX	Each			R -			R -	R -
14.24	1793	Heavy Conductor H-Pole Suspension Structure- With Spark Gap Device	Each			R -			R -	R -
14.25	1793	Heavy Conductor H-Pole Suspension Structure- With Spark Gap Device-RX	Each			R -			R -	R -
15		**Take-Off**								
15.1	D-DT-1800	3 Phase Take-Off - Vertical (450mm Spacing)	Each			R -			R -	R -
15.2	D-DT-1801	3 Phase Take-Off - Vertical (600mm Spacing)	Each			R -			R -	R -
15.3	D-DT-1803	3 Phase Take-Off - Delta / 1.3m Steel Crossarm	Each			R -			R -	R -
15.4	D-DT-1804	3 Phase Take-Of - 2,5M Wooden Crossarm	Each			R -			R -	R -
15.5	D-DT-1805	3 Phase Take-Of - 2 x 2,5M Wooden Crossarm	Each			R -			R -	R -
15.6	D-DT-1806	3 Phase Take-Of - H-Pole 3,5M Wooden Crossarm	Each			R -			R -	R -
15.7	D-DT-1807	3 Phase Take-Of - H-Pole 2 x 3,5M Wooden Crossarm	Each			R -			R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
15.8	D-DT-1808	3 Phase Take-Off - 1.7m Steel Crossarm (Fox)	Each			R -			R -	R -
15.9	D-DT-1809	3 Phase Take-Off - 1.7m Steel Crossarm (Hare)	Each			R -			R -	R -
15.10	1801	3 Phase Take-off – Vertical 600mm Spacing Rx	Each			R -			R -	R -
15.11	1804	3 Phase Take-off - 2,5m Wooden X-arm-RX	Each			R -			R -	R -
15.12	1805	3 Phase Take-off - 2 x 2,5m Wooden X-arm-RX	Each			R -			R -	R -
15.13	1806	3 Phase Take-off - H-Pole (3,5m Wooden X-arm)-RX	Each			R -			R -	R -
15.14	1807	3 Phase Take-off - H-Pole (2 x 3,5m Wooden X-arm) -RX	Each			R -			R -	R -
15.15	(OU Specific Drawing No)	Erect goal posts, supply and erect temporary structures and traffic signs and regulate traffic during construction for all **road crossings/railways crossings.** (This includes any loss of production during road crossings and ensuring that access is maintained to roads and properties as well as any fees by Prov. Traffic Dept)	Each			R -			R -	R -
		SUB-TOTAL E				**R -**			**R -**	**R -**
F		**ASSEMBLE MV STAYS**								
Supply and install stays, flying stays, struts Hip Stay including backfilling & compaction (cement measured elsewhere). Accessories include staywire, stayrods, stay plates, soil anchors, stay insulators, guy grips stay mounting brackets, mounting hardware, anti climbing devices, stayguards and danger labels. Poles and excavations are measured elsewhere. The installation and erection of strut poles are measured here. All hardware purchased will be paid elsewhere as cost plus fee.										
1.1	**D-DT-0341**	**Make-Off Convential Stay**	**Each**			**R -**			**R -**	**R -**
1.2	**D-DT-0343**	**Make-Off Flying Stay**	**Each**			**R -**			**R -**	**R -**
1.3	**D-DT-0342/0351**	**Make-Off Strut Pole**	**Each**			**R -**			**R -**	**R -**
1.4	D-DT-0344	Hip Stay	Each			R -			R -	R -
1.5	0357 (Sh 1 of 3)	LV/MV-ROCK ANCHOR INSTALLATION (EXPANDABLE SHELL & RESIN TYPE)	Each			R -			R -	R -
1.6	0357 (Sh 2 of 3)	LV/MV-ROCK ANCHOR INSTALLATION (2 EYED ROD AND PIN TYPE)	Each			R -			R -	R -
1.7	0357 (Sh 3 of 3)	MV- SOFT ROCK ANCHOR INSTALLATION	Each			R -			R -	R -
		SUB-TOTAL F				**R -**			**R -**	**R -**
G		**ASSEMBLE SINGLE PHASE LV STRUCTURES**								
Supply and erect LV support structures as per Eskom DDT 1100 (use insulated/bare neutral ABC). Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436										
1		**A. List of single-phase ABC wood pole**								
1.1	1120	LV 1 phase insulated/bare neutral ABC Suspension Assembly (0°- 30°)	Each			R -			R -	R -
1.2	1154	LV 1 phase insulated/bare neutral ABC Terminal Assembly	Each			R -			R -	R -
1.3	1155	LV 1 phase insulated/bare neutral ABC Strain Assembly (0°- 60°)	Each			R -			R -	R -
1.4	1156	LV 1 phase insulated/bare neutral LV 2 phase bare neutral (60°- 90°)	Each			R -			R -	R -
1.5	1157	LV 1 phase insulated/bare neutral ABC T from Intermediate	Each			R -			R -	R -
1.6	1158	LV 1 phase insulated/bare neutral ABC Cross Intermediate Suspension Assembly	Each			R -			R -	R -
1.7	1159	LV 1 phase insulated/bare neutral ABC T from Strain	Each			R -			R -	R -
1.8	1160	LV 1 phase insulated/bare neutral ABC X Intermediate-Strain Assembly	Each			R -			R -	R -
1.9	1161	LV - 1 PHASE BARE NEUTRAL ABC INLINE FUSE UNIT ASSEMBLY WOOD POLE	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
		ASSEMBLE DUAL PHASE LV STRUCTURES								
Supply and erect LV support structures as per Eskom DDT 1100(only use insulated neutral ABC). Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436										
2		**B. List of Dual - phase ABC wood pole**								
2.1	1145	LV 2 phase insulated/bare neutral ABC Suspension Assembly (0°- 30°)	Each			R -			R -	R -
2.2	1146	LV 2 phase insulated/bare neutral LABC Terminal Assembly	Each			R -			R -	R -
2.3	1147	LV 2 phase insulated/bare neutral ABC Strain Assembly (0° - 60°)	Each			R -			R -	R -
2.4	1148	LV 2 phase insulated/bare neutral ABC Strain Assembly (60° - 90°)	Each			R -			R -	R -
2.5	1149	LV 2 phase insulated/bare neutral ABC T from Intermediate	Each			R -			R -	R -
2.6	1150	LV 2 phase insulated/bare neutral ABC Intermediate Suspension Assembly	Each			R -			R -	R -
2.7	1151	LV 2 phase insulated/bare neutral ABC T from Strain	Each			R -			R -	R -
2.8	1152	LV 2 phase insulated/bare neutral ABC X Intermediate-Strain Assembly	Each			R -			R -	R -
		ASSEMBLE 3 PHASE LV STRUCTURES								
Supply and erect LV support structures as per Eskom DDT 1100 (use insulated/bare neutral ABC). Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436										
3		**A. List of 3-phase ABC wood pole**								
3.1	D-DT-1100	LV - 3 Phase insulated/bare neutral ABC Suspension Assembly 0-30 Deg.	Each			R -			R -	R -
3.2	D-DT-1121	LV - 3 Phase insulated/bare neutral ABC Strain Assembly 0-60 Deg.	Each			R -			R -	R -
3.3	D-DT-1122	LV - 3 Phase insulated/bare neutral ABC Strain Assembly 60-90 Deg.	Each			R -			R -	R -
3.4	D-DT-1120	LV - 3 Phase insulated/bare neutral ABC Terminal Assembly	Each			R -			R -	R -
3.5	D-DT-1140	LV - 3 Phase insulated/bare neutral ABC T-Off Assembly from Intermediate	Each			R -			R -	R -
3.6	D-DT-1141	LV - 3 Phase insulated/bare neutral ABC Cross Intermediate - Intermediate Assembly	Each			R -			R -	R -
3.7	D-DT-1142	LV - 3 Phase insulated/bare neutral ABC T-Off Assembly From Strain	Each			R -			R -	R -
3.8	D-DT-1143	LV - 3 Phase insulated/bare neutral ABC Cross Intermediate - Strain Assembly	Each			R -			R -	R -
Supply and erect LV support structures as per Eskom DDT 1100. Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436										
4		**D. List of three-phase Bare Wire wood pole**								
4.1	0920	LV 3phase Bare Wire Suspension Assembly 0 Deg	Each			R -			R -	R -
4.2	0921	LV 3phase Bare Wire in-line Strain Assembly	Each			R -			R -	R -
4.3	0922	LV 3 phase Bare Wire 1-100 Deg Angle Assembly	Each			R -			R -	R -
4.4	0924	LV 3 phase Bare Wire Terminal Assembly	Each			R -			R -	R -
4.5	0925	LV 3 phase Bare Wire T-Off Assembly from Intermediate	Each			R -			R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
4.6	0926	LV 3 phase Bare Wire Intermediate Right Angle Crossing	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
4.7	0927	LV 3 phase Bare Wire T-Off Assembly from Strain	Each			R -			R -	R -
4.8	0928	LV 3 phase Bare Wire Cable Connection	Each			R -			R -	R -
4.9	0929	LV 3 phase Bare Wire Service Distribution Box Connection	Each			R -			R -	R -
4.10	0932	LV 3 phase Bare Wire Open Wire/ABC Connection	Each			R -			R -	R -
4.11	0934	LV 3 phase Bare Wire Intermediate Strain Crossing	Each			R -			R -	R -
4.12	0935	LV 3 phase Bare Wire Strain-Strain Crossing	Each			R -			R -	R -
		ASSEMBLE DUAL - PHASE LV STRUCTURES								
Supply and erect LV support structures as per Eskom DDT 1100. Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436										
5		**E. List of Dual - phase Bare Wire Wood pole**								
5.1	0940	LV 2phase Bare Wire Suspension Assembly 0 Deg	Each			R -			R -	R -
5.2	0941	LV 2phase Bare Wire in-line Strain Assembly	Each			R -			R -	R -
5.3	0942	LV 2 phase Bare Wire 1-100 Deg Angle Assembly	Each			R -			R -	R -
5.4	0944	LV 2 phase Bare Wire Terminal Assembly	Each			R -			R -	R -
5.5	0945	LV 2phase Bare Wire T-Off Assembly from Intermediate	Each			R -			R -	R -
5.6	0946	LV 2phase Bare Wire Intermediate Right Angle Crossing	Each			R -			R -	R -
5.7	0947	LV 2 phase Bare Wire T-Off Assembly from Strain	Each			R -			R -	R -
5.8	0948	LV 2 phase Bare Wire Cable Connection	Each			R -			R -	R -
5.9	0949	LV 2 phase Bare Wire Service Distribution Box Connection	Each			R -			R -	R -
5.10	0950	LV 2 phase Bare Wire Open Wire/ABC Connection	Each			R -			R -	R -
5.11	0951	LV 2 phase Bare Wire Intermediate Strain Crossing	Each			R -			R -	R -
5.12	0952	LV 2 phase Bare Wire Strain-Strain Crossing	Each			R -			R -	R -
		ASSEMBLE SINGLE - PHASE LV STRUCTURES								
Supply and erect LV support structures as per Eskom DDT 1100. Auxiliary equipment such as strain clamps, suspension clamps, cable ties, IPC's , end caps, LV shackle insulators, binding wires, D brackets, dead end preforms, threaded rods, pigtail bolts, eyenuts, terminations to be included. Pole, stay and strut material and excavations are measured elsewhere. All hardware purchased will be paid elsewhere as cost plus fee.A436										
6		**F. List of Single-phase Bare Wire wood pole**								
6.1	0960	LV 1phase Bare Wire Suspension Assembly 0 Deg	Each			R -			R -	R -
6.2	0961	LV 1phase Bare Wire in-line Strain Assembly	Each			R -			R -	R -
6.3	0962	LV 1 phase Bare Wire 1-100 Deg Angle Assembly	Each			R -			R -	R -
6.4	0964	LV 1 phase Bare Wire Terminal Assembly	Each			R -			R -	R -
6.5	0965	LV 1phase Bare Wire T-Off Assembly from Intermediate	Each			R -			R -	R -
6.6	0966	LV 1phase Bare Wire Intermediate Right Angle Crossing	Each			R -			R -	R -
6.7	0967	LV 1 phase Bare Wire T-Off Assembly from Strain	Each			R -			R -	R -
6.8	0968	LV 1 phase Bare Wire Cable Connection	Each			R -			R -	R -
6.9	0969	LV 1 phase Bare Wire Service Distribution Box Connection	Each			R -			R -	R -
6.10	0970	LV 1phase Bare Wire Open Wire/ABC Connection	Each			R -			R -	R -
6.11	0971	LV 1 phase Bare Wire Intermediate Strain Crossing	Each			R -			R -	R -
6.12	0972	LV 1 phase Bare Wire Strain-Strain Crossing	Each			R -			R -	R -
6.13	0980	LV Bare Wire - MV/LV Bare Wire Staying Technology	Each			R -			R -	R -
6.14	0981	LV Bare Wire - LV Metering 3Phase, 2Phase and 1Phase Connections	Each			R -			R -	R -
6.15	0982	LV Bare Wire - Eye Nut Assembly	Each			R -			R -	R -
6.16	0983	LV Bare Wire - Binding Techniques	Each			R -			R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL	
SUB-TOTAL G						**R -**			**R -**	**R -**	
H		**ASSEMBLE LV STAYS**									
Supply and install stays, flying stays, struts Short Stay including backfilling & compaction. Accessories include staywire, stayrods, stay plates, soil anchors, stay insulators, guy grips stay mounting brackets, mounting hardware, anti climbing devices, stayguards and danger labels. Poles and excavations are measured elsewhere. The installation and erection of strut poles are measured here. All hardware purchased will be paid elsewhere as cost plus fee.											
1.1	D-DT-0341	Make-Off Convential Stay	Each			R -			R -	R -	
1.2	D-DT-0343	Make-Off Flying Stay	Each			R -			R -	R -	
1.3	D-DT-0342/0351	Make-Off Strut Pole	Each			R -			R -	R -	
1.4	D-DT-0344	Make-Off Short Strut Pole	Each			R -			R -	R -	
SUB-TOTAL H						**R -**			**R -**	**R -**	
I		**POLE TOP BOX INSTALLATION**									
Install on a wooden and/or concrete pole a pole mounted distribution box as specified complete with pole mounting brackets (including sealing), cable ties, PG clamps, miniature circuit breaker(s), neutral, phase and earth bars, insulated copper tails for connecting to LV ABC, insulation piercing connectors and factory installed cable openings. Included shall be the stainless steel strapping, buckles and terminations of the tails onto the LV ABC. Eskom D-DT standards as amended will apply.											
1.1	D-DT-3236	2 Way Steel Box for Split/Smart Metering	Each			R -			R -	R -	
1.2	D-DT-3236	4 Way Steel Box for Split/Smart Metering	Each			R -			R -	R -	
1.3	D-DT-3236	6 Way Steel Box for Split/Smart Metering	Each			R -			R -	R -	
1.3	D-DT-3236	8 Way Steel Box for Split/Smart Metering	Each			R -			R -	R -	
1.4	3055	BOX,POLE TOP Split/Smart METER 2-WAY ~~50A~~ D3055	Each			R -			R -	R -	
1.5	3055	BOX,POLE TOP Split/Smart METER 4-WAY ~~50A~~ D3055	Each			R -			R -	R -	
1.6		BOX,POLE TOP Split/Smart METER 6-WAY ~~50A~~ D3055	Each			R -			R -	R -	
1.7	3055	BOX,POLE TOP Split/Smart METER 2-WAY ~~120A~~ D3055	Each			R -			R -	R -	
1.8	3055	BOX,POLE TOP Split/Smart METER 8-WAY ~~50A~~ D3055	Each			R -			R -	R -	
1.9	D-DT-0338	LV Services Ground (Cross arm) Mounted Small Power User Outdoor Supply	Each			R -			R -	R -	
1.10	D-DT-0338	LV Services Pole (H-Pole F Bracket) mounted Large Power User Outdoor Supply	Each			R -			R -	R -	
1.11	D-DT-0338	LV Services Pole Mounted Small Power User Outdoor Supply	Each			R -			R -	R -	
1.12	D-DT-0338	LV Services Ground Mounted LPU Outdoor Supply	Each			R -			R -	R -	
1.13	D-DT-0338	LV Services Ground (Cross Arm) Mounted SPU outdoor Supply (Away From Transformer)	Each			R -			R -	R -	
1.14	D-DT-0338	LV Services Ground Mounted Large Power User < 200kVA Outdoor Supply (away from Transformer)	Each			R -			R -	R -	
1.15	D-DT-1042 & D-DT-3055	Box, pole top smart split meter 2-way 20A	Each			R -			R -	R -	
1.16	D-DT-1042 & D-DT-3056	Box, pole top smart split meter 2-way 60A	Each			R -			R -	R -	
1.17	D-DT-1043 & D-DT-3055	Box, pole top smart split meter 4-way 20A	Each			R -			R -	R -	
1.18	D-DT-1043 & D-DT-3056	Box, pole smart top split meter 4-way 60A	Each			R -			R -	R -	
1.19	D-DT-1043 & D-DT-3057	Box, pole top split meter 6-way 20A	Each			R -			R -	R -	
1.20	D-DT-1043 & D-DT-3058	Box, pole top split meter 6-way 60A	Each			R -			R -	R -	
1.21	D-DT-1045 & D-DT-3055	Box, pole top smart split meter 8-way 20A	Each			R -			R -	R -	

