KOUGA MUNICIPALITY EC108

Notice No. 134/2026

PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY: SPECIFICATION NO. G/10713/E

PROCUREMENT DOCUMENT

(Based on GCC 2015)

May 2026

Issued by:

Kouga Municipality

Municipal Offices
16 Woltemade Street
Jeffreys Bay
6300

Contact:

Name: Mr. M Mangembe

Telephone: 042 200 2200

E-mail: mmangembe@kouga.gov.za

Prepared by:

Clinkscales Maughan-Brown South (Pty) Ltd

39 Victoria Street
P.O. Box 2551
GEORGE
6530

Mr. GS Adams

044-874 1511

sadams@cmbgeorge.co.za

Name of Tenderer: .....

KOUGA MUNICIPALITY EC108

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Contents

THE CONTRACT

Part C1: Agreements and Contract Data

Part C2: Pricing Data

Part C3: Scope of Work

TENDERER CONTACT DETAILS

This information shall be used for any correspondence or contact with the Tenderer.

Please indicate whether you prefer to receive any correspondence via e-mail or sent to your postal address by registered mail.

Name of Bidding Company: ……		**Mark choice of correspondence with an X**
Name of Contact Person: ……		
Postal Address:	.... Postal Code:	.....
E-mail Address:	.....	.....
Telephone No:	.....	.....
Cell No:	.....	.....

TENDER OFFER

The offered total of the prices inclusive of Value Added Tax, carried over from Part C1.1, Form of Offer and Acceptance, Page C1.1.1, is:

……..

…….. Rand (in words)

R …..…… (in figures).

KOUGA MUNICIPALITY

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PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY: SPECIFICATION NO. G/10713/E

GENERAL TENDER INFORMATION

TENDER ADVERTISED	: 19 May 2026
COMPULSORY VIRTUAL CLARIFICATION SESSION DATE:	: Tuesday, 02 June 2026 at 10h00
COMPULSORY SITE CLARIFICATION SESSION DATE:	: Wednesday, 03 June 2026 at 14h00
TENDER CLOSING DATE	: Friday, 19 June 2026
CLOSING TIME	: 12h00
LOCATION OF TENDER BOX	: **Tender Box** in Room 122 at 16 Woltemade Street, Jeffreys Bay

THE TENDER

PART T1 – TENDERING PROCEDURES

T1.1 TENDER NOTICE AND INVITATION TO TENDER

KOUGA LOCAL MUNICIPALITY (EC108)
DIRECTORATE: INFRASTRUCTURE & ENGINEERING
PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY: SPECIFICATION NO. G/10713/E

Prospective Service Providers are hereby invited to submit tenders for the Phase 4 of the 66kV double circuit overhead line between Melkhout Substation at Humansdorp and the Main Intake Substation at Jeffreys Bay.

Tenders

An electronic copy of the tender document will be available on E-Tender portal www.etender.gov.za or the municipal website www.kouga.gov.za as from **Tuesday, 19 May 2026**. After downloading the tender document from the website each prospective bidder **MUST** ensure that all the pages of the tender document are printed.

Two compulsory clarification sessions will be held as per below details. Bidders must attend both meetings, **failure to attend both meetings will deem the bid non-responsive.**

A **Compulsory Virtual Clarification Session** will be arranged for **Tuesday, 02 June 2026 @10h00.** Prospective bidders can use link below which is direct from this advert to access the meeting. **Please take note that no attendee arriving 10 minutes late or more** will be allowed to attend the clarification meeting.

Join Teams Meeting
https://teams.microsoft.com/meet/344417045492097?p=0s7Tfvl1wGcoicplKp

Meeting ID: 344 417 045 492 097

Passcode: r6Dy2yM7

A **Compulsory Site Clarification Session** will be arranged for **Wednesday, 03 June 2026 @14h00** and will be held at **Jeffreys Bay Main Substation, Saint Francis Street, Eastern Cape, 6330. Please take note that no attendee arriving 10 minutes late or more** will be allowed to attend the clarification meeting.