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
1.22	D-DT-1030	Kiosk meter: 1ph; 4.6 kVA; 2 way; secure; pole mount (20A)	Each			R -			R -	R -
1.23	D-DT-1031	Kiosk meter: 1ph; 4.6 kVA; 4 way; secure; pole mount (20A)	Each			R -			R -	R -
1.24	D-DT-1032	Kiosk meter: 1ph; 4.6 kVA; 6 way; secure; pole mount (20A)	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
1.25	D-DT-1033	Kiosk meter: 1ph; 4.6 kVA; 8 way; secure; pole mount (20A)	Each			R -			R -	R -
1.26	D-DT-1030	Kiosk meter: 1ph; 14 kVA; 2 way; secure; pole mount (60A)	Each			R -			R -	R -
1.27	D-DT-1031	Kiosk meter: 1ph; 14 kVA; 4 way; secure; pole mount (60A)	Each			R -			R -	R -
1.28	D-DT-1032	Kiosk meter: 1ph; 14 kVA; 6 way; secure; pole mount (60A)	Each			R -			R -	R -
1.29	D-DT-1033	Kiosk meter: 1ph; 14 kVA; 8 way; secure; pole mount (60A)	Each			R -			R -	R -
1.30	D-DT-6050	PADLOCK, ST LV MASTER KZN OU D6050 (ORANGE)	Each			R -			R -	R -
		SUB-TOTAL I				**R -**			**R -**	**R -**
J		**CONDUCTOR STRINGING (TENSION, REGULATE & BIND IN)**								
Install Eskom issued marked conductor. Material quantity to allow for 5% sag in addition to actual conductor length quantity. Installation includes handling, stringing and final sagging. This will be for greased ungreased conductor										
1.1		Fox Conductor 1-Phase	m			R -			R -	R -
1.2		Fox Full Tension Joint*	Each			R -			R -	R -
1.3		Mink Conductor 1-Phase	m			R -			R -	R -
1.4		Mink Full Tension Joint*	Each			R -			R -	R -
1.5		Hare Conductor 1-Phase	m			R -			R -	R -
1.6		Hare Full Tension Joint*	Each			R -			R -	R -
1.7		Chickadee Conductor 1-Phase	m			R -			R -	R -
1.8		Chickadee Full Tension Joint*	Each			R -			R -	R -
1.9		Kingbird Conductor 1-Phase	m			R -			R -	R -
1.10		Kingbird Full Tension Joint*	Each			R -			R -	R -
1.11	3136	MV Bare AAAC Pine Greased	m			R -			R -	R -
1.12		Pine Conductor Full Tension Joint	Each			R -			R -	R -
1.13	3136	MV Bare AAAC Oak Greased	m			R -			R -	R -
1.14		Oak Conductor Full Tension Joint	Each			R -			R -	R -
1.15	3136	MV Bare AAAC 35mmsq Greased	m			R -			R -	R -
1.16	**0831**	35mm sq. Full Tension Joint* 2 Core	Each			R -			R -	R -
1.17	**0831**	35mm sq. Full Tension Joint* 3 Core	Each			R -			R -	R -
1.18	**0831**	35mm sq. Full Tension Joint* 4 Core	Each			R -			R -	R -
1.19	**0800 series**	70mm sq. Full Tension Joint* 4 Core	Each			R -			R -	R -
1.20	3141	COND,ABC 2C XLPE 35SQ INS/Bare NEUT	m			R -			R -	R -
1.21	3141	COND,ABC 3C XLPE 35SQ INS/Bare NEUT	m			R -			R -	R -
1.22	3141	COND,ABC 4C XLPE 35SQ INS/Bare NEUT	m			R -			R -	R -
1.23	3141	COND,ABC 3C XLPE 70SQ INS/Bare NEUT	m			R -			R -	R -
1.24	3141	COND,ABC 4C XLPE 70SQ INS/Bare NEUT	m			R -			R -	R -
1.25	3141	COND,ABC 4C XLPE 95SQ INS/Bare NEUT	m			R -			R -	R -
		SUB-TOTAL J				**R -**			**R -**	**R -**
K		**EQUIPMENT INSTALLATION**								

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL	
Install Transformer/Recloser/Voltage Regulator/MV Metering Units as per relevant Eskom DDT 1800 Series Assembly Drawing and OU Specific SI Engineering Instructions. All Auxiliary Equipment to include Station and Distribution MV, LV Surge Arrestors, Control Boxes, Metering Kiosks, Jumper Terminations, Anti Climbing Devices , LDPE Pipe Covered Jumpers as per 02TB-023 and Danger Labels, Channel Irons, Cradles, Standoff Insulators, Conductor Busbars and suitable Equipment Labels & X Arms. Pole Planting, Stays, Struts, Isolators Earthing Material and Excavations are elsewhere measured. Transformers/Reclosers/Voltage Regulators and MV Metering Units will be Eskom Free Issue Material. Main Line Structures and Auxiliary Equipment are elsewhere measured. All material purchased will be paid elsewhere as cost plus fee.											
1		**Transformers**									
1.1	D-DT-1862	Install 5-Pole Double Platform Mounted Transformer Structure	Each			R -			R -	R -	
1.2	D-DT-1863	Install 2-Pole Platform Mounted Transformer Structure	Each			R -			R -	R -	
1.3	D-DT-1864	Install 5-Pole Double Platform Mounted Transformer Structure (Out of Line)	Each			R -			R -	R -	
1.4	**D-DT-1865**	**Install 2-Pole Platform Mounted Transformer Structure (Out of Line)**	**Each**			**R -**			**R -**	**R -**	
1.5	D-DT-1865B	Transformer - Out- of- Line 100kVA to 200KVA	Each			R -			R -	R -	
1.6	D-DT-1866	Install Single Pole Mounted Out of Line Transformer Structure (Out of Line)	Each			R -			R -	R -	
1.7	**D-DT-1866B**	**Transformer - Out- of- Line 16kVA to 100kVA/64kVA**	**Each**			**R -**			**R -**	**R -**	
1.8	D-DT-3021	Relocate - 300-500kVA x 3-Phase	Each			R -			R -	R -	
1.9	D-DT-3021	Install Transformer - 300-500kVA x 3-Phase	Each			R -			R -	R -	
1.10	D-DT-3021	Relocate - 200kVA x 3-Phase	Each			R -			R -	R -	
1.11	D-DT-3021	Install Transformer - 200kVA x 3-Phase	Each			R -			R -	R -	
1.12	D-DT-3021	Relocate - 100kVA x 3-Phase	Each			R -			R -	R -	
1.13	D-DT-3021	Install Transformer - 100kVA x 3-Phase	Each			R -			R -	R -	
1.16	D-DT-3021	Relocate - 50kVA x 3-Phase	Each			R -			R -	R -	

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL	
1.17	D-DT-3021	Install Transformer - 50kVA x 3-Phase	Each			R -			R -	R -	
1.18	D-DT-3021	Relocate - 25kVA x 3-Phase	Each			R -			R -	R -	
1.19	D-DT-3021	Install Transformer - 25kVA x 3-Phase	Each			R -			R -	R -	
1.20	D-DT-3021	Relocate Transformer - 16kVA x 1-Phase	Each			R -			R -	R -	
1.22	D-DT-3021	Install Transformer - 16kVA x 1-Phase	Each			R -			R -	R -	
1.23		**Install Labels (Chromadek)**	**Each**			**R -**			**R -**	**R -**	
1.24	1860	Transformer - 5-100kVA Single Pole Mounted	Each			R -			R -	R -	
1.25	1861	TRANSFORMER - 100-200kVA / 2-POLE PLATFORM MOUNTED (H-POLE) GENERAL ARRANGEMENT	Each			R -			R -	R -	
1.26	D-FS 14414	TRANSFORMER - 100-200kVA / 2-POLE PLATFORM MOUNTED (H-POLE) GENERAL ARRANGEMENT	Each			R -			R -	R -	
1.27		Install 2.5/3.5cross arm on H-Pole with 3x Post insulators. For very long jumpers.	Each			R -			R -	R -	
2		**Transformer MV Protection**									
2.1	D-DT-1849	Equipment Links Cut-Outs Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each			R -			R -	R -	
2.2	D-DT-1850	Section / Equipment Links Or Disconnectors 1.3m Steel Crossarm / Single Pole	Each			R -			R -	R -	
2.3	D-DT-1869	Section / Equipment Links Cut/Out Or Disconnectors 1.7m Steel Crossarm/Single Pole	Each			R -			R -	R -	
2.4	D-DT-0261	Install Surge Arresters (3-phase)	Each			R -			R -	R -	
2.5		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)	Each			R -			R -	R -	
3		**Transformer LV Protection**									
3.1	D-DT-0309	80A Morsdorf Type Fuses - 3-Phase	Set			R -			R -	R -	
3.2	D-DT-0309	125A Morsdorf Type Fuses - 3-Phase	Set			R -			R -	R -	
3.3	D-DT-0309	160A Morsdorf Type Fuses - 3-Phase	Set			R -			R -	R -	
3.4	D-DT-3034	150A MCCB - 3-Phase(Circuit breaker)	Each			R -			R -	R -	
3.5	D-DT-3034	300A MCCB - 3-Phase(Circuit breaker)	Each			R -			R -	R -	
3.6	0309	Three phase trf and LV fuse holder connection - ABC conductor- 40A NH00	Set			R -			R -	R -	
3.7	0309	Three phase trf and LV fuse holder connection - ABC conductor- 63A NH00	Set			R -			R -	R -	
3.8	0309	Dual phase trf and LV fuse holder connection - ABC conductor- 40A NH00	Set			R -			R -	R -	
3.9	0309	Dual phase trf and LV fuse holder connection - ABC conductor- 63A NH00	Set			R -			R -	R -	
3.10	0309	Dual phase trf and LV fuse holder connection - ABC conductor- 80A NH00	Set			R -			R -	R -	
3.11	0309	Dual phase trf and LV fuse holder connection - ABC conductor- 125A NH00	Set			R -			R -	R -	
3.12	0309	Dual phase trf and LV fuse holder connection - ABC conductor- 160A NH00	Set			R -			R -	R -	
3.13	0309	Single phase trf and LV fuse holder connection - ABC conductor- 40A NH00	Set			R -			R -	R -	
3.14	0309	Single phase trf and LV fuse holder connection - ABC conductor- 63A NH00	Set			R -			R -	R -	
3.15	0309	Single phase trf and LV fuse holder connection - ABC conductor- 80A NH00	Set			R -			R -	R -	
3.16	0309	Single phase trf and LV fuse holder connection - ABC conductor- 125A NH00	Set			R -			R -	R -	
3.17	0309	Single phase trf and LV fuse holder connection - ABC conductor- 160A NH00	Set			R -			R -	R -	