Please note:

- Telegraphic, telephonic, telex, facsimile, email, or late tenders will not be accepted.
- This contract will be evaluated on the 80/20-point system. 80 points for price and 20 points for specific goals. To claim points for specific goals prospective bidders MUST submit proof/ required documents.
- **An electronic copy of the completed tender document with returnable documents must be submitted with tender submission saved in a flash drive or SD Card/CD. Failure to submit AN ORIGINAL HARD COPY AND A COPY ON EITHER USB or SD Card/CD will deem the bid non-responsive. Bidders are encouraged to submit USB's and SD Cards only. The submission of CDs in a condition that is capable of being handled i.e. device that is readable and not broken is solely the responsibility of the bidder. Visibly broken CDs at tender opening stage will not be accepted.**
- **An estimated contractor CIDB Grading of 4EP or higher is required.**
- **A minimum functional assessment score of 70 points will apply to this contract.**
- **Bidders must note that the Municipality may make use of additional vetting methods to further qualify capacity of bidders to eliminate delays during project implementation.**
- Draft Project Implementation may be requested.
- A valid Tax compliance Status pin must be submitted.
- Prospective Service Providers must register on Kouga Municipality's Supplier database as per the registration requirements.
- The National Treasury Central Supplier Database Summary report must be submitted.
- The Council reserves the right to accept any tender and, or part thereof, appoint more than one contractor, and does not bind itself to accept the lowest or any tender. The Council reserves the right to appoint any contractor.

- The validity period for submission will be 90 days from the closing date.
- Tenders that are deposited in the incorrect box or delivered to any other venue will not be considered.

Any inquiries relating to this tender must be submitted in writing via e-mail to tenders@kouga.gov.za and copied to mmangembe@kouga.gov.za

Completed documents in a sealed envelope endorsed "**NOTICE NO: 134/2026: PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE"** must be placed in the Tender Box at 16 Woltemade Street, Jeffreys Bay, Room 122 on or before **Friday, 19 June 2026 at 12h00.**

C. DU PLESSIS

MUNICIPAL MANAGER

P.O. Box 21
JEFFREYS BAY
6330

For Placement: Herald/Municipal Website/ Municipal Notice Boards in all offices/areas – 19 May 2026

T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the Construction Industry Development Board (CIDB) Standard for Uniformity in Engineering and Construction Works Contracts as published in Department of Public Works Notice 423 of 2019 No. 42622 Government Gazette 8 August 2019. (See www.cidb.org.za).

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

The following variations, amendments and additions to the Standard Conditions of Tender as set out in the Tender Data below shall apply to this tender:

Clause number	Tender Data
C.1.1	The Employer is Kouga Municipality.
C.1.2	The Tender Documents issued by the Employer comprise the following documents: **THE TENDER** Part T1: Tendering procedures. Part T2: Returnable documents. **THE CONTRACT** Part C1: Agreements and Contract data Part C2: Pricing data. Part C3: Scope of work. Part C4: Site information Annexures
C.1.4	The Employer's Agent is : Name: Clinkscales Maughan-Brown (South) (Pty) Ltd Address: 39 Victoria Street, P.O. Box 2551, George, 6530 Tel: 044-8741511 Fax: 044-8741510 E-mail: sadams@cmbgeorge.co.za Any inquiries relating to this tender must be submitted in writing via e-mail to tenders@kouga.gov.za and copied to mmangembe@kouga.gov.za
C.1.6.2	The Competitive Negotiation Procedure will not be followed.
C.1.6.3	The proposal procedure using the two-stage system will not be followed.

C.2.1.1 Only those Tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a EP class of construction work, are eligible to have their tenders evaluated.

Joint ventures are eligible to submit tenders provided that:

1. every member of the joint venture is registered with the CIDB;
2. the lead partner has a contractor grading designation in the EP class of construction work; and
3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for an EP class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

C.2.1.1 Only Tenderers that meet the following pre-qualification conditions are eligible to have their tenders further evaluated. The qualifying criteria and the score in respect of each criterion is as follows. **A minimum of 70 points out of a maximum total of 100 points** is required for the tender to be evaluated further.

Should the Tenderer not complete the following column, no points will be awarded.
The Tenderer must provide sufficient proof, i.e. documentation, contact persons and contact numbers, etc. under Parts T2.2.3 and T2.2.6 in this document for each of the following items stipulated. Unclear or incomplete information provided will result in no points being awarded.

Proof of the required Compulsory qualifications must be added to the tender document in order to claim for points. No proof, no points will be allocated.

Note:
In terms of Item 2 of Clause 3.2 of CIDB's Inform Practice Note #5, Tenderers may not provide additional information subsequent to the closing of the tender that may affect their competitive position. It is therefore very important that the Tenderer submit sufficient proof as requested above together with his/her tender.

Item	Description	Column to be completed by Tenderer	Points awarded by Employer
a)	Tenderer's relevant experience (track record) on previously completed projects of a similar nature, scope and complexity on 66kV Self Supporting Steel Pole Structure Overhead Lines, over the past five (5) years: 1 to 2 projects = 20 points 3 to 4 projects = 30 points 5 to 6 projects = 40 points More than 6 projects = 50 points (Maximum points = 50) Practical Completion- or Completion Certificates of previously completed projects to be included with the tender. This requirement is compulsory in order to claim for points.	…….. ……..	…… ……

	b)	Compulsory minimum qualification/s, plus experience in number of years, of Tenderer's proposed Construction Manager: Compulsory Qualification/s: - BTech degree, BSc degree or National Higher Diploma in Civil-, Mechanical- or Electrical Engineering Experience: 1 to 5 years = 5 points 6 to 10 years = 10 points 11 to 15 years = 15 points 16 years or more = 20 points (Maximum points = 20) A CV of the proposed Construction Manager, indicating experience in years, including copies of his/her relevant compulsory qualifications to be included with the tender. This requirement is compulsory in order to claim for points.	…….. ……..	…… ……
	c)	Compulsory minimum qualification/s, plus experience in number of years, of Tenderer's proposed Site Supervisor: Compulsory Qualification/s: - Electrician Trade Certificate - Operating Regulations for High Voltage Systems (ORHVS) certificate Experience: 1 to 5 years = 5 points 6 to 10 years = 10 points 11 to 15 years = 20 points 16 years or more = 30 points (Maximum points = 30) A CV of the proposed Site Supervisor, indicating experience in years, including copies of his/her relevant compulsory qualifications to be included with the tender. This requirement is compulsory in order to claim for points.	…….. ……..	…… ……
		Total points awarded out of 100	……	……

C.2.7	An electronic copy of the tender document will be available on E-Tender portal www.etender.gov.za or the municipal website www.kouga.gov.za as from **Tuesday, 19 May 2026**. After downloading the tender document from the website each prospective bidder **MUST** ensure that all the pages of the tender document are printed. **Two compulsory clarification sessions** will be held as per below details. Bidders must attend both meetings, **failure to attend both meetings will deem the bid non-responsive.** A **Compulsory Virtual Clarification Session** will be arranged for **Tuesday, 02 June 2026 @10h00.** Prospective bidders can use link below which is direct from this advert to access the meeting. **Please take note that no attendee arriving 10 minutes late or more** will be allowed to attend the clarification meeting. **Join Teams Meeting** https://teams.microsoft.com/meet/344417045492097?p=0s7TfvI1wGcoicplKp Meeting ID: 344 417 045 492 097 Passcode: r6Dy2yM7 A **Compulsory Site Clarification Session** will be arranged for **Wednesday, 03 June 2026 @14h00** and will be held at **Jeffreys Bay Main Substation, Saint Francis Street, Eastern Cape, 6330. Please take note that no attendee arriving 10 minutes late or more** will be allowed to attend the clarification meeting.
C.2.12	No alternative tender offers will be considered.
C.2.13.3	The complete Tender Document shall be returned with the tender, including all Parts as listed in C.1.2 above (not to be separated). Parts of each tender offer communicated on paper shall be submitted as an original, plus Nil copies.
C.2.13.5 C.2.15.1	The employer's details and address for delivery of tender offers and identification details that are to be shown on each tender offer package are: **Location of tender box:** Room 122 **Physical address:** 16 Woltemade Street, Jeffreys Bay **Identification details:** Bid reference number, Title and the closing date and time.
C.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
C.2.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
C.2.16	The tender offer validity period is 90 days.
C.2.20	The Tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Bond to the format included in Part C1.3 of this procurement document. The form as per Part T2.2.12 can be used for this purpose.
C.2.23	The tenderer is required to submit with his tender the following: 1) an original Tax Clearance Certificate issued by the South African Revenue Services; 2) CIDB grading certificate; 3) Documents as listed in the List of Returnable Documents in Part T2.1.
C.3.4	Tenders will be opened immediately after the closing time for tenders at 12h05.
C.3.5	A two-envelope system will not be followed.
C.3.11.1	Points will be awarded to Tenderers who are eligible for preferences in terms of the Preference Points Claim Form in terms of the Preferential Procurement Regulations, 2022, which is included in Part T2.2. The terms and conditions of the Preference Points Claim Form shall apply in all respects to the tender evaluation process and any subsequent contract.