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
3.18		Install Data Concentrator (Complete)	Each			R -			R -	R -
3.19		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek) To maximum of 3 LV feeders	Each			R -			R -	R -
3.18		Gateway/Data Concentrators (DCU) + Internal/Plug-in GSM Modem	Each			R -			R -	R -
3.19		Gateway/Data Concentrators (DCU) + External GSM Modem	Each			R -			R -	R -
3.20	D-DT-1034	Kiosk meter: 1ph; RAT/DC; secure; pole mount	Each			R -			R -	R -
4		**Pole Mounted Sectionaliser**								
4.1	D-DT-1821	Install Sectionaliser Structure	Each			R -			R -	R -
4.2	D-DT-1828	Install Sectionaliser - Out-Of-Line Structure	Each			R -			R -	R -
4.3	D-DT-1821	Install Sectionaliser	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
4.4	D-DT-1848	Section Links Cut/Outs Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each			R -			R -	R -
4.5	D-DT-1852	Equipment Links - Cut-Outs Or Disconnectors - 3.5/4.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
4.6	D-DT-1853	Equipment Isolating (In-Out) Links - Cut-Outs Or Disconnectors - 2 x 2.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
4.7	D-DT-1854	Equipment Isolating (In-Out) Links - Cut-Outs Or Disconnectors - 4.5m Wood Crossarm / Out-Of-Line	Each			R -			R -	R -
4.8	D-DT-1857	3 Phase Switch Disconnector Ganged, Link Stick Operated Horizontal Assembly H-Pole 1800 And 2200 Centres	Each			R -			R -	R -
4.9	D-DT-1858	3 Phase Switch Disconnector Ganged, Link Stick Operated Assembly Single Pole Mounted	Each			R -			R -	R -
4.10	D-DT-1875	Equipment Isolating (In-Out) Links Cut/Outs Or Disconnectors 2x2.4m Steel Crossarm / H-Pole	Each			R -			R -	R -
4.11	D-DT-0261	Install Surge Arresters	Each			R -			R -	R -
4.12		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)	Each			R -			R -	R -
5		**Pole Mounted Recloser**								
5.1	D-DT-1825	Install Recloser Structure	Each			R -			R -	R -
5.2	**D-DT-1829**	**Install Recloser - Out-Of-Line Structure**	**Each**			**R -**			**R -**	**R -**
5.3	D-FS-15735	Install Recloser Structure	Each			R -			R -	R -
5.4	D-FS-15688	Install Recloser Structure	Each			R -			R -	R -
5.5	3249	Install Recloser Aux Supply Box	Each			R -			R -	R -
5.6	D-DT-0272	Install Recloser On Existing Structure	Each			R -			R -	R -
5.7	D-DT-1848	Section Links Cut/Oots Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each			R -			R -	R -
5.8	D-DT-1852	Equipment Links - Cut-Outs Or Disconnectors - 3.5/4.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
5.9	D-DT-1853	Equipment Isolating (In-Out) Links - Cut-Outs Or Disconnectors - 2 x 2.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
5.10	D-DT-1854	Equipment Isolating (In-Out) Links - Cut-Outs Or Disconnectors - 4.5m Wood Crossarm / Out-Of-Line	Each			R -			R -	R -
5.11	D-DT-1857	3 Phase Switch Disconnector Ganged, Link Stick Operated Horizontal Assembly H-Pole 1800 And 2200 Centres	Each			R -			R -	R -
5.12	D-DT-1858	3 Phase Switch Disconnector Ganged, Link Stick Operated Assembly Single Pole Mounted	Each			R -			R -	R -
5.13	D-DT-1875	Equipment Isolating (In-Out) Links Cut/Outs Or Disconnectors 2x2.4m Steel Crossarm / H-Pole	Each			R -			R -	R -
5.14	D-DT-0270	Install Auxiliary Transformer	Each			R -			R -	R -
5.15	D-DT-0261	Install Surge Arresters	Each			R -			R -	R -
5.16		**Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)**	**Each**			**R -**			**R -**	**R -**
5.17	D-DT-1829B	Recloser structure – General arrangement (INCLUDING PMRTV) (sheet 1 of 2) (Bypass structure not included)	Each			R -			R -	R -
6		**Voltage Regulator**								
6.1	D-DT-1830	Install Voltage Regulator - 11/22kV 100/200A Open Delta Structure	Each			R -			R -	R -
6.2	D-DT-1831	Install Voltage Regulator - 11/22kV 100/200A Closed Delta Structure	Each			R -			R -	R -
6.3	D-DT-1833	Install Voltage Regulator - 11/22kV 100/200A Open Delta - Out-Of-Line Structure	Each			R -			R -	R -
6.4	1833B	Regulator - 100 / 200A Open Delta – General Arrangement (sheet 1 of 3)	Each			R -			R -	R -
6.5	D-DT-1834	Install Voltage Regulator - 11/22kV 100/200A Closed Delta - Out-Of-Line Structure	Each			R -			R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
6.6	1834B	Regulator - 100 / 200A Closed Delta - General Arrangement (Sheet 1 of 2)	Each			R -			R -	R -
6.7	D-DT-3119	Install Voltage Regulator On Existing Structure	Each			R -			R -	R -
6.8	D-DT-1848	Section Links Cut/Oots Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
6.9	D-DT-1851	Equipment Links - Cut-Outs Or Disconnectors - 2.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
6.10	D-DT-1852	Equipment Links - Cut-Outs Or Disconnectors - 3.5/4.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
6.11	D-DT-1854	Equipment Isolating (In-Out) Links - Cut-Outs Or Disconnectors - 4.5m Wood Crossarm / Out-Of-Line	Each			R -			R -	R -
6.12	D-DT-1857	3 Phase Switch Disconnector Ganged, Link Stick Operated Horizontal Assembly H-Pole 1800 And 2200 Centres	Each			R -			R -	R -
6.13	D-DT-1858	3 Phase Switch Disconnector Ganged, Link Stick Operated Assembly Single Pole Mounted	Each			R -			R -	R -
6.14	D-DT-1874	Equipment Links Or Disconnectors 2.4m Steel Crossarm / H-Pole	Each			R -			R -	R -
6.15	D-DT-0261	Install Surge Arresters	Each			R -			R -	R -
6.16		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)	Each			R -			R -	R -
7		**Pole Mounted CT-VT Unit**								
7.1	D-DT-1839	Install MV CT / VT Metering Bulk Tariff Out-Of-Line Structure	Each			R -			R -	R -
7.2	D-DT-1840	Install MV CT / VT Metering Bulk Tariff In Line Structure	Each			R -			R -	R -
7.3	D-DT-1841	Install CT/VT Metering Statistical Structure	Each			R -			R -	R -
7.4	D-DT-1846	Install CT/VT Metering Statistical Out-Of-Line Structure	Each			R -			R -	R -
7.5	D-DT-3118	Install CT/VT unit	Each			R -			R -	R -
7.6	D-DT-1848	Section Links Cut/Oots Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each			R -			R -	R -
7.7	D-DT-1850	Section / Equipment Links Or Disconnectors 1.3m Steel Crossarm / Single Pole	Each			R -			R -	R -
7.8	D-DT-1852	Equipment Links - Cut-Outs Or Disconnectors - 3.5/4.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
7.9	D-DT-1853	Equipment Isolating (In-Out) Links - Cut-Outs Or Disconnectors - 2 x 2.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
7.10	D-DT-1854	Equipment Isolating (In-Out) Links - Cut-Outs Or Disconnectors - 4.5m Wood Crossarm / Out-Of-Line	Each			R -			R -	R -
7.11	D-DT-1857	3 Phase Switch Disconnector Ganged, Link Stick Operated Horizontal Assembly H-Pole 1800 And 2200 Centres	Each			R -			R -	R -
7.12	D-DT-1858	3 Phase Switch Disconnector Ganged, Link Stick Operated Assembly Single Pole Mounted	Each			R -			R -	R -
7.13	D-DT-1875	Equipment Isolating (In-Out) Links Cut/Outs Or Disconnectors 2x2.4m Steel Crossarm / H-Pole	Each			R -			R -	R -
7.14	D-DT-3236	Install CT/VT Metering Kiosk	Each			R -			R -	R -
7.15	D-DT-0261	Install Surge Arresters	Each			R -			R -	R -
7.16		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)	Each			R -			R -	R -
8		**Pole Mounted Shunt Capacitor Banks**								
8.1	D-DT-1832	Install Capacitor Structure	Each			R -			R -	R -
8.2	D-DT-3218	Install Capacitor Bank	Each			R -			R -	R -
8.3	D-DT-1849	Equipment Links Cut-Outs Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each			R -			R -	R -
8.4	D-DT-1850	Section / Equipment Links Or Disconnectors 1.3m Steel Crossarm / Single Pole	Each			R -			R -	R -
8.5	D-DT-0261	Install Surge Arresters	Each			R -			R -	R -
8.6		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)	Each			R -			R -	R -
9		**Line Arrester**								
9.1		Install Equipment Links	Each			R -			R -	R -

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
9.2	D-DT-1842	Line Arresters 1.3m Long Steel Crossarm Staggered Vertical Configuration	Each			R -			R -	R -
9.3	D-DT-1843	Line Arresters 2.5m Long Wooden Crossarm Vertical Configuration	Each			R -			R -	R -
9.4	D-DT-1844	Line Arresters H-Pole Configuration	Each			R -			R -	R -
9.5	D-DT-1845	Line Arresters Delta Configuration	Each			R -			R -	R -
9.6		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
10		**3 Phase Sectional Links**								
10.1	D-DT-1847	Section Links Cut/Outs Or Disconnectors 3.5/4.5m Wood Crossarm / H-Pole	Each			R -			R -	R -
10.2	D-DT-1848	Section Links Cut/Outs Or Disconnectors 2.5m Wood Crossarm / Single Pole	Each			R -			R -	R -
10.3	D-DT-1850	Section / Equipment Links Or Disconnectors 1.3m Steel Crossarm / Single Pole				R -			R -	R -
10.4	D-DT-1857	3 Phase Switch Disconnector Ganged, Link Stick Operated Horizontal Assembly H-Pole 1800 And 2200 Centres	Each			R -			R -	R -
10.5	D-DT-1858	3 Phase Switch Disconnector Ganged, Link Stick Operated Assembly Single Pole Mounted	Each			R -			R -	R -
10.6	D-DT-1869	Section / Equipment Links Cut/Out Or Disconnectors 1.7m Steel Crossarm/Single Pole	Each			R -			R -	R -
10.7	D DT 3086	CUT - OUT (Single Phase)	Each			R -			R -	R -
10.8		Supply and Install all Labels per structure, excludes pole aluminium label (Chromadek)	Each			R -			R -	R -
11		**Bird Flight Diverter**								
11.1	D-DT-3029	Install Bird Flight Diverter	Each			R -			R -	R -
12		**Miniature Substation**								
12.1		Prepare Site Including Excavation and Compaction for Pre-Cast Plinth	m^2			R -			R -	R -
12.2	D-DT-0859	Install Pre-Cast Plinth	Each			R -			R -	R -
12.3	D-DT-0859	Install Miniature Substation	Each			R -			R -	R -
12.4	D-DT-3034	MCCB - 3-Phase	Each			R -			R -	R -
12.5		Vermin Proofing	Each			R -			R -	R -
12.6		Stencilling (paint)	Each			R -			R -	R -
12.7		Install Labels (Chromadek and Aluminium)	SET			R -			R -	R -
12.8	D-DT-3409	Install Vertical Fuse Pillar	Each			R -			R -	R -
12.9	D-DT-3181	Install NH02 Fuse	Each			R -			R -	R -
13		**Ring Main Unit**								
13.1		Prepare Site Including Excavation and Compaction for Pre-Cast Plinth	m^2			R -			R -	R -
13.2	D-DT-0863	Install Pre-Cast Plinth	Each			R -			R -	R -
13.3	D-DT-8060	Install Ring Main Unit	Each			R -			R -	R -
13.4		Vermin Proofing	Each			R -			R -	R -
13.5		Stencilling (paint)	p/letter			R -			R -	R -
13.6		Install Labels (Chromadek)	Each			R -			R -	R -
14		**Ground Mounted CT-VT Unit**								
14.1		Prepare Site Including Excavation and Compaction for Pre-Cast Plinth	m^2			R -			R -	R -
14.2	D-DT-0865	Install Pre-Cast Plinth	Each			R -			R -	R -
14.3	D-DT-0865	Install CT-VT Unit	Each			R -			R -	R -
14.4		Vermin Proofing	Each			R -			R -	R -
14.5		Stencilling (paint)	p/letter			R -			R -	R -
14.6		Install Labels (Chromadek)	Each			R -			R -	R -
15		**Meter Kiosk**								
15.1		Prepare Site Including Excavation and Compaction for Pre-Cast Plinth	m^2			R -			R -	R -
15.2	D-DT-0865	Install Pre-Cast Plinth	Each			R -			R -	R -
15.3	D-DT-0865	Install LPU Meter Kiosk	Each			R -			R -	R -
15.4	D-DT-3236	4 Way High Risk Steel Kiosk	Each			R -			R -	R -
15.5	D-DT-3236	6 Way High Risk Steel Kiosk	Each			R -			R -	R -
15.6	D-DT-3236	8 Way High Risk Steel Kiosk	Each			R -			R -	R -
15.7	D-DT-3236	12 Way High Risk Steel Kiosk	Each			R -			R -	R -
15.8	**D-DT-3236 / 1034**	**Data concentrator/RAT kiosk**	**Each**			**R -**			**R -**	**R -**
15.9		Energy Management Units (Meter)	Each			R -			R -	R -
15.10		Vermin Proofing	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
15.11		Stencilling (paint)	p/letter			R -			R -	R -
15.12		**Supply and Install all Labels per kiosk, excludes cable aluminium label (Chromadek)**	**Each**			**R -**			**R -**	**R -**
15.13	**D-DT-1035**	Kiosk meter: 1ph; 16 kVA; 2 way prepay; ground mount	Each			R -			R -	R -
15.14	**D-DT-1036**	Kiosk meter: 1ph; 16 kVA; 4 way prepay; ground mount	Each			R -			R -	R -
15.15	**D-DT-1037**	Kiosk meter: 1ph; 16 kVA; 6 way prepay; ground mount	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
15.16	**D-DT-1038**	Kiosk meter: 1ph; 16 kVA; 8 way prepay; ground mount	Each			R -			R -	R -
15.17	**D-DT-1039**	Kiosk meter: 1ph; 16 kVA; 12 way prepay; ground mount	Each			R -			R -	R -
15.18	**D-DT-1039**	KSK MTR:1PH;16 KVA;12 WAY PREPAY NO BASE	Each			R -			R -	R -
		SUB-TOTAL K				**R -**			**R -**	**R -**
L		**EARTHING INSTALLATION**								
MV & LV Earthing Trenching shall include Excavation, Backfilling, Compaction and Installation of electrode and conductor as per the Eskom Standard for Earthing										
1		**Transformer - MV Earthing**								
1.1		Excavation - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
1.2	D-DT-3139	16mm sq. Bare Stranded Cu Conductor	m			R -			R -	R -
1.3	D-DT-3137	16mm sq. Insulated Stranded Cu Conductor	m			R -			R -	R -
1.4	D-DT-3091	Earth Electrode (Type as per the design)	Each			R -			R -	R -
1.5		Backfill - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
2		**Transformer - LV Earthing**								
2.1		Excavation - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
2.2	D-DT-3139	16mm sq. Bare Stranded Cu Conductor	m			R -			R -	R -
2.3	D-DT-3137	16mm sq. Insulated Stranded Cu Conductor	m			R -			R -	R -
2.4	D-DT-3091	Earth Electrode (Type as per the design)	Each			R -			R -	R -
2.5		Backfill - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
3		**Other Overhead System Equipment Earthing - Capacitor Bank / CT-VT Unit / Line Arrester / Recloser / Sectionaliser / Voltage Regulator**								
3.1		Excavation - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
3.2	D-DT-3139	16mm sq. Bare Stranded Cu Conductor	m			R -			R -	R -
3.3	D-DT-3137	16mm sq. Insulated Stranded Cu Conductor	m			R -			R -	R -
3.4	D-DT-3091	Earth Electrode (Type as per the design)	Each			R -			R -	R -
3.5		Backfill - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
4		**Other Underground System Equipment Earthing - Miniature Substation / Ring Main Unit / CT-VT Unit**								
4.1		Excavation - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
4.2	D-DT-3139	16mm sq. Bare Stranded Cu Conductor	m			R -			R -	R -
4.3	D-DT-3091	Earth Electrode (Type as per the design)	Each			R -			R -	R -
4.4		Backfill - length long, 0.5m deep and 0.6m wide	m^3			R -			R -	R -
		SUB-TOTAL - L				**R -**			**R -**	**R -**
M		**SERVICE CONNECTION INSTALLATION**								
House Connections include installation of ready board, mounting hardware, wooden backboards, customer interface units, conduit pipe, excavations and backfilling of underground connection, capturing of customer data including GPS coordinates. Digging and bulleting for road crossing including installation of sleeves and warning tape are measured here										
1.1	D-DT-0360/361	Overhead service connection direct to dwelling or kicker pole(from the pole top box to the pre-paid meter)	Each			R -			R -	R -
1.2	D-DT-0367	**Underground Service Connection**	Each			R -			R -	R -
1.3		25mm Conduit LDPE Pipe	m			R -			R -	R -
1.4	D-DT-0854	Excavation - 0.75m Deep and 0.45 Wide	m^3			R -			R -	R -
1.5		Road Crossing - Digging	m			R -			R -	R -
1.6		Road Crossing - Bulleting	Each			R -			R -	R -
1.7	D-DT-8018	Install Sleeves	m			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
1.8	D-DT-0854	Laying of Warning Tape	m			R -			R -	R -
1.9	D-DT-0854	Backfill - 0.75m Deep and 0.45 Wide (includes laying of warning tape)	m^3			R -			R -	R -
2		**Split / Smart Metering**								