C.3.13	Tender offers will only be accepted if: a) the tenderer submits a tax compliance status certificate issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations; b) the tenderer submits a letter of intent from an approved insurer undertaking to provide the Performance Bond to the format included in Part T2.2 of this procurement document c) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; d) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; e) the tenderer has not: i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect; f) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract; g) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; h) the employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely. i) the Tenderer has not failed to perform on any previous contracts and has not been given written notice to the effect. j) the Tenderer is not in arrears for more than 30 days with municipal rates and taxes and service charges.
C.3.13	The appointment of a Contractor will be subject to the availability of funding. The Employer reserves the right to accept a tender in whole or in parts with certain items being added, or in whole with the provision that certain items of work may be omitted at a later date.
C.3.17	The number of paper copies of the signed contract to be provided by the employer is one (1).

KOUGA MUNICIPALITY EC108

Notice No. 134/2026

PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY: SPECIFICATION NO. G/10713/E

T2.1 LIST OF RETURNABLE DOCUMENTS

Part No.	The tenderer must ensure that the following documents are completed and included with his tender.	Tenderer to confirm in this column by inserting a tick that document has been completed and returned.
	1. Returnable Schedules required for tender evaluation purposes:	
T1.2	Completed functionality schedule under Clause C.2.1.1.	
T2.2.1	Record of Addenda to Tender Documents	
T2.2.2	Schedule of Amendments and Qualifications by Tenderer	
T2.2.3	Schedule of Particulars / Information	
T2.2.4	Compulsory Enterprise Questionnaire	
T2.2.5	Certificate of Authority for Joint Ventures	
T2.2.6	Schedule of Tenderer's Experience	
T2.2.7	Schedule of Sub-Contractors	
T2.2.8	Schedule of Plant and Equipment	
T2.2.9	Undertaking to provide Performance Bond	
T2.2.10	Authority for Signatory	
T2.2.11	Preferencing Schedule: Broad Based Black Economic Empowerment	
T2.2.12	Compulsory Declaration	
T2.2.13	Municipal Declaration and Returnable Documents	
	2. Other documents required for tender evaluation purposes:	
(a)	Valid Original Tax Clearance Certificate.	
(b)	Certified copy of Company Registration Certificate.	
(c)	Certificate of Contractor Registration issued by the Construction Industry Development Board.	
(d)	Certified copies of identities of the Directors and owners of tendering Entity.	
(e)	Proof that the Tenderer complies with the OHS Act and is registered for workmen compensation purposes.	
(f)	Original and valid B-BBEE status level verification certificate or a certified copy thereof.	
(g)	Certified copies of Tenderer's and those of its Directors' Municipal accounts for the month preceding the tender closing date.	
(h)	If the Tenderer rents premises, proof that the rental includes Municipal rates and taxes and municipal charges, and that rent is not in arrears.	
(i)	Company profile indicating the location of various Tenderer's offices / branches, as well as an organogram showing the structure of the organisation.	
(j)	Declaration of fulfilment of the Construction Regulations, 2014.	

Part No.	The tenderer must ensure that the following documents are completed and included with his tender.	Tenderer to confirm in this column by inserting a tick that document has been completed and returned.
(k)	Preliminary construction programme for this tender.	☐
(l)	Estimated monthly cash flow for duration of contract. Only pro-rata percentage of Gross Contract Value per month required.	☐
	3. Returnable Schedules that will be incorporated into the Contract:	
	All schedules as per Item 1 above.	☐
	4. Other documents that will be incorporated into the Contract:	
C1.1	Form of Offer and Acceptance	☐
C1.2	Contract Data	☐
C2.1	Pricing Instructions	☐
C2.2	Bill of Quantities	☐
C3	Scope of Work	☐
C4	Site information	☐
-	Annexures	☐

T2.2 RETURNABLE SCHEDULES

T2.2.1 RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been considered in this tender offer:

	Date	**Title or Details**	
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Copies of Addenda received to be attached hereafter.

Signed ..... Date .....

Name ..... Position .....

Tenderer .....

T2.2.2 SCHEDULE OF AMENDMENTS AND QUALIFICATIONS BY TENDERER

The Tenderer is required to give full details of any departure from the Specification and shall then sign this page officially. If there are no departures, the Tenderer must state NIL on this page and sign it. The Tender shall then be held to comply in all respect with the Specification. If the Tenderer does not indicate anything on this page, the Tenderer will also be held to comply in all respects with the Specification.

Should there be insufficient space, the Tenderer may include separate sheets arranged in the same manner as above. Mere reference to a covering letter will not be regarded as compliance with this requirement. Any amendments and / or qualifications stated in a covering letter will be regarded as null and void.

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

Page	Clause or item	Proposal

Signed ---------- Date ----------

Name ---------- Position ----------

Tenderer ----------

T2.2.3 SCHEDULE OF PARTICULARS / INFORMATION

Note: 1. This schedule must be completed for all items offered, stating where appropriate, the size or capacity of equipment, type or catalogue no, country of origin and any other detail he considers necessary. Failure to comply with this requirement may render the tender invalid.

2. Information in amplification of that given below may be submitted in the form of published literature, technical sheets, etc. and must be attached immediately after this page, otherwise same will not be considered.

3. Acceptance of a Tender, with this Schedule complete, does not relieve the Tenderer of the responsibility of complying with the Specification for the items listed.

1.0 General

(i) Location of nearest permanent office: .....

(ii) Tenderer has an internal quality management system: YES / NO

If yes, provide detail of quality management system employed:

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(iii) Name and experience of Construction Manager the Tenderer intends using on this project:

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The Construction Manager's CV must be submitted with the Tender.

(iv) Name and experience of Site Supervisor the Tenderer intends using on this project:

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The Site Supervisor's CV must be submitted with the Tender.

(v) Name and experience of the Structural Engineer the Tenderer intends using on this project:

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.....

The Structural Engineer's CV must be submitted with the Tender.

(vi) Name and experience of the Civil Contractor the Tenderer intends using on this project:

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.....

The Civil Contractor's CV must be submitted with the Tender.

It should be noted that tenders will be evaluated, and points awarded based on the above-mentioned information provided.

The successful Tenderer shall not replace any of the above-mentioned nominees without the prior written consent of the Engineer. Where it is not possible, for instance an unforeseen resignation during the tender evaluation process, then the successful Tenderer shall nominate an alternative to the same or higher qualifications and experience as the original nominee, subject to written consent of the Engineer.

Signed ---------- Date ----------

Name ---------- Position ----------

Tenderer ----------

T.2.2.4 COMPULSORY ENTERPRISE QUESTIONNAIRE

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

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

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

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

Section 4: CSD number: . . . . . .

Section 5: Particulars of sole proprietors and partners in partnerships:

Name*	Identity number*	Personal income tax number*

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

Section 6: Particulars of companies and close corporations

Company registration number . . . . . .

Close corporation number . . . . . .

Tax reference number . . . . . .

Section 7: The MBD 4 form attached under Part T2.2.13 must be completed and be attached as a tender requirement.

Section 8: The MBD 6.1 form attached under Part T2.2.13 must be completed and be attached as a tender requirement.

Section 9: The MBD 8 form attached under Part T2.2.13 must be completed and be attached as a tender requirement.

Section 10: The MBD 9 form attached under Part T2.2.13 must be completed and be attached as a tender requirement.

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

i) authorizes the Employer to verify the Tenderer's tax clearance status from the South African Revenue Services that it is in order;

ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;

iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;

iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the Tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;

v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed ---------- Date ----------

Name ---------- Position ----------

Enterprise name ----------

T2.2.5 CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

This Returnable Schedule is to be completed by joint ventures.

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

NAME OF FIRM	**ADDRESS**	**DULY AUTHORISED SIGNATORY**
Lead partner CIDB registration no ……		Signature …….. Name …… Designation ……..
CIDB registration no ……		Signature …….. Name …… Designation ……..
CIDB registration no ……		Signature …….. Name …… Designation ……..
CIDB registration no ……		Signature …….. Name …… Designation ……..