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
2.1	D-DT-3145	Customer Interface Unit	Each			R -			R -	R -
2.2	D-DT-3176	Split Meter Ready-Board	Each			R -			R -	R -
2.3	D-ST-2351	Wooden Backboard for Ready board mounting (for Tin and Mud houses)	Each			R -			R -	R -
2.4		Split Meter Installation	Each			R -			R -	R -
2.5		Smart meter installation (incl of all components)	each			R -			R -	R -
2.6		Capture and Upload of Customer Data New & Existing Including GPS Coordinates	Each			R -			R -	R -
2.7	D-DT-9421	DIN Rail Single Phase PLC Smart Split Meter with CIU 60A	Each			R -			R -	R -
2.8	D-DT-9421	DIN Rail Single Phase PLC Smart Split Meter with CIU 20A	each			R -			R -	R -
2.9		L&G smart split meter + CIU, single phase, din rail, 20A, PLC	each			R -			R -	R -
2.10		L&G smart split meter + CIU, single phase, din rail, 60A, PLC	each			R -			R -	R -
2.11		L&G data concentrator + internal GSM modem	each			R -			R -	R -
2.12		3CR12 kiosk to secure the data concentrator, kiosk for mounting on pole	each			R -			R -	R -
		SUB-TOTAL M				**R -**			**R -**	**R -**
N		**Service Conductor Installation:** **Accessories for Service Conductor installation shall include installation of pigtails, bolts, strain clamps, threaded rod, cable saddles, stringging of all types of service cable. Installation of poles and its accessories are measured elsewhere**								
1	D-DT-3140	6mm sq Tinned Copper Airdac with Communication Core	m			R -			R -	R -
2	D-DT-3128	16mm sq Underground	m			R -			R -	R -
3	0366	Service suspension assembly	Each			R -			R -	R -
4	0384	Service strain assembly/arrangement	Each			R -			R -	R -
		SUB-TOTAL N				**R -**			**R -**	**R -**
O		**Underground Cable Installation:** **installation of underground cable include trenching for excavation in general trench, rail/road crosising or along the road, directional drilling & excavation for end pits, backfilling of trench, supply of accessories includes appropriate sleeves, supply & compaction of imported bedding and blanket soil, laying of warning tape and installation of cable route markers. Laying of cable shall be in accordance with Eskom standard of laying cables. After the execution of the works, reinstatement on gardens, pavements, driveways and tarred surfaces shall be measured here**								
1		**Trenching**								
1.1	D-DT-0854	Excavation - General Trench - 1.0m Deep and 0.45m Wide	m^3			R -			R -	R -
1.2	D-DT-0854	Excavation - Rail/Road Crossing Trench - 1.6m Deep and 0.45m Wide	m^3			R -			R -	R -
1.3	D-DT-0854	Excavation - Along The Road Trench - 1.3m Deep and 0.45m Wide	m^3			R -			R -	R -
1.4		Install Barricading	m			R -			R -	R -
1.5		Install Shoring	m			R -			R -	R -
1.6	D-DT-0854	Compact Blanket Soil	m2			R -			R -	R -
1.7	D-DT-0854	Sifted Soil - 0.25m High and 0.45m Wide	m^3			R -			R -	R -
1.8		Dispose of unused Excavated Material at approved disposal site	m^3			R -			R -	R -
1.9	D-DT-0854	Imported Soil - 0.25m High and 0.45m Wide	m^3			R -			R -	R -
2		**Road & Rail Crossing**								
2.1		Directional Drilling ***(Supply Invoice + 5%)***	m			R -				
2.2		Excavate Start and End Pits	m^3			R -			R -	R -
2.3		Supply and Install appropriate sleeve	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
2.4		Rail, river and Road -pipe jacking method including access holes, shoring as well as handling of equipment-(outsourced) **Supply Invoice + 5%**	m			R -				

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
3		**Road crossing trench import of backfill material and compaction**								
3.1	D-DT0854	Application of tar according to municipal standard - **Supply Invoice + 5%**	sum			R -				
3.2		Bedding soil for cable	m			R -			R -	R -
3.3		Blanket soil for cable	m^3			R -			R -	R -
3.4		G5 filling for cable	m^3			R -			R -	R -
4		**Compacting Bedding Soil**								
4.1	D-DT-0854	Sifted Soil - 0.15m High and 0.45m Wide	m2			R -			R -	R -
4.2	D-DT-0854	Imported Soil - 0.15m High and 0.45m Wide	m2			R -			R -	R -
5		**Laying of Cable**								
5.1	D-DT-0854	Laying of 3-Core 50mm sq. MV Cable	m			R -			R -	R -
5.2	D-DT-0854	Laying of 3-Core 95mm sq. MV Cable	m			R -			R -	R -
5.3	D-DT-0854	Laying of 3-Core 185mm sq. MV Cable	m			R -			R -	R -
5.4	D-DT-0854	Laying of 3-Core 300mm sq. MV Cable	m			R -			R -	R -
5.5	D-DT-0854	Laying of 4-Core 16mm sq. LV Cable	m			R -			R -	R -
5.6	D-DT-0854	8 way High Risk Steel Kiosk	m			R -			R -	R -
5.7	D-DT-0854	Laying of 4-Core 35mm sq. LV Cable	m			R -			R -	R -
5.8	D-DT-0854	Laying of 4-Core 50mm sq. LV Cable	m			R -			R -	R -
5.9	D-DT-0854	Laying of 4-Core 70mm sq. LV Cable	m			R -			R -	R -
5.10	D-DT-0854	Laying of 4-Core 120mm sq. LV Cable	m			R -			R -	R -
5.11	D-DT-0854	Laying of 4-Core 185mm sq. LV Cable	m			R -			R -	R -
5.12	D-DT-0854	Laying of 4-Core 240mm sq. LV Cable	m			R -			R -	R -
6		**Compacting Blanket Soil**								
6.1	D-DT-0854	Sifted Soil - 0.25m High and 0.45m Wide	m2			R -			R -	R -
6.2	D-DT-0854	Imported Soil - 0.25m High and 0.45m Wide	m2			R -			R -	R -
7		**Backfilling of the Cable Trench**								
7.1	D-DT-0854	General Trench - 0.6m High and 0.45m Wide	m^3			R -			R -	R -
7.2	D-DT-0854	Rail/Road Crossing Trench - 1.2m High and 0.45m Wide	m^3			R -			R -	R -
7.3	D-DT-0854	Along The Road Trench - 0.9m High and 0.45m Wide	m^3			R -			R -	R -
7.4	D-DT-0854	Laying of Warning Tape	m			R -			R -	R -
7.5	D-DT-8012	Installation of Cable Route Markers	Each			R -			R -	R -
7.6		Re-instatement of Gardens	m^2			R -			R -	R -
7.7		Re-instatement of Pavements	m^2			R -			R -	R -
7.8		Re-instatement of Driveways	m^2			R -			R -	R -
7.9		Re-instatement of Tarred surfaces	m^2			R -			R -	R -
		SUB-TOTAL O				**R -**			**R -**	**R -**
P		**MV/LV CABLE TERMINATION**								
Termination of cable shall be done in accordance with Eskom standard of terminating cables for the termination onto air-filled cable, termination onto overhead line cable in their deferent classifications. Termination material are free issue, unless otherwise ordered and/or specified by the Project Manger to supply all accessories on an as and when required basis as cost plus fee.										
1		**LV Cable Termination onto Air-Filled Cable Termination Enclosure**								
1.1		Install 2-Core 16mm sq. LV Bare Termination	Each			R -			R -	R -
1.2		Install 4-Core 16mm sq. LV Bare Termination	Each			R -			R -	R -
1.3		Install 4-Core 25mm sq. LV Bare Termination	Each			R -			R -	R -
1.4		Install 4-Core 35mm sq. LV Bare Termination	Each			R -			R -	R -
1.5		Install 4-Core 50mm sq. LV Bare Termination	Each			R -			R -	R -
1.6		Install 4-Core 70mm sq. LV Bare Termination	Each			R -			R -	R -
1.7		Install 4-Core 120mm sq. LV Bare Termination	Each			R -			R -	R -
1.8		Install 4-Core 185mm sq. LV Bare Termination	Each			R -			R -	R -
1.9		Install 4-Core 240mm sq. LV Bare Termination	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	**REFERENCE DRAWING**	**DESCRIPTION**	**UNIT**	**SUPPLY QTY**	**SUPPLY RATE**	**SUPPLY TOTAL**	**LABOUR QTY**	**LABOUR RATE**	**LABOUR TOTAL**	**GRAND TOTAL**
1.10		Install 3-Core 50mm sq. Shrouded Termination	Each			R -			R -	R -
2		**MV Cable Termination onto Air-Filled Cable Termination Enclosure**								
2.1	D-DT-8011	Install 3-Core 50mm sq. Shrouded Termination	Each			R -			R -	R -
2.2	D-DT-8006	Install 3-Core 50mm sq. Unscreened Separable Connector Termination	Each			R -			R -	R -
2.3	D-DT-8006	Install 3-Core 50mm sq. Unscreened Separable Connector Extended Screen Termination	Each			R -			R -	R -
2.4	D-DT-8006	Install 3-Core 50mm sq. Screened Separable Connector Termination	Each			R -			R -	R -
2.5	D-DT-8011	Install 3-Core 95mm sq. Shrouded Termination	Each			R -			R -	R -
2.6	D-DT-8006	Install 3-Core 95mm sq. Unscreened Separable Connector Termination	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
2.7	D-DT-8006	Install 3-Core 95mm sq. Unscreened Separable Connector Extended Screen Termination	Each			R -			R -	R -
2.8	D-DT-8006	Install 3-Core 95mm sq. Screened Separable Connector Termination	Each			R -			R -	R -
2.9	D-DT-8011	Install 3-Core 185mm sq. Shrouded Termination	Each			R -			R -	R -
2.10	D-DT-8006	Install 3-Core 185mm sq. Unscreened Separable Connector Termination	Each			R -			R -	R -
2.11	D-DT-8006	Install 3-Core 185mm sq. Unscreened Separable Connector Extended Screen Termination	Each			R -			R -	R -
2.12	D-DT-8006	Install 3-Core 185mm sq. Screened Separable Connector Termination	Each			R -			R -	R -
2.13	D-DT-8011	Install 3-Core 300mm sq. Shrouded Termination	Each			R -			R -	R -
2.14	D-DT-8006	Install 3-Core 300mm sq. Unscreened Separable Connector Termination	Each			R -			R -	R -
2.15	D-DT-8006	Install 3-Core 300mm sq. Unscreened Separable Connector Extended Screen Termination	Each			R -			R -	R -
2.16	D-DT-8006	Install 3-Core 300mm sq. Screened Separable Connector Termination	Each			R -			R -	R -
3		**MV Cable Termination onto Overhead Line from Substation**								
3.1	D-DT-0850	Install 50mm sq O/D Termination	Each			R -			R -	R -
3.2	D-DT-0851	Install 50mm sq O/D Termination	Each			R -			R -	R -
3.3	D-DT-0850	Install 95mm sq O/D Termination	Each			R -			R -	R -
3.4	D-DT-0851	Install 95mm sq O/D Termination	Each			R -			R -	R -
3.5	D-DT-0850	Install 185mm sq O/D Termination	Each			R -			R -	R -
3.6	D-DT-0851	Install 185mm sq O/D Termination	Each			R -			R -	R -
3.7	D-DT-0850	Install 300mm sq O/D Termination	Each			R -			R -	R -
3.8	D-DT-0851	Install 300mm sq O/D Termination	Each			R -			R -	R -
3.9	D-DT-1850	Install Equipment Links - 3-Phase	Each			R -			R -	R -
3.10	D-DT-0261	Install Surge Arresters - 3-Phase	Each			R -			R -	R -
3.11	D-DT-8023	Install a Steel Pipe	Each			R -			R -	R -
		SUB-TOTAL P				**R -**			**R -**	**R -**
Q		**CABLE JOINT**								
Cable joint bay shall be executed in accordance with Eskom standard of jointing cables in their different classifications. Joint bay materials including kits are free issue, unless otherwise ordered and/or specified by the Project Manger to supply all accessories on an as and when required basis and paid as cost plus fee. Excavations, compaction and backfilling of cable joints bay shall be measured here including supply of imported soil in bedding and blankets or sifted soil where specified.										
1.1	D-DT-0854	Excavate a Joint Bay	m^3			R -			R -	R -
1.2	D-DT-0854	Compact Bedding Soil	m2			R -			R -	R -
1.3	D-DT-0854	Sifted Soil - 0.15m High and 0.45m Wide	m^3			R -			R -	R -
1.4		Dispose of Excavated Material at approved disposal site	m^3			R -			R -	R -
1.5	D-DT-0854	Imported Soil -0.15m High and 0.45m Wide	m^3			R -			R -	R -
1.6	D-DT-8008	Make-Off a Cable Joint - 3-Core 16mm sq MV Cable	Each			R -			R -	R -
1.7	D-DT-8008	Make-Off a Cable Joint - 3-Core 50mm sq MV Cable	Each			R -			R -	R -
1.8	D-DT-8008	Make-Off a Cable Joint - 3-Core 95mm sq MV Cable	Each			R -			R -	R -
1.9	D-DT-8008	Make-Off a Cable Joint - 3-Core 185mm sq MV Cable	Each			R -			R -	R -
1.10	D-DT-8008	Make-Off a Cable Joint - 3-Core 300mm sq MV Cable	Each			R -			R -	R -
1.10	D-DT-8014	Make-Off a Cable Joint - 4-Core 16mm sq LV Cable	Each			R -			R -	R -
1.10	D-DT-8014	Make-Off a Cable Joint - 4-Core 25mm sq LV Cable	Each			R -			R -	R -
1.11	D-DT-8014	Make-Off a Cable Joint - 4-Core 35mm sq LV Cable	Each			R -			R -	R -
1.12	D-DT-8014	Make-Off a Cable Joint - 4-Core 50mm sq LV Cable	Each			R -			R -	R -
1.13	D-DT-8014	Make-Off a Cable Joint - 4-Core 70mm sq LV Cable	Each			R -			R -	R -
1.13	D-DT-8014	Make-Off a Cable Joint - 4-Core 120mm sq LV Cable	Each			R -			R -	R -
1.18	D-DT-8014	Make-Off a Cable Joint - 4-Core 185mm sq LV Cable	Each			R -			R -	R -
1.19	D-DT-8014	Make-Off a Cable Joint - 4-Core 240mm sq LV Cable	Each			R -			R -	R -

BILL OF ACTIVITIES										
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
1.20	D-DT-0854	Backfill a Joint Bay	m^3			R -			R -	R -
1.21	D-DT-8012	Install a Route Marker	Each			R -			R -	R -
		SUB-TOTAL Q				**R -**			**R -**	**R -**
R		**EQUIPMENT DISMANTLING**								
Includes Cut Up, Coiling And Loading But Excludes Transport To The Nearest Eskom Stores										
1.1		Dismantle LV Conductor	m			R -			R -	R -
1.2		Dismantle MV Conductor	m			R -			R -	R -
1.3		Dismantle Service Cable	m			R -			R -	R -
1.4		Dismantle MV Overhead Transformers	Each			R -			R -	R -
1.5		Dismantle MV Overhead Sectionaliser	Each			R -			R -	R -
1.6		Dismantle MV Overhead Reclosers	Each			R -			R -	R -
1.7		Dismantle MV Pole Mounted CT-VT Unit	Each			R -			R -	R -
1.8		Dismantle MV Pole Mounted Shunt Capacitor Banks	Each			R -			R -	R -
1.9		Dismantle MV Line Arrestor	Each			R -			R -	R -
1.10		Dismantle MV Overhead Section / Equipment Links	Each			R -			R -	R -
1.11		Remove LV Pole Top Boxes	Each			R -			R -	R -
1.12		Dismantle Stays - including removal and backfill	Each			R -			R -	R -
1.13		Dismantle Poles - including removal and backfill	Each			R -			R -	R -
1.14		Remove MV Cable, includes excavation and backfill	m			R -			R -	R -
1.15		Remove LV Cable, includes excavation and backfill	m			R -			R -	R -
1.16		Remove MV Cable I/D Terminations	Each			R -			R -	R -
1.17		Remove MV Cable O/D Terminations	Each			R -			R -	R -
1.18		Remove RMU	Each			R -			R -	R -
1.19		Remove Minisub	Each			R -			R -	R -
1.20		Remove Ground Mounted CT-VT Unit	Each			R -			R -	R -
1.21		Remove LV Kiosks	Each			R -			R -	R -
1.22		Remove Plinths	Each			R -			R -	R -
1.23		Transport Of Dismantled/Decommisioned To Eskom Stores	KM			R -			R -	R -
1.28		Removal of a post / pin insulator	Each			R -			R -	R -
1.30		Removal of SPU unit with rails	Each			R -			R -	R -
1.31		Removal of LPU unit (indoor and outdoor)	No			R -			R -	R -
1.33		Moving of pre-Paid Meter (Meter Shifting)	Each			R -			R -	R -
1.39		Removal of ED / ECU	Each			R -			R -	R -
1.41		AP4 Meter Box + Pipe	Each			R -			R -	R -
1.42		Removal - complete of one Regulator can/voltage regulator	Each			R -			R -	R -
1.43		Remove Label (Chromadeck)	Each			R -			R -	R -
2		**BIL & BONDING**								
2.1		Re-instate broken/damage bonding & BIL on existing structure	No			R -			R -	R -
		SUB-TOTAL R				**R -**			**R -**	**R -**
S		**LABELLING**								
Allow for the following end items to be applied as per relevant Eskom										
1.1		MV Pole Number	Each			R -			R -	R -
1.2		LV Pole Number	Each			R -			R -	R -
1.3		Meter Number	Each			R -			R -	R -
1.4		House Number • 100 x 240mm x 0,6mm Yellow Chromadec plate with two pre-drilled 6mm holes (rust-free metal). • Fixed with two 6mm x 75mm nylon anchor or 6mm Zink bolt and 2x nuts. • All corners rounded. Clear powder coat finish. • Cast vinyl with 75mm Helvetica Compact script.	Each			R -			R -	R -
		SUB-TOTAL S				**R -**			**R -**	**R -**
T		**EQUIPMENT TESTING**								