T2.2.6 SCHEDULE OF TENDERER'S EXPERIENCE

The following is a statement of similar work successfully executed by us:			
Employer, contact person and telephone number.	**Description of contract**	**Value of work inclusive of VAT (Rand)**	**Date completed**

Attach additional pages if more space is required.

Signed ---------- Date ----------

Name ---------- Position ----------

Tenderer ----------

T2.2.7 SCHEDULE OF SUB-CONTRACTORS

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

If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of Sub-contractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us. The following supporting documentation must be submitted for each of the Sub-Contractors:

- CV of the proposed Sub-Contractor/s.
- A valid B-BBEE status level verification certificate or sworn affidavit.

	Name and address of Sub-contractor	B-BBEE Status	Nature, extent and % of work to be sub-contracted	Previous experience with Sub-contractor
1.				
2.				
3.				
4.				

Signed ..... Date .....

Name ..... Position .....

Tenderer .....

T2.2.8 SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of major items of relevant equipment that I / we presently own or lease and will have available for this contract or will acquire or hire for this contract if my / our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	**Description, size, capacity, etc.**

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired or acquired for this contract if my / our tender is accepted.

Quantity	**Description, size, capacity, etc.**

Attach additional pages if more space is required.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2.9 UNDERTAKING TO PROVIDE PERFORMANCE BOND

Having examined the Contract Data, the Scope of Work and the Bill of Quantities, and having reviewed our financial commitments, we have approached the Insurance company / bank named below for a Guarantee in the exact terms of the Pro Forma Guarantee provided in Part C1.3 hereof.

We hereby declare that the insurance company/bank named below is aware of our financial position and commitments in terms of this tender and any other tender offers made and is prepared to issue the Guarantee unconditionally, within the period called for in these tender documents, and until the issue of the Certificate of Completion.

Name of proposed Guarantee provider: ……
(Insurance Company/Bank)

Date: …….. Signed on behalf of the Tenderer: ……

Date: …….. Signed on behalf of the insurance company/bank: ……

In their capacity as ……

T2.2.10 AUTHORITY FOR SIGNATORY

Details of person responsible for Tender process

Name ----------

Contact number ( ) ----------

Address of office submitting the Tender:

Telephone no ( ) ----------

Fax no ( ) ----------

E-mail address ----------

Signatories for close corporations and companies shall confirm their authority by attaching to this form a **duly signed and dated original or certified copy** of the relevant resolution of their members or their board of directors, as the case may be.

"By resolution of the board of directors passed on *(date)*……

Mr. ……

has been duly authorized to sign all documents in connection with the Tender for Contract Number ……and any Contract which may arise there from on behalf of:

(BLOCK CAPITALS) .....

.....

.....

SIGNED ON BEHALF OF THE COMPANY .....

IN HIS CAPACITY AS .....

DATE .....

FULL NAMES OF SIGNATORY .....

AS WITNESSES 1. ……

2. ……

T2.2.11 PREFERENCING SCHEDULE: BROAD BASED BLACK ECONOMIC EMPOWERMENT STATUS

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

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

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

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1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

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

1.2 To be completed by the organ of state

(*Delete whichever is not applicable for this tender*).

a) The applicable preference point system for this tender is the 80/20 preference point system.

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

(a) Price;

(b) BBBEE; and

(c) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80/90
BBBEE	10/5
SPECIFIC GOALS	10/5
Total points for PRICE and SPECIFIC GOALS	**100**

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim regarding preferences, in any manner required by the organ of state.

2. DEFINITIONS

(a) **"tender"** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;

(b) **"price"** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;

(c) **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

(d) **"tender for income-generating contracts"** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and

(e) **"the Act"** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

80/20 **or** **90/10**

$$Ps = 80\left(1 - \frac{Pt - P\,min}{P\,min}\right) \text{ or } \qquad Ps = 90\left(1 - \frac{Pt - P\,min}{P\,min}\right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

80/20 **or** **90/10**

$$Ps = 80\left(1 + \frac{Pt - P\,max}{P\,max}\right) \text{ or } \qquad Ps = 90\left(1 + \frac{Pt - P\,max}{Pmax}\right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR BBBEE AND SPECIFIC GOALS

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

4.1.1 Points awarded for B-BBEE Level of Contributor

In terms of the Specific Goals as per the Kouga Municipality Preferential Procurement Policy, preference points must be awarded to a tenderer for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of Points for Preference (80/20)	Number of Points for Preference (90/10)
1	10	5
2	9	4.5
3	7	3
4	6	2.5
5	4	2
6	3	1.5
7	2	1
8	1	0.5
Non-compliant contributor	0	0

Bidder MUST submit a valid BBBEE certificate, failure to attach no points will be awarded for BBBEE points.

4.1.2 Points awarded for Specific Goals

In terms of the Specific Goals as per the Kouga Municipality Preferential Procurement Policy, preference points must be awarded to a Tenderer for Locality in accordance with the table below:

Locality of Tenderer's Office	Number of points (80/20 system)	Number of points (90/10 system)
Within the boundaries of Kouga Municipality	10	5
Within the boundaries of the Sarah Baartman District Municipality & Nelson Mandela Metro Municipality	6	3
Within the borders of the Eastern Cape	4	2
Outside the borders of the Eastern Cape	2	1

Bidders MUST submit a valid B-BBEE sworn affidavit/ certificate AND Latest Municipal Billing Clearance Certificate / Copy of Municipal Account / Rental Documentation in the name of the bidding entity, to claim points for specific goals. In the event that the municipal account is in the name of the director, an affidavit must be done to that effect clearly stating the company name operating from the address. Information provided for Virtual offices will not be accepted.

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

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

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

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

5. BID DECLARATION

Tenderers who claim points in respect of BBBEE must complete the following:

B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 4.1 AND 4.1.1

5.1.	**Contribution to BBBEE: ..... = ……(maximum of 5 or 10 points)**

(Points claimed in respect of paragraph 5.1 must be in accordance with the table reflected in paragraph 4.1.1 and **must be substantiated by relevant proof of B-BBEE status level of contributor.**)

LOCALITY OF TENDERERS OFFICE CLAIMED IN TERMS OF PARAGRAPHS 4.1 AND 4.1.2

5.2.	**Contribution to specific Goals: ..... = ……(maximum of 5 or 10 points)**

(Points claimed in respect of paragraph 5.2 must be in accordance with the table reflected in paragraph 4.1.2 and **must be substantiated by relevant proof of address of a company office.)**

DECLARATION WITH REGARD TO COMPANY/FIRM

5.3. Name of company/firm…….

5.4. Company registration number: ……..

5.5. TYPE OF COMPANY/ FIRM

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

5.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

i) The information furnished is true and correct;
ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 5.1 and 5.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
   (a) disqualify the person from the tendering process;
   (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
   (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
   (d) recommend that the tenderer or contractor, its shareholders, and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
   (e) forward the matter for criminal prosecution, if deemed necessary.

……..
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME: ……..

DATE: …….

ADDRESS: …….

…….

MBD 6.1(A)

B-BBEE EXEMPTED AFFIDAVIT FOR EXEMPTED MICRO ENTERPRISES (ISSUED IN TERMS OF THE AMENDED CONSTRUCTION SECTOR CODE)

(Gazette Vol. 630 No. 41287)

Issued in terms of paragraph 3.6.2.4.1 (B)

I, the undersigned,

Full names and surname	
Identity number	

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a Member / Director / Owner of the following enterprise and am duly authorized to act on its behalf:

Enterprise Name:			
Trading Name (If Applicable):			
Registration Number:			
Physical Address:			
Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):			
Nature of Construction Business: ***Indicate the applicable category with a tick.***	**BEP** (Built Environment Professional)	**Contractor**	**Supplier**
Definition of "Black People"	As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians – who are citizens of the Republic of South Africa by birth or descent; or who became citizens of the Republic of South Africa by naturalization before 27 April 1994; or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;"		
Definition of "Black Designated Groups"	"Black Designated Groups" means: (a) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution; (b) Black people who are youth as defined in the National Youth Commission Act of 1996; (c) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act; (d) Black people living in rural and under developed areas; (e) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;"		

3) I hereby declare under Oath that as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,

- The Enterprise is _____% Black Owned
- The Enterprise is _____% Black Female Owned
- The Enterprise is _____% Owned by Black Designated Group (provide Black Designated Group Breakdown below as per the definition in the table above)
    - Black Youth % _____%
    - Black Disabled % _____%

- Black Unemployed % _____%
- Black People living in Rural areas % _____%
- Black Military Veterans % _____%

Construction Sector Affidavit

1. Based on the Financial Statements/Management Accounts and other information available on the latest financial year-end of _____, the annual Total Revenue was less than the applicable amount confirmed **by ticking the applicable box below.**

BEP	R1.8 million	
Contractor	R3.0 million	
Supplier	R3.0 million	

If the turnover exceeds the applicable amount in the table above then this affidavit is no longer applicable and an EME certificate must be obtained from a rating agency accredited by SANAS or when applicable a B-BBEE Verification Professional Regulator appointed by the Minister of Trade and Industry.