BILL OF ACTIVITIES											
ITEM	REFERENCE DRAWING	DESCRIPTION	UNIT	SUPPLY QTY	SUPPLY RATE	SUPPLY TOTAL	LABOUR QTY	LABOUR RATE	LABOUR TOTAL	GRAND TOTAL
Allowance shall be made for the complete testing and commissioning of Medium Voltage equipment. Tests to										
1.1		Perform Phasing Test (not required if COC option is selected)	Each			R -			R -	R -
1.2		Continuity Tests (not required if COC option is selected)	Each			R -			R -	R -
1.3		Earth Resistance Test (MV or LV Earth electrode test)	Each			R -			R -	R -
1.4		A.C. Over-Voltage Test	Each			R -			R -	R -
1.5		D.C. Insulation Test	Each			R -			R -	R -
1.6		Outer Sheath Test (Serving Test)	Each			R -			R -	R -
1.7		Compaction Test	Each			R -			R -	R -
1.8		**C.O.C Test for Certificate (20A and 60A prepaid connections)**	**No**			**R -**			**R -**	**R -**
1.9		Voltage Regulator commissioning test	No			R -			R -	R -
1.10		Recloser commissioning test	No			R -			R -	R -
SUB-TOTAL T						**R -**			**R -**	**R -**
U		**AS - BUILTS**								
Allow for the following end items to be applied as per relevant Eskom										
1		As-built Drawings	Each			R -			R -	R -
SUB-TOTAL U						**R -**			**R -**	**R -**
V		**MISCELLANEOUS**								

BILL OF ACTIVITIES										
ITEM	**REFERENCE DRAWING**	**DESCRIPTION**	**UNIT**	**SUPPLY QTY**	**SUPPLY RATE**	**SUPPLY TOTAL**	**LABOUR QTY**	**LABOUR RATE**	**LABOUR TOTAL**	**GRAND TOTAL**
Allow for the following end items to be applied as per relevant Eskom instructions/bulletins/procedures and										
1.1	3175	Damper,vibrat spiral 8.29-11.71 D3175	Each			R -			R -	R -
1.2	3175	Damper,vibrat spiral 11.72-14.30 D3175	Each			R -			R -	R -
1.3	7028	Set: Device warning-Aircraft warning 8.87-13.55;2	SET			R -			R -	R -
1.4	7028	Set: Device warning -Aircraft warning 7.35-14.16;2	SET			R -			R -	R -
1.5	7028	Set: Device warning-Aircraft warning 18.13-23.88;2	SET			R -			R -	R -
	3029/3053	BIRD FLIGHT DIVERTERS	Each			R -			R -	R -
	3303	Raptor protector	Each			R -			R -	R -
SUB-TOTAL V						**R -**			**R -**	**R -**

BILL OF ACTIVITIES					
W	**TRANSPORT**				
ITEM	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**TOTAL**
Unless otherwise specified, transport is to be used under specific instruction from the Project Manager only. This excludes staff transport. Staff transport is to be paid to transport workers from base location to site only. LDV/4x4 will only be paid for justifiable use and will be to the sole discretion of the Project Manager					
1.1	LDV 4x2	km			R -
1.2	LDV/4x4	km			R -
1.3	Personnel Transport for Staff	km			R -
1.4	10 m³ Tipper Truck	km			R -
1.5	6 m³ Tipper Truck	km			R -
1.6	Transport Truck 2-4 ton	km			R -
1.7	Transport Truck 5-8 ton	km			R -
1.8	Transport Truck 5-8 ton with crane	km			R -
1.9	Transport Truck 9-14 ton	km			R -
1.10	Transport Truck 9-14 ton with crane	km			R -
1.11	Transport (Rock drill) incl.	km			R -
SUB-TOTAL W					**R -**

ITEM: X	LABOUR				
	DESCRIPTION	UNIT	QUANTITY	RATE	TOTAL
This schedule is used to assist with the valuation of Compensation Events/overtime work - these rates are flat hourly rates as labour is already catered for in the activity rate hence no additional time i.e. half or double time rates will be applied.					
1.1	Electrician (qualified trade test)-skilled	hour			R -
1.2	Linesman (Proof of qualification required)-semi skilled	hour			R -
1.3	Cable Jointer-skilled	hour			R -
1.4	Storeman	hour			R -
1.5	Semi-skilled Labour (Proof of qualification required)	hour			R -
1.6	Unskilled Labour-no formal NQFqualification	hour			R -
	TOTAL - X				R -

PART 3: SCOPE OF WORK

Document reference	Title	No of pages
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C3.1: EMPLOYER'S WORKS INFORMATION

Contents

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1 Description of the *works*

1.1 Executive overview

In general, the work covered by the contract is as follows:

- Upgrade and construction of 1.9/3.3kV up to 33kV overhead networks
- Upgrade & Installation of 11kV/ 22kV up to 33kV Mini Subs
- Installation and upgrade of existing equipment
- Installation of MV & LV Cables (230V up to 33kV)
- Removal & Installation of LV kiosks
- Upgrade and construction of LV overhead networks
- Installation of Reclosers

This contract will facilitate ease of appointment of contractors who prequalify according to the Conditions of Tender as advertised. Work will be allocated on a fair basis to each contractor depending on the Panel they are appointed on, their CIDB Grading and financial evaluations as carried out by Eskom.

All work shall be carried out to the specified requirements, standards and quality as set out by Eskom while observing and complying with all safety and environmental requirements at the agreed rates.

The Contractor is appointed on this contract on a Rate Only basis. All project specifications will be included in the relevant Project Specific Agreement for each project. Eskom reserves the right not to allocate any work to a Contractor based on poor performance of the Contractor.

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

The provision of electrical infrastructure including compilation of all information to successfully upload the PCS files as required for reporting of energized connections.

1.2.1 The Establishment of the site for:

- The erection of the installation, as per the approved design (Final Design Package).
- The testing and commissioning of the entire installation.
- The provision of acceptable marked up signed, stamped and dated "as-built" drawings sag and tension charts, compliance and hand over procedure.
- Making good of house walls where ready boards or passive bases have been installed.
- The handing over of the installation in a working order with all the necessary administration.
- The contractor will fix marketing labels, provided by Eskom Holdings SOC Limited, as per the labelling standard.
- Completing of PCS file for uploading of connections to be done immediately after energization and registering of all connected customers on the Eskom Holdings SOC
- Limited customer management system within 7 days after energization under dead or live conditions.
- Sealing of all installed customer meters.
- The completion of all the necessary administration work in providing the works. (SACS, Planning, Survey, Project Engineering).

Abridged certificate of compliance or installation of certificate to be completed by a competent resource and to be submitted within 7 days after energization.

1.2.2 Selection and quotation procedure

The Eskom Project Manager will contact the allocated Contractor and issue the Contractor with the design package for the project to be executed. A Project Specific NEC ECC3 will be issued as well, which will detail all the project specific requirements for execution of the project for the task order to be issued. The Project Specific NEC ECC3 issued will form the basis of the agreement between Eskom and the Contractor for each project to be executed in terms of this contract.

The terms and conditions contained in the Project Specific NEC ECC3 will be in accordance with the terms and conditions of this contract but specific to the requirements of the project to be executed.
The allocated Contractor will do a site visit at his own cost with the Eskom project representatives and verify the scope of work to be executed contained in the design package, assess the Site conditions, the Project Specific SHEQ requirements and SD&L requirements before the quotation for the works is finalised.
The Project Manager will then request a quotation from the Contractor for the execution of the works as verified. The quotation must be submitted to the Project Manager by the Contractor within seven (7) days, inclusive confirmation of availability of required plant, equipment, and number of construction teams to execute the works. The Project Manager will request the Quantity Surveyor to verify the quotation for correctness and confirm the cost according to the agreed negotiated rates.

Should the quotation require adjustment, the Project Manager will request the allocated Contractor to amend the quotation. Once the quotation has been accepted by Eskom, the Project Manager will issue the allocated Contractor with a NEC ECC3 for the project which will contain a Purchase Order Number.
The Project Specific NEC ECC3 will then be signed off by the Project Manager and the Contractor and work may then commence on the project.
No work may commence on a project unless the NEC ECC3 has been signed, the Contractor Safety File has been approved by Eskom, the 37(2) agreement has been signed and Site Access has been granted to the allocated Contractor. Eskom will not be liable to pay for any work unless a valid NEC ECC3 has been issued and signed. The Contractor is to submit the Project Specific Safety File within seven days upon being requested to do so by the Project Manager for approval by Eskom.

The Safety File is to conform to all Eskom and OHS requirements. Should there be a need to rectify the safety file an additional opportunity will be granted to conform to the recommendations made by the Eskom SHE representative and must be resubmitted within seven days for approval. Should the Project Specific Safety File fail upon resubmission the works will be allocated to another Contractor.

The Contractor will compile a Risk Register as per the terms and conditions of the NEC ECC for discussion at regular Risk Reduction Meetings or as per agreement with the Project Manager.
It is expected from the Contractor to do the whole of the work as per timeframe set in the NEC ECC3 and agreed Program of the Works.
The Contractor will be responsible for the collection and transporting of all necessary material from any and/or all Eskom warehouses and delivery of the material to site as well as return any material to Eskom stores from the site upon instruction from the Project Manager. Payments will be made based on the distance from the site to the relevant Eskom store and back to site.
Minimum recommended working hours to be observed site are from 07h30 to 16h00 and these hours constitute normal working hours in terms of this contract.

The contractor is to ensure that all required documentation prescribed by Law is kept on file at the site office.
All OHS and Construction Regulation requirements are to be adhered to by the contractor.
The Contactor will also ensure that all plant, equipment and resources dedicated to the project will not be removed from site until there is no use for the intended plant and equipment. No moving of equipment and resources between projects will be allowed without Project Manager approval as it will have impact on completion of the project and lead to delays in completion.
The Contractor is to ensure that all Site Managers are competent, and trained in the use of the ECC and are fully conversant and familiar with the usage and procedures thereof. Adherence to the terms and conditions of the ECC are essential and a requirement of all Contractor Site Managers dedicated to each project as per the Construction Regulations.

Payment Assessments will only be done for work done to date. No material on site will be paid for.
Records of defined costs are to be kept on file on site whereby the Project Manager has access to this file at all times.
All excavation activities shall be inclusive of excavation or drilling or blasting, backfilling, compacting and disposal of surplus excavated materials including boulders to a registered dumping site and the Contractor shall retain records of disposal.

1.3 Interpretation and terminology

1.3.1 Abbreviations

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits
PM	Project Manager
CPE	Contract Project Engineer
CPM	Contract Project Manager
EMP	Environmental Management Program
PE	Project Engineer
PES	Project Engineer Specialist
FDP	Final Design Package
T&Q	Technology and Quality Department - Eskom

1.3.2 Acceptance of Eskom SHEQ Policies and Procedures

The attached documents form part of this legal binding contract, the *Contractor* confirms that he has familiarized himself with all the embedded documents from 1 to 25 as indicated

NO	UNIQUE IDENTIFIER	REVISION	DOCUMENT TITLE
1	32 - 727	LATEST	SAFETY, HEALTH, ENVIRONMENT AND QUALITY (SHEQ) POLICY 32-727 Safety, Health, Environment and Qua
5	ESKOM LIFE SAVING RULES	LATEST	ESKOM LIFE SAVING RULES 240-62196227 Eskom life-saving rules.pdf Life saving rules (2)Acknowledgement.(
6	CONSTRUCTION REG 4	LATEST	NOTIFICATION OF CONSTRUCTION WORK TO DEPARTMENT OF LABOUR Notification of construction work (2).(

7	**CONSTRUCTION REG 4 & 5**	**LATEST**	**APPOINTMENT LETTERS FOR CLIENT REPRESENTATIVE, PRINCIPAL CONTRACTOR & CONTRACTOR** Principal Contractor appointment.docx
8 & 9	**OHS ACT**	**LATEST**	**WRITTEN AGREEMENT ON OHS ACT SECTION 37(2) & STANDARD CLAUSE** Section 37 (2) Agreement (2).docx
10, 11 & 12	**34 - 1063**	**LATEST**	**EXPANDED PUBLIC WORKS REPORT 34-1063.**
13	**DST 34-961**	**LATEST**	**LEGAL APPOINTMENTS AND AUTHORIZATIONS**
14	**TPC 41-55**	**LATEST**	**TRANSPORTING PERSONS ON BACK OF VEHICLES** Vehicle and Driver Safety Management.p
15	**LTIR**	**LATEST**	**LOST TIME INJURY REPORT**
16	**1. Contractor Performance Evaluation**	**LATEST**	
17	**SHE Requirements for the Eskom Commercial Process**	**LATEST**	SHE Requirements for the Eskom Comme
18	**2. Supplier Contract Quality Requirements**	**LATEST**	
19	**3. Work at Heights Procedure**	**LATEST**	Work at Height Standard.pdf
20	**4. Contract Specification for Vegetation Management Services on Eskom Networks**	**LATEST**	DST_240-52456757 vegetation.pdf
	5. Environmental Incident Management Procedure 240-133087117		Environmental Incident Management
	6. Eskom Wildlife Interaction and Management Standard **7. 32-829**		Wildlife Interaction and Management Stai
	8. Eskom Waste Standard 32-245		Eskom Waste Management 32-245.

2 Management and start up.

2.1 Management meetings

Regular meetings of a general and Legal nature shall be convened and chaired by the *Project Manager/Project co-ordinator or representative so delegated by Eskom* Holdings SOC Limited. *As part of the contractor's responsibility with an* objective of minimizing the adverse effects of risks and surprises for both Parties, *meetings shall be held at reasonable times as defined* OHS act as follows:

Title and purpose	**Approximate time** & **interval**	**Location**	**Attendance by**
Kick-Off Meetings		On site	e.g. *PM, Contractor, Supervisor,* and_____
Risk register and compensation events	Weekly on at		
Overall contract progress and feedback	Monthly on ___ at		*e.g. Employer, Contractor, Supervisor,* and
Technical Site Meetings			
Health, Safety & Environmental Meetings			
Community based Meetings			

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 contractual Documentation must have relevant contract number and Purchase Order Number as reference as per Eskom Holdings SOC Limited Standards (List). Contractual communications will be in the form of properly compiled letters, letters attached to emails, emails, NEC template and urgent contractor meetings can be in the form of sms and as outlined on core clause 13 of the NEC3 ECC.
The use of sms's, emails does not override the use of applicable and relevant NEC3 ECC standard templates, forms and Eskom Holdings SOC Limited procedures.

Note: It is the contractor responsibility to acquire and familiarize themselves with the NEC3 ECC.

2.3 Health and safety risk management

In addition to the requirements of the laws governing health and safety, Eskom may have some additional requirements particular to the *works* and the Working Areas for this contract. The text below provides for these being attached as an Annexure to this Works Information. PLEASE ALSO READ CORE CLAUSE 27.4 TOGETHER WITH Z7 IN THE ADDITIONAL CONDITIONS OF CONTRACT TO MAKE SURE THAT WHATHEVER IS INCLUDED IN THE ANNEXURE FOLLOWS ON FROM THOSE CLAUSES.

The Cluster Safety Risk Manager or his representative having jurisdiction over the *works* must provide the relevant safety, health and environmental (SHE) criteria for incorporation into this Works Information. The SHE specification / scope must be signed off by the Cluster Safety Risk Manager or his representative confirming that the applicable safety criteria have been taken into account.

The Buyer must refer the tender to the Cluster Safety Risk Manager or his representative in order to evaluate against enquiry-specific safety criteria.

The Cluster Safety Risk Managers who will be responsible for the allocation of resources to assist P&SCM with the above processes are as follows:

.
· Distribution: Rudy Kruger
.
· Corporate: Lindelwa Ntamo

The *Contractor* shall comply with the health and safety requirements contained in Annexure 32-136 to this Works Information.

The contractor SHE files should be submitted and approved within 5 working days. The contractor is given **one opportunity** to correct, and re-submit within seven 7 days.
The Contractors Project SHEQ File is to be updated on a continuous basis. The Contractor is to ensure that all relevant documentation and authorisations are contained in the file pertaining to the project. Upon completion of the project, the Contractor is to convert all documentation contained in the SHEQ file into electronic format and save it as a PDF File. The file name should contain the name of the Contractor and the project. The file should then be saved onto a disk or removal storage device and handed over to the *Project Manager* upon completion of the project.

2.4 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints contained in the FDP and attached in Annexure B to this Works Information and consist of the following documentation to comply with:

- Environmental Legal Compliance for Eskom Distribution Projects with DESD's signed
- 240-DX-048T Standard for Environmental Screening of Distribution Activities applicable to Eskom Dx Cluster
- 240-715553 Distribution generic EMP for Operations Maintenance Standard
- 240-DX-038T Generic Environmental Management Programme for Distribution Activities
- 240-DX-049T Standard for Environmental Impact Assessment of Distribution Activities
- DPC_34-926 doc incorporating Water use issues draft 1(3) (Repaired) draft 0A.

Notes and Requirements for Environmental Compliance

- Contractors must be aware of environmental specifications in contracts and comply with them;
- Contractors building new lines and substations and performing maintenance on existing infrastructure to attend environmental law course.
- Legal contraventions involving contractors to be communicated to all other contractors to avoid recurrence;
- Contractors to follow and comply with EMPr's provided.
- Contractors are to use the following Standard **240-52456757 Contract Specification for Vegetation Management Services on Eskom Networks** when doing bush clearing.
- Contractors building new assets or maintaining existing assets to always have a copy of the EMPr, EA and any other permits (tree, water, heritage, CCA) and also monitoring/inspections reports available on site where such documents exist;
- Contractors assisting with self-build projects for third parties to attend the DESD training awareness.
- Contractors assisting with self-build projects for third parties to ensure that the relevant documentation including the DESD is handed over to and acknowledged and supported by the Land Development and Environment section. Such contractors take
- liability for the completion of the DESD;
- All environmental incidents to be brought under the attention of the Eskom Holdings SOC Limited representative within 24 hours as per Environmental Incident Management Procedure 240-133087117 ;
- Contractors must demand/request a copy of the completed DESD for their projects);
- Read and understand the DESD, EMPr and other permits;
- (K) Ensure all relevant staff are aware of the conditions of the DESD, EMPr and other permits;
- Review DESD and EMP before tendering;
- Environmental Authorizations are only issued for specific projects that triggers Listed activities as stipulated in NEMA regulations .

2.5 Quality assurance requirements

Quality Control

- An approved Quality Control Programme is to be implemented in conjunction with, and to the approval of, the *Project Manager*.
- The Quality Control Document for per construction stage is to be used and signed off by the relevant people indicated in the document.
- The following Quality Control stages to be documented:
    1. Geotechnical investigation & report for each pole foundation.
    2. DCP tests & soil nominations for each stay foundation.
    3. Steel inspection on steel poles at delivery
    4. Structure dressing & installation Quality control check sheets
    5. Stay pull tests per stay
    6. Earth resistance (pole foot) tests per structure
    7. Sag & tension records during stringing of conductors and shield wire
    8. Recording of full tension joints

Quality Engineering

- All construction and installation methods are to comply with the *Power Delivery Engineering* standard requirements as contained in the National and Provincial Standards on the Distribution Technology websites.
- The Contractor shall comply with the Project Specifications included in the FDP document. Any changes proposed during the construction phase shall notify the Project Manager who will follow the Project Change Request approval process.
- Eskom Holdings SOC Limited's representative must be notified at least 30 days prior to the commissioning.
- Eskom Holdings SOC Limited's representative must be allowed access to the site at any time during the construction to carry out an inspection of the works.
- Before the start of the construction stage, the Contractor will confirm with the Clerk of Works which activities are identified as Holding Points/milestone and which activities he would like to be photographed as proof for compliancy if not present. A Holding Point is an activity for which arrangements have to be made for the Clerk of Works to be present and to witness the work procedure.
- Each stage, once completed by the contractor, will be signed off by both the Contractor and Clerk of Works. The Clerk of Works will indicate whether the activity was:
    - Witnessed (W) - present during this activity
    - Verify (V) - not present but confirm compliancy.
- Once all the activities have been completed, the Quality Control Programme shall be presented to the Project Manager to sign off the Handover Certificate of each stage.

2.6 Programming constraints

The contractor shall submit his construction program in terms of the conditions of contract. This program shall be submitted according to Part one – Data provided by the *Employer* (Time).

Any programme, which is going to be used to assess delay and disruption during the course of a project, must be prepared in a manner, which most accurately and clearly expresses the intention of the Contractor.

The programme prepared at the beginning of the project should therefore be:

1. Realistic and capable of achievement;
2. Based on available information; with
3. Assumptions clearly defined; and
4. Supported by a method statement identifying the contractor’s construction logic.

This Programme may include but not limited to the activities stated below:

- Site Establishment
- Bush clearing
- Survey
- Foundations
- Pole layout
- Dressing of structures
- Planting poles & stays
- Stringing of conductors
- Stringing of shieldwire
- Outage Program & Requirements
- Commissioning

Every activity on the programme will be clearly linked to a **labour** resources and **equipment** required to perform the specific activity.

Weather delays based on the rainfall data supplied under Part 2 (C1.2 Annexure A), must be included in the programme. Only weather delays over and above the specified number of rain days will qualify for evaluation as delays.

Completion and hand-over dates for formal inspection by the site supervisor must be indicated.

Project expenditure (cash flow projection) on a monthly basis for the entire duration of the contract must be indicated.
The Contract Program will be on display in the *Contractor*s *Site* Offices and will be updated weekly.
In addition to the maintaining of this programme, the Contractor will report progress to the Project Manager on a weekly basis.
Should any deviations to the program be found, the *Contractor* shall submit a revised program to the *Project Manager* within one week.
The *Project Manager* retains the right to alter the Accepted Program should circumstances on *site* necessitate such a change.
The following Statutory non-working days are included within the contract period:

- All Public Holidays for the duration of the contract.
- The programme must clearly indicate the working days for the entire construction period or alternatively all the non-working days within the construction period.

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

The *Contractor* shall also provide a detailed organization chart showing the personnel to be employed for the *works,* along with Training certificates of all key personnel. Contractors to submit proof to Eskom that their Contracts manager or delegated employee representative has NEC ECC training. A full definition of ONE team shall form part of the organization chart per project and identity number shall form part of this document.

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. Email Invoice to shared services:

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;
- (add other as required)

Note: All material purchased by the contractor will be paid once they have been installed (subjected to project managers discretion). The risk of paying the material prematurely delivered to site will remain with the contractor.

Financial records are to be kept by the Contractor on any additional items not included in the original Scope of Works/Activity List.
An **EPWP (Expanded Public Works Programme)** reports must accompany each invoice as part of the approval and acceptance process of the monthly assessment and reporting stage.

On a monthly basis, the *Contractor* must report the number of employees working on the projects. Manhours report must be provided on the 1st day of the following month to the respective Eskom Project Manager, cc Contract administrator Xoliswa Quluba, e-mail address is QulubaX@eskom.co.za

General Information	**X**
- No Pro-forma Invoice	
- Check Vendor number against the Address and name on Tax invoice	
- Insert the Vendor number on Tax invoice (Top right hand corner)	
- Bank details must be on the invoice or on a attach sheet, but it does not require a bank stamp just a letter)	
- Check banking details on invoice against SAP system. If more than one banking account check bank account against banking details on invoice. If banking details not on invoice, write the bank code next to the vendor account (bank code 0002)	
- Check Vendor VAT number against the vendor master. (FK03) If VAT number not on master records, prepare a list and forward to Vendor Management to check and update the vendor master records	
- No fax copies of Tax invoices allowed	
- No copies of Tax invoices allowed unless originally printed by the Vendor if a photocopy tax invoice, it must be an original "certified copy" (i.e. not a copy of a "certified copy" invoice) from the vendor and check in system if not previously be paid. Put stamp "not previously paid" on invoice and sign.	
- Ensure that date received stamp is clear on invoice	
- Stamp all Invoices with the Vat stamp, complete and sign (only when VAT is applicable)	
- The stamp should not be stamped over any written information	
- When scanning invoice, check the quality before linking in SAP (inboxes)	
With Reference Invoices	**X**
- Goods receipt must be done (payment with reference)	
- Ensure that the SAP purchase order number is clear and correct on the invoice	
- GR number to be written on the Invoices	
- If multiple lines on invoice write the line number of the order against the line to ensure that the processors match the correct lines (to ensure that 191100 is matched correctly)	

2.9 Insurance provided by the *Employer*

The insurance provided by the *Employer,* is addressed under the **contract data by the *Employer* under Z13.2** Insurances "Insurance provided by the *Employer*". In this case Format Dx is applicable for this contract.

2.10 Contract change management

For any compensation event relating to changes to scope and additions to scope which were not part of the original scope, such changes shall be treated under compensation event core clause section 6 of the NEC3. The contractor shall notify the Project Manager of any changes to Site Personnel within 5 (Five) working day Only resources listed on the approved safety file should be allowed on the construction site. Should there be a need for replacement of resources or adding more teams, the safety file must be updated to reflect such amendment. The allocated safety officer shall re-evaluate the health and safety file for approval. Additional resources may only be allowed access to construction sites after the amended file has been approved

2.11 Provision of bonds and guarantees

N/A

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

2.13 Training workshops and technology transfer

Technological requirements and standards that are applicable at this stage of contract establishment may change and contractors are required to comply with latest standards. In the event that this results in a cost implication, this will be dealt with according to section 6 of the NEC/ECC Contract.

Contractor shall comply with all SD&L requirements relating to training, workshops and any technology transfer obligations.

3 Engineering and the *Contractor*'s design

The contractor shall execute the works as per the Employer's Final Design Package (FDP)/ Detailed Design Package (DDP).

3.1 *Employer*'s design

The Employer will supply Contractor with a final design document compiled by the Project Engineer detailing the scope of work to be executed on the project as well as Project Drawings.

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

Even when the contract is a traditional 'construction only' contract, the *Contractor* is probably still required to carry out workshop details from overall drawings provided by the *Employer* and to design temporary works.

3.3 Procedure for submission and acceptance of *Contractor*'s design

This procedure may also include a design stage activity matrix or requirements for co-operation with Others on a multi party project. State requirements for drawings to be prepared by the *Contractor*.

3.4 Other requirements of the *Contractor*'s design

N/a

3.5 Use of *Contractor*'s design

N/a

3.6 Design of Equipment

N/a

3.7 Equipment required to be included in the *works*

The Contractor shall propose at the start of the project and Project Manager/ Engineer to approve.

3.8 As-built drawings, operating manuals and maintenance schedules

The Contractor completes as-built drawings and as-built schedule of quantities per transformer zone handed over as completed. The Contractor submits these as-built drawings and as-built schedule of quantities as part of the hand-over documentation in line with the completion dates indicated on the approved construction programme.

Should there be conflict between the specification and drawings, then documentation shall be considered in the order of priority set out below:

- Tender Correspondence/Minutes/Site Instructions
- Approved Sample Line
- Works Information & Final Design Package
- Drawings
- Power Delivery Engineering Standard
- Should the Contractor note any inconsistency between the specification and drawings he shall notify the Project Manager and obtain clarification or instructions prior to collecting and installing materials and plant for the work.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed on the Site

Extended Public Works Programme (EPWP) shall be applicable on all projects. The EPWP report template is included as supporting documentation and forms part of this Contract.

To be compiled by the Contractor:

- Base indicators to be collated on all EPWP projects (Table 1)

Table 1: Base indicators to be collected on all EPWP projects

B1 Number	Project level Indicator to be used in monitoring system	Comments
1	Number of people ("Different warm bodies") employed on relevant project	Will be assumed to be equivalent to number of job opportunities created. Will measure the number of people to benefit directly from the EPWP
2	Person-days of employment created	Total number of person days created will be divided by 230 to convert to person years of employment created
3	Minimum wage rate	Since local public bodies may set the wage rate as part of the EPWP to wage rate on a particular project will need to be reported
4	Number of training days provided	Since all workers are entitled to training it is important to ensure that actual training is delivered
5	Overall spending on the project	Will give an indication of how much is actually spent on EPWP projects
6	Demographics of workers on EPWP Projects	The percentages of women, youth and disabled to be reported on.

- KPI to be used for the EPWP (Table 2)

Table 2: KPI's to be used for the EPWP

KPI	KPI	Method for calculation	Comment
1	***Number* of *Job opportunities created***	Assumed to be equal to number of warm bodies employed per project	Will give an indication as to how many unemployed people benefit directly from the EPWP
2	***Person years* of *employment created***	Divide the total number of person days of all projects by 230 (Agreed upon number of person days of employment per year)	Indicator that shows the equivalent number of full-time jobs created
3	***Number of training days provided***	Total sum from all projects	Measure total amount of training provided
4	***Overall spending on EPWP projects***	Total sum from all projects	Measure total government spending on the EPWP
5	***Demographics of workers on EPWP projects***	Total sums of the project totals of **women,** youth and disabled employed	Measures the demographics of the people benefiting from the EPWP
6	***Average length of employment created***	Divide person years of employment created (KPI 2) by number of job opportunities (KPI 1)	Also allows comparison between sectors and types of projects
7	***Total income paid out to previously unemployed***	Multiply number of person-days (BI 2) by the minimum wage (BI 3)	

	workers		
8	***Average income of EPWP worker***	Divide Total income (KPI 6) by Number of job opportunities (KPI1)	
9	***Average duration of training provided***	Divide total number of training days (KPI 3) by number of job opportunities (KPI 1)	Provides an indication of the level of skills build in the programme
10	***Percentage of spending paid out to EPWP workers***	Divide total income paid out (KP\ 6) by Overall spending on EPWP (KPI 4)	Measure the labour intensity of the EPWP

4.1.2 BBBEE and preferencing scheme

The "PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS" is applicable as described under the "Invitation to Tender" section.

4.1.3 Supplier Development and Localisation

A commitment from a supplier to implement skills development and/or the promotion of localised content applicable to the scope of work shall be provided at tender stage. Regular reporting on a 2 monthly basis must be done and handed to the project manager and SDL&I functionary to report on progress of compliance to the commitments agreed upon at contract stage. This report must be handed over to the Project Manager and SDL&I functionary on a 2 monthly basis when submitting the assessment claim for payment

4.2 Subcontracting

4.2.1 Preferred subcontractors

4.2.2 Subcontract documentation, and assessment of subcontract tenders

The use of the NEC3 - ECSC is required.

4.2.3 Limitations on subcontracting

The *Employer* may require that the *Contractor* must subcontract certain specialised work, or that the *Contractor* shall not subcontract more than a specified proportion of the whole of the contract.

(unless otherwise agreed) of the Works may be sub-contracted subject to *Project Managers* approval.

4.2.4 Attendance on subcontractors

The *Contractor* is responsible for performing on the provided scope of work as if he had not subcontracted. The appointed *Contractor* will also be liable to the *Subcontractors'* employees, as he legally and liable to this contract.
The *Contractor* is liable for ensuring that materials are fit for purpose and free of defects.
The *Contractor* is liable for ensuring that all materials and workmanship fulfil the specifications, instructions and design.

Any appointment of a subcontractor by the *Contractor* is to be approved by the *Project Manager.*
The *Sub Contractor* must be CIDB registered. A maximum of 25% of the Works may be sub-contracted subject to Project Managers approval.

4.2.5 SECURITY OFFICER'S ON-SITE EQUIPMENT REQUIREMENTS

SERVICE INFORMATION

Description of the service

The Provision of the supply of security services Eskom Eastern Cape Operating Unit.

- 24 Hour Physical Guarding Service.
- The Service required is PSIRA D Grade trained, registered and competent Security Guards on site in the form of two (2) guards during day shift and two (2) guards during night shift pending on the size of the site as well as the scope of work at the specific site.
- Monday to Sunday (incl. Public Holidays) to conduct physical security on site.
- Physical guarding duties) Visibility) Access control Duties) Patrol / Inspection Duties) Prelim Investigation and

SECURITY SERVICES

ACCESS CONTROL

Control and management of movement of employees, visitors and Security Service Providers by ensuring that only authorized persons are allowed on site and to that only authorized equipment and material enters or is removed from site.

Access control will include amongst others the following activities:

- Recording of visitors details electronically or manually (as per site specifics)
- Application of the visitor confirmation process
- Declaration, recording and movement control of equipment and material
- Screening of persons and articles/parcels through the use of electronic equipment
- Conduct Alcohol screening/testing (training and device will be provided by Eskom)
- Safety inductions of visitors and Security Service Providers
- Searching or vehicles and persons for presence of prohibited items such as weapons, explosives or items or any devices that can be used in the commission of a criminal act.

STATIC GUARDING

The provision of unarmed guarding services in the Eastern Cape Operating Unit.

Static guarding will include among others the following activities:

- Monitoring specific locations, areas, installations to identify and prevent access of unauthorized persons, material and equipment
- Attend to and intercept suspicious activities
- Prevent illegal activities
- Prevent occurrences that may endanger Eskom employees, its Security Service Providers and visitors
- Prevent criminal activities

- Prevent incidents that may interrupt Eskom's normal business
- Supervision of static guards will be required by no fewer than 2 visits per shift per site by two supervisors at all times
- The deployment of ad-hoc security guards within an agreed time with the Eskom security supervisor (not longer than 3 hours of request)
- The submission of a monthly report to Eskom
  Static guarding sites must be equipped with a panic button system linked to a 24/7 operational control room. To provide response service to a static guarded site.

SECURITY SERVICES

The Security supplier is expected to do an environment scanning within which security services are to be rendered in order to identify potential threats and risks and develop appropriate mitigation strategies to address the threats and risks. The implementation of such strategies shall be done in consultation with Eskom.

SECURITY PATROL

- Execution of crime prevention patrols at the critical network infrastructure and hotspot areas including any other specified sites within regional boundaries.
- Visiting and patrolling of Eskom sites at irregular intervals and not in a specific sequence, to detect the presence of unauthorized person, suspicious activities or occurrences that may endanger personnel or critical network infrastructure.
- Prevention of unauthorized removal of Eskom assets from Eskom sites and network infrastructure.
- Eskom reserves the right to change the reporting base within the boundaries of the allocated geographical area.
- The Eskom Service manager or his/her delegate reserves the right to re-direct crime prevention activities in his/her area of responsibility.
- No deviations from the operational plan without the authorization of the Eskom Service manager or his/her delegate will be permitted.
- The service provider must be a legally constituted entity allowed to provide security services.
- All personnel employed by the service provider must have been trained at a PSIRA accredited training institution and proof must be available on request.
- Salaries must be in accordance with the Wage Determination Act.

SECURITY OFFICERS (PSIRA Grade)

- All Security officers must be registered with PSIRA at the required grade.
- Security officers must be in possession of their PSIRA and company I.D card at all times.
- Security officers will be expected to sign a declaration of Secrecy, before commencements of their duties in terms of this contract.
- All Security officers must be subjected to a criminal screening process prior to the commencement of the contract and a copy of the results must be placed in their personnel files.
- Security officers should not have been convicted of any criminal offence and should disclose all pending criminal prosecutions against them. Non-disclosure of such will result in the officers' automatic removal from Eskom site or duties.
- Security officers should be able to read and write and express themselves well in English.

- Security officers may be required to undergo polygraph testing as and when required.

- Security officers will not be allowed to access IT networks registries, communication networks or any sensitive/zoned areas even when responding to alarms.
- Security officers should be trained on the Standard Operating Procedures (SOPs) relevant for their site of deployment and/or be made available for training by Eskom at no additional costs on any process or procedure necessary for them to do their duties. Proof of training must be kept on file and availed to Eskom on request.
- No security officers are to be deployed in terms of this contract, before undergoing necessary Eskom SAFETY induction, training and assessments. Eskom reserves the right to remove such Officers that have not complied with this requirement from their sites or duties as per this contract at the cost to the Security Service Provider.

SUPERVISION (GRADE B)

A Dedicated supervisor may be required in specified areas. A minimum PSIRA Grade B supervisor must supervise deployed guards. The supervisors must ensure that guards deployed at rural/ remote sites or areas with transport challenges are provided with their company transport to assist them to reach the sites. Smaller and remote sites will require a roaming Supervisor as per the regional requirements. The posting of guards is required to be done by the Supervisor at all sites (the practice of “self-posting” is not ruled out but must be monitored closely). All equipment must be tested and documented in the OB and deviations corrected during each and every shift change.

TRAINING

All Security personnel deployed in terms of this contract must be trained in accordance with the various applicable legislative requirements such as Private Security Industry Regulatory Authority (PSIRA),

WORKING TIMES /SHIFTS

- Working times shall be as determined by PSIRA – 48 hours per week and 45 hours per week days for shift workers.
- The security service is required 24 hours a day on a two shift cycle i.e. 06:00 to 18:00 and 18:00 to 06:00.
- A signed off reviewed list of Security officers deployed in terms of this contract must be provided on monthly basis, within 5 days prior to the commencement of the new month.
- The Security Service provider is responsible to ensure that every shift complement is correct as per Eskom’s requirement before commencement of a shift.
- The Security Officers will be expected to do a pre-job / daily risk assessment and safety talks before commencement of every shift.

COMMUNICATION

The Security service provider must ensure suitable continuous communication between operational control room and their deployed staff. Supplier shall provide either one or more of the following mediums of communications as per user requirements: base radios, hand-held radios, satellite radio, company contracted cell phones (programmed with all the necessary contact details as per Eskom list) and/or push to talk system (PTT).

CONTINGENCY PLANS

- The service provider must have contingency plans in place for among others the following:
- Own Strike/Labour unrest amongst own staff.
- Shortage of Manpower due to e.g. absenteeism, sick leave annual leave.
- Equipment Failure e.g. Vehicle breakdown and Communication system.

INCIDENT REPORTING AND INVESTIGATION

- All incidents and response to incidents must be handled according to the relevant Standard Operating Procedure (SOP) and/or work instructions for each site.
- All incidents and response must be immediately (within 15 minutes) reported to the Eskom.
- The SAPS must be contacted immediately only for criminal incidents or suspected ongoing criminal activities.
- Weekly status reports are to be supplied by the service provider.
- The Security Service Provider is to ensure that all involved personnel are available for relevant court proceedings, incident investigations and assist Eskom and the SAPS in their investigations as and when required.
- All incidents (including incidents in terms of the Occupational Health and Safety Act), should be reported within 24 hours and a preliminary investigation report provided within 24 hours as well as a final Incident investigation report within Seven (7) days.

SECURITY REGISTERS

- The Security Service provider will be required to provide with the Occurrence books, Visitors and After-hours register where necessary.
- Occurrence book to be correctly completed by Security officers and supervisors listing all occurrences and visits on site.
- Visitors register to be completed daily and filed on site for future reference and pages must be numbered.
- Security Service Provider must ensure that quality registers are provided. Register must remain bonded, with no loose and damaged pages.
- Accurate records of all occurrences are to be kept for a minimum of 12 months (Max 5 years) post the occurrence and should be made readily available to Eskom at any time. The OB's must be handed to Eskom once the contract term is completed or the contract is terminated.

DOCUMENTATION

The following documentation is to be supplied by the security service provider at least four (4) weeks before a Task order can be issued and commencement of the contract.

- List of all potential security officers intended to be deployed on Eskom sites in terms of this contract.
- Certified ID copies and PSIRA certificates of all security officers.
- Certified copies of firearm competency certificates of the security officers.
- Certified copies of the company and Directors PSIRA registrations certificates.
- Criminal check records as proof that the Security officers have not been convicted of any criminal offence.
- A list of all vehicles and maintenance records for vehicles to be used as per this contract and in a specific region/area.
- Driver risk profiles must be submitted for every driver as per this Security Service Provider.
- Emergency Preparedness procedure with relevant contact details.
- Standard operating procedures per site to include the following but not limited to and should be approved by Eskom representative before application:
  - wearing of uniform standard
  - Communication procedure
  - Firearm handling procedure
  - Shift changes
  - Emergency Preparedness and Response process

SAFETY REQUIREMENTS

- All vehicles utilized to transport staff, must be fitted with SABS approved seatbelts and in accordance with Eskom's safety standards.
- The Service provider is responsible to ensure that the security officers deployed at Ad-hoc sites have access to a shelter, water and sanitation.
- All Security officers should receive a safety induction before they can be deployed on Eskom sites.
- All Security Service providers to prevent further reoccurrences at any of the Eskom site, as per allocated timeframes, shall implement safety recommendations following an incident.
- Open fires, the use of bar heaters and hotplates as heaters at Eskom sites, is totally prohibited.
- Security officers should observe the provisions of the Criminal procedure Act and all relevant legislation regarding the use of minimum force. Security officers should at all-time use minimum force sufficient to bring the situation under control and such force shall cease as soon as the situation is brought under control. No deliberate assault on suspects will be condoned.

OPERATIONAL EQUIPMENT REQUIREMENTS

- A list of equipment shall be fully specified as per sites requirements in the bill of quantities (BOQ). Eskom will provide specifications for mobile guard houses and facilities.
- Service providers must supply this on an "as and when" required basis.
- The specification will be determined per the task order. All vehicles must be equipped with a local global positioning system or any other vehicle tracking device or system.

MANPOWER REQUIREMENTS

Manpower will be required on an as and when required basis. A task order stipulating the required number of security guards/officers will be provided on a monthly basis.

- No work is to commence before a task order with a SAP order number has been supplied to the Security Service Provider by Eskom and such task order by be duly signed off by both parties.
- No task order will be issued until Eskom is satisfied that all applicable training, legislative and stipulated requirements have been met.

SALARIES AND PAYMENTS

Security Service Provider shall pay security guards/officers at least the minimum wage specified in the Sectorial Determination, of the Private Security Sector, South Africa. Register all security guards with the Department of Labour: UIF, COID and provident fund.

Eskom reserves the right to request proof of the above registrations on a monthly basis or as and when required. A PSIRA listing of all guards employed by the Security Service Provider and letter of good standing shall be provided on a monthly basis or as and when required.

UNIFORMS

- The Security Service Provider must comply with legislative requirement (PSIRA Regulation 13). Uniform items must be kept in clean, neat and good condition at all times.
- Uniform must be functional in terms of the environment where security staff are deployed.
- Bullet proof vests shall be worn as part of uniform by all security officers. Only Eskom shall indicate exclusions to this rule for certain sites or posts as per the site risk assessments; if applicable.
- For obvious hygiene and safety reasons, each Security officer must be issued with his/her own bullet proof vest.

SCHEDULE OF DEFICIENCY AND PENALTIES:

DEFIENCIENCY PENALTY

- Security officer (SO) or dog not posted on duty as agreed upon. (Short posting) One shift cost deduction (per SO)
- SO intoxicated/ or under the influence of liquor or drugs. Permanent removal of SO from Eskom contract duties. Plus the cost of the entire shift.
- Refusal by SO to comply with lawful instruction. Permanent removal of SO from Eskom contract duties.
- Sleeping on duty. One shift cost deduction (entire shift)
- Desertion of post by SO One shift cost deduction (entire shift)
- Negligent by SO in the performance of their duties Permanent removal of SO from Eskom contract duties.
- SO late for duty (tantamount to short posting) One shift cost deduction (per SO)
- SO without a functional torch or spot light One shift cost deduction (entire shift)
- SO or site without a functional radio or PTT One shift cost deduction (entire shift)
- No functional panic button on site only for applicable sites One shift cost deduction (entire shift)

- SO not wearing bullet proof vest. Vests worn without plates and wearing of non-level 3 bullet proof vests will be deemed as no bullet proof vest was worn. One shift cost deduction (entire shift)
- Non submission of vehicle tracking reports Non payments of the total services (i.e. the cost for the SOs, vehicle and dog for the entire month)
- Non submission of site inspections reports by Crime prevention and response team. Non payments of the total services (i.e. the cost for the SOs, vehicle and dog for the entire month)
- Late reporting of patrol teams at designated reporting site. Total shift cost deduction (i.e. the cost for the SOs, vehicle and dog)
- SO not wearing proper uniform items or uniform is worn out. One shift cost deduction
- SO not in possession of a baton or hand-cuffs One shift cost deduction (entire shift)
- Unavailability of patrol teams on call out. Total shift cost deduction (i.e. the cost for the SOs, vehicle and dog)

THE COMPANY MUST AGREE TO THE FOLLOWING:

- Reliability checks by relevant National intelligence structures.
- Security screening of the companies Owners/CEO'S/Directors/Partners.
- Security Screening of Security Officials who will be working on the sub station
- Signing of declaration of secrecy by security officials
- Adherence to all internal Security policies and procedures of ESKOM
- Contract security officers must not be allowed to access IT networks registries, communication networks or any other sensitive/zoned sites
- Security officers must always present an acceptable image and appearances
- Agree on references checks
- The use of Polygraph Testing on guards if so required at the cost of the service provider.

4.3 Plant and Materials

4.3.1 Quality

The *Contractor* shall control his activities and processes in accordance with Eskom's Quality Requirements for Procurement of Assets, Goods & Services, QM-58 and ISO-9001.

All materials shall be new and of the best quality and shall conform to the requirements of the Eskom Buyers Guide (Eskom Distribution Standard Part 9). With regards to the material supply chain, the approved materials manufacturer and marking requirements shall be set out on a schedule and approved before construction.

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

The following Big five (5) materials will be supplied by Eskom ("Free issue"):

1) Transformers (Pole-mounted and other),
2) Poles,
3) Meters and Bases,
4) Conductors and Cables,
5) Airdac.

Please note the contractor is accountable for all the material for the Project.

Materials supplied by Eskom, will be delivered to Contractor Site.

The Delivery Driver and the Contractor shall sign the Goods Issue Document at delivery date as a declaration that;

- The quantities are correct as specified on the Good Issue Document
- The quality of material is acceptable
- Any discrepancies found shall be noted in the remarks column and co-signed by the Dispatch Controller and the Contractor

4.3.3 *Contractor*'s procurement of Plant and Materials

All material is to comply with the **latest** Eskom Approved Manufacturer's List as published in the Cape Coastal – Eastern Cape by the Eskom T&Q Department. Any non-standard material items are to be approved by Eskom Holdings Limited before use on the project. Acceptance sampling is to be carried out on receipt of material on site in order to inspect the outward condition of the material item.
In exceptional cases which require materials and/or techniques which are not contemplated in the various Distribution standards shall be approved by the nominated **Senior Engineer, Ralph Reddy, Phone No: 043–703 2294**. The written approval shall be submitted together with the tender.

The *Contractor* will be required to arrange a material sample inspection on site according to the requirements supplied by the PE. At this inspection materials will be recorded and approved per item by the PE, the Eskom PES and the T&Q Department. For any enquiries related to material inspection standards contact **Henry Jordaan No. 043 7035318**

4.3.4 Spares and consumables

All hardware to be supplied by *Contractor* is to be as per Eskom Standards limited to Eskom's approval. All hardware and cost thereof shall be within the mandate that has been Eskom approved.

4.4 Tests and inspections before delivery

The *Contractor* will be required to arrange and supply the following:
Material Sample Inspection: - A sample of each material item is to be presented for an inspection by the Eskom T&Q Department. A 2 week notification period required.

4.5 Marking Plant and Materials outside the Working Areas

Where applicable. Subject to approval of the Clerk of Works.

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

The *Contractor* is to provide the necessary equipment to complete the *Works* safely and by the *completion date.* (Refer to item 5.9)

4.7 Cataloguing requirements by the *Contractor*

5 Construction

5.1 Temporary works, Site services & construction constraints

The contractor provides a secure and accessible area for the Site Camp, which includes secure storage facilities and areas, etc. The location of the site camp shall be determined in consultation with the *Project Manager*, local communities, and the relevant authorities.

The *Contractor* is to provide a 24 hour, 7 days a week, access and perimeter control unarmed security service from a reputable PSIRA registered security firm.

The *Contractor* when sourcing Security firms do as guided by information stated under **4.2 SUBCONTRACTING under 4.2.5 SECURITY OFFICER'S ON-SITE EQUIPMENT REQUIREMENTS**

On completion of the contract, the contractor removes the site camp and offices, and the area will be left in its original state to the satisfaction of the employer's representative and the Environmental Officer.

Site Establishment Costs

The *Contractor* shall take note that the total cost involved in establishing site services, facilities, and temporary works shall be incorporated in the Fixed and Time Related Preliminary & General costs part of the Bill of Quantity.

In situations where private roads must be used for construction purposes, the condition of the said roads shall be recorded (e.g. Photographed) prior to the use thereof and be agreed upon by the *Employer,* the *Landowner* and the *Contractor*. The *Contractor*, at all times at his expense, shall maintain all private roads used as access to the site of work by the *Contractor*. Upon completion of the work, the road shall be left in at least the condition it was prior to the commencement of the construction activities.

The Contractor should adhere to the Life Saving Rules at all times.
Due to the importance to save life's and apparatus of Eskom it is recommended that if a contractor abuse any Life Saving Rules, all work allocated to the contractor will immediately put on hold until final outcome with investigation. Safety is the combined responsibility of the team and therefore team leader or team **will** be punished together. There are five cardinal rules that may not be broken by the Team Leader and his/her team.

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

Where possible, access along the power line must be established by utilizing existing tracks. Access roads shall only be constructed and maintained where necessary at watercourses, steep slopes or where boulders and rocks prohibit vehicular traffic. No access roads shall be constructed in and/or outside the power line servitude without the written instructions from the *Project Manager*.

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

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 will be needed when assessing compensation events.

5.1.3 Health and safety facilities on Site

The *Contractor* shall at all times adhere to the **Safety Health & Environmental Specification** attached in the Annexure of the contract document.

A Health & Safety Plan as well as the Health & Safety File as specified in the **Safety Health & Environmental Specification** must be kept on site and updated on a regular basis. Daily safety tailgate talks with task risk analysis shall be held and recorded to discuss the safety aspects and risks involved in the day's work to ensure safe operation throughout the contract period.

Health & Safety meetings shall be held at least once a month and records of minutes kept in the H&S file on site. The following items on the agenda to be discussed as a minimum requirement:

- Eskom Monthly Safety Theme – inform staff.
- Eskom Incident Case Studies and Recommendations
- OHS Act appointments – Updates, Validity, Expiry dates etc.
- PPE – issued and required.
- Safe Work procedures (Method Statements) – updates/changes
- Equipment – Inspection records updated
- Training requirements
- Staff Medicals
- Environmental issues

The *Contractor* shall not **be allowed to work on any "live" structures. All live structures are to be identified beforehand and shown to all the contractor's staff – notification to be official recorded and kept in the SHE file on site.**

The *Contractor* shall not be **allowed to leave any excavation open** without supervision. If foundations cannot be planted on the same day of the excavation, holes are to be closed over the night period or full time security guard to be arranged.

Machinery that can encroach on the safe working clearances with regard to live lines and equipment, are not to be operated within nine metres of live reticulation lines, without the direct supervision of a qualified supervisor under the *Employer's* HV Regulations and the OHS Act.

Precautions against Damage

The *Contractor* shall take precautions for the protection of life and property on, or about, or in connection with the contract. The *Contractor* shall be held liable for any damage arising from negligence on the part of himself and his employees. The *Contractor* will ensure that excavations are done carefully as per the construction drawings. The damages occurring during any required excavations will be for the contractor's risk, and must therefore be repaired by the contractor.

Protection of the environment should at all times be adhered to.

Customer & Client liaison

The contractor will ensure that all required outages be communicated to the *Project Manager* and that the necessary outage requests are tabled for approval at the Monthly Outage meetings of the applicable area.

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

The *Contractor* shall at all times adhere to the **Environmental Management Programme (EMP) and all referenced documents referred to in Section 2.4.**

No fences, gates or locks may be damaged to obtain access onto a line route. Arrangements must be made in advance to obtain permission for access.

Use of private roads must be arranged in advance. Any damage to private roads must be repaired at the contractor's expense and to the satisfaction of the landowner.

No fires may be lit on private property. If fires are lit on Eskom's property or in the construction camp, provision must be made that no accidental fires are started. No firewood may be collected in the veld.

No trees may be cut or removed without prior permission from the landowner. Permits shall be obtained for protected trees (protected trees shall be dealt with in special conditions)

5.1.5 Title to materials from demolition and excavation

The *Contractor* has no such title. All equipment and materials dismantled to be stored inside the *Contractor's* site camp. Disposal of this equipment and materials to be liaise with the **Asset Disposal Officer – Reqeba Kamroodeen at 031 710 5674.**

5.1.6 Cooperating with and obtaining acceptance of Others

The *Contractor* is responsible to ensure that the landowners and/or local authority have been informed before any work is carried out on site. It is also the *Contractor's* responsibility to maintain a good relationship with the landowners and to ensure that the following procedures are in place:

1) Access arrangements to the property
2) Allowable construction times on the property to be agreed and documented

5.1.7 Publicity and progress photographs

Photographs can be captured to provide evidence with supporting documentation where applicable. These photographs shall have date and time stamps to be eligible for use.

5.1.8 *Contractor*'s Equipment

The *Contractor* is to provide equipment necessary to complete the *Works* safely and by the *completion date.* An equipment asset register is to be kept on site record is to be kept on site.

5.1.9 Equipment provided by the *Employer*

As stated on the Bill of Quantity

5.1.10 Site services and facilities

The *Contractor* shall provide on *Site* a minimum of one well illuminated, insulated and ventilated *site* office for utilisation by the *Employer* / *Project Manager* or their representatives. This *site* office shall have as a minimum the following:

- A Suitable water supply and sanitary facilities (chemical toilet).
- First aid facilities
- Telecommunication facilities (down loading of electronic communications and printing of it)
- Access to Eskom website to download latest information.
- 1 x Table, 10 x chairs required and a suitable office required to hold a site meeting.
- Site diary.

5.1.11 Facilities provided by the *Contractor*

Material Storage Area

The *Contractor* shall provide a secure fenced-in yard for the whole of the contract period. Storage facilities must be of such a nature that all the *Contractors* materials, including free issue materials (Employers materials) are safe from theft, fire hazards and vandalism. Fire breaks around the storage area, and fire-fighting equipment must be in accordance with the OHS Act, and of sufficient capacity to ensure the security of stored materials.

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

To be negotiated and agreed with the approval of the community liaison officer where applicable.

5.1.13 Survey control and setting out of the *works*

N/a

5.1.14 Excavations and associated water control

Keep excavations free from water.

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

The *Contractor* shall be held liable for any damages caused during construction to existing services such as, underground water pipes, electrical cables, telecommunication cables, overhead lines, storm water pipes and existing roads.

It is the responsibility of the *Contractor* to contact the landowner and/or local authority to determine the position of such services to prevent any damages.

5.1.16 Control of noise, dust, water and waste

The *Contractor* shall within reason try and keep noise levels, dust and wastage to a minimum.

5.1.17 Sequences of construction or installation

As per the approved construction programme and in conjunction with the Quality Control Plan.

5.1.18 Giving notice of work to be covered up

The Project Manager/Clerk of Works shall always be notified.

5.1.19 Hook ups to existing works

As per approved FDP. All safety requirements shall be observed.

5.2 Completion, testing, commissioning and correction of Defects

5.2.1 Work to be done by the Completion Date

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.

The whole of the *Works* as described by the *Works Information* of this contract and in the Final Design package shall be completed on or before the *Completion Date.* Completion includes the completion and submission of hand-over documentation, as-built drawings, and completed defect lists. The *Contractor* pays delay damages for late completion in terms of the *Conditions of Contract.* Should the Contractor receive 3 non-conformances, preventative actions and corrective actions, Eskom reserves the right to terminate the contract.

Outages & **Commissioning**

The contractor will prepare the scope of works required for the planned outage at each stage before the outage date. On the day of the outage, the required scope of work at this point is to be completed, checked and handed over to the CNC with the required handover documentation.

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

The *Contractor* will have to carry out the supervision of the installations, as per the instruction of the *Project Manager* then a *Sectional completion Certificate* shall be issued to the *Contractor.*

5.2.3 Materials facilities and samples for tests and inspections

From time to time random sample test and inspections may be requested, to ensure good quality of the goods being supplied

5.2.4 Commissioning

Commissioning is to be done before or after Completion depending on the Programme.

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

In order to put the *works* into operation the *Project Manager* may require the *Contractor* to either do this for him or be in attendance whilst he does it, depending on who is the responsible person.

5.2.6 Take over procedures.

Take-over is after or at the same time as Completion. The *Contractor* is to arrange an inspection before completion of the installation to inspect and identify any outstanding or any defects. The *Project Manager* may require the *Contractor* to provide assistance, on an as and when required basis.

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

After the *works* have been put into operation, the *Employer* may require the *Contractor* to undertake certain procedures before such access can be granted

5.2.8 Performance tests after Completion

The *Contractor* will perform all tests required to bring the asset to service.

5.2.9 Training and technology transfer

The *Employer* requires the *Contractor* to provide training on the use of the access control or any associated transfer of technology from him to the *Employer*.

5.2.10 Operational maintenance after Completion

The *Employer* may require the *Contractor* before the *defects date* to perform certain duties after Completion and take over which relate to maintenance of the *works*.

6 Plant and Materials standards and workmanship

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.

6.2 Building works

N/a

6.3 Civil engineering and structural works

N/a

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

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	Site Information	1
	Total number of pages	2

PART 4: 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.

1. General description

The Provision of Construction and upgrade of MV & LV overhead and underground Lines in Cape Coastal Cluster (CCC Reference would probably be made to a drawing showing the Site and its surroundings and the *boundaries of the site* as required by the Contract Data. It is particularly important that details of surrounding buildings be provided where crane operation is likely to be affected, or the *works* involve deep foundations adjacent to existing buildings.

2. Existing buildings, structures, and plant & machinery on the Site

Some of the existing infrastructure is indicated on substation layout drawings provided. Though it is the *Contractor's* responsibility, to familiarise himself with all existing infrastructure in and around the working place.

3. Subsoil information

All excavations and associated soil information are described under the Works information and Bill of Quantities. No geotechnical study or report provided.

4. Hidden services

In the event of a discrepancy between physical condition and the information on a drawing, the *Contractor* shall notify the *Project Manager* immediately if the physical condition found on *site* is such that the deviation from the drawing requires a change in the design of the *works*.

PART 5: ANNEXURES

C5 Annexures

GENERAL SPECIFICATIONS

NO	REFERENCE NUMBER	REV.	TITLE	TYPE *SPEC/PF	ATTACHED YES/NO
A1	PFMA 1 of 1999		Public Finance Management Act		No
			Integrated Risk Management - Safety		
A2	OHS Act. 85 of 1993		Occupational Health and Safety Act	SPEC	No
A3	COID 130 of 1993		Compensation Health and Safety Act		
A4	SCSAMAAE4	0	Safety Risk Management Process Manual	Manual	No
A5	SCSPVABM9	0	Co-Ordination of safety on capital projects	Procedure	No
A6	SCSASAAW8	4	Standards applicable for Contractors working in close proximity to live apparatus	Standard	No
A7	32-136	0	Contractor Health and Safety Requirements	SPEC	YES
A8	SCSPVACK0	0	Identifying, analyzing, documenting and observing dangerous/hazardous tasks.	Procedure	No
A9	SCSPVACU1	1	Pres-Task Planning and Feedback process	Procedure	No
A10	SCSPVABP6	1	Procedure for refusal to work on the grounds of health, safety and environmental concerns.	Procedure	No
A11	34-350	0	Reporting, recording, investigating, costing and follow-up of incident/accidents.	Procedure	No
A12	34-332	0	First Aid Standard	Standard	No
A13	ESKPVAEY6	0	Operating Regulations for High Voltage Systems	Procedure	No
A14	34-163	1	Portfolio of evidence for Authorisation	Guide	No
A15	NWS 1494		Fire Prevention and Protection of Contractor's Premises on New Work Sites	SPEC	No
			Operational		
A16	ESKARAAG4	6	Operating Regulations for High Voltage Systems	Procedure	No
A17	SCSPVABN2	0	Training, Testing and Authorization of persons for the operating and maintenance of the Power System	SPEC	No
A18	SCSAMAAE5	1	The training logbooks for Authorization of persons working on high voltage systems.	SPEC	No
A19	SCSAAAR0		GUIDE FOR THE STORAGE, TRANSPORT AND HANDLING OF COMPOSITE INSULATORS	Guide	No
A20	ESKASAAU7	0	Quality Requirements for the procurement of Assets, Goods and Services.	Standard	No
A21	SCSAGAAW2	0	Building line restrictions, servitudes widths, line separations and clearances from power lines	Guide	No
A22	DISPVABY3	0	Procedure for handling Auditing and stacking of new wooden poles	Procedure	No.
A23	DISPVAB17	1	Procedure for manual handling of rural line poles.	Standard	No
A24	ESKASABG3	1	Standards for bush clearance and maintenance within overhead powerline servitudes	Standard	No
A25	SCSSCAAY5	2	Specifications for phase conductor for distribution lines (See 4.6 Conductor markings)	SPEC	No
A26	DISADABQ9		Access to farms	Guide	No.
			Contractor Site Requirements		
A27	STR103/2006 10 TI-012		Transporting person on back of vehicles Prohibition of transportation of employees in crew cabs mounted on the back of trucks	Technical Instr.	No
A28	Work Instruction		Expanded Public Works Report – Divisional Capital Programme & Manhour Report		No
A29			Eskom Distribution Standard including all Technical Bulletins issued till Tender Issue date	SPEC	No
A30			Electrical Clearances and Safe Working Clearances	SPEC	No
A31			Tax Declaration and Tax Clearance	SPEC	No
A32			Section 28 of the National Environmental Management Act 10 of 1998	SPEC	No

			Project Specific Documentation:		
A33		**0**	**Final Design Package & drawings – will be provided electronically at tender clarification meeting**	**FDP**	**Yes**
A34		**0**	**Environmental Documents:** • **ENVIRONMENTAL MANAGEMENT PLAN**	**SPEC**	**Yes**
A35		**0**	**SHE SPECIFICATION FOR SUBSTATION PROJECTS**	**SPEC**	**Yes**

Eskom Holdings Limited's Standard and Specifications are available at www.eskom.co.za and all Procurement offices.