2. Please Confirm on the below table the B-BBEE Level Contributor, **by ticking the applicable box below.**

100% Black Owned	**Level One** (135% B-BBEE procurement recognition level)	
At least 51% Black Owned	**Level Two** (125% B-BBEE procurement recognition level)	
At least 30% Black Owned	**Level Four** (100% B-BBEE procurement recognition level)	
Less than 30% Black Owned	**Level Five** (80% B-BBEE procurement recognition level)	

3. I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the Owners of the Enterprise which I represent in this matter.

4. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

Deponent Signature: _____

Date: _____

COMMISSIONER OF OATHS
SIGNATURE & STAMP

T2.2.12 COMPULSORY DECLARATION

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

Section 1: **Enterprise Details**

Name of enterprise:	
Contact person:	
Email:	
Telephone:	
Cell no	
Fax:	
Physical address	
Postal address	

Section 2: Particulars of companies and close corporations

Company / Close Corporation registration number	

Section 3: SARS Information

Tax reference number	
VAT registration number:	*State Not Registered if not registered for VAT*

Section 4: CIDB registration number

CIDB Registration number *(if applicable)*	

Section 5: National Treasury Central Supplier Database

Supplier number	
Unique registration reference number	

Section 6: Particulars of principals

principal: means a natural person who is a partner in a partnership, a sole proprietor, a director of a company established in terms of the Companies Act of 2008 (Act No. 71 of 2008) or a member of a close corporation registered in terms of the Close Corporation Act, 1984, (Act No. 69 of 1984).

Full name of principal	Identity number	Personal tax reference number

Attach separate page if necessary

Section 7: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any principal is currently or has been within the last 12 months in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act of 1999 (Act No. 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

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

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

*insert separate page if necessary

Section 8: Record of family member in the service of the state

family member: a person's spouse, whether in a marriage or in a customary union according to indigenous law, domestic partner in a civil union, or child, parent, brother, sister, whether such a relationship results from birth, marriage or adoption

Indicate by marking the relevant boxes with a cross, if any family member of a principal as defined in section 5 is currently or has been within the last 12 months been in the service of any of the following:

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

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

*insert separate page if necessary

Section 9: Record of termination of previous contracts with an organ of state

Was any contract between the tendering entity including any of its joint venture partners terminated during the past 5 years for reasons other than the employer no longer requiring such works or the employer failing to make payment in terms of the contract.

☐ Yes ☐ No (Tick appropriate box)

If yes, provide particulars (interest separate page if necessary)

Section 10: Declaration

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the tendering entity confirms that the contents of this Declaration are within my personal knowledge, and save where stated otherwise in an attachment hereto, are to the best of my belief both true and correct, and:

i) neither the name of the tendering entity or any of its principals appears on:

   a) the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004 (Act No. 12 of 2004)

   b) National Treasury's Database of Restricted Suppliers (see www.treasury.gov.za)

ii) neither the tendering entity of any of its principals has within the last five years been convicted of fraud or corruption by a court of law (including a court outside of the Republic of South Africa);

iii) any principal who is presently employed by the state has the necessary permission to undertake remunerative work outside such employment (attach permission to this declaration);

iv) the tendering entity is not associated, linked or involved with any other tendering entities submitting tender offers

v) has not engaged in any prohibited restrictive horizontal practices including consultation, communication, agreement, or arrangement with any competing or potential tendering entity regarding prices, geographical areas in which goods and services will be rendered, approaches to determining prices or pricing parameters, intentions to submit a tender or not, the content of the submission (specification, timing, conditions of contract etc) or intention to not win a tender;

vi) has no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;

vii) neither the tenderer or any of its principals owes municipal rates and taxes or municipal service charges to any municipality or a municipal entity and are not in arrears for more than 3 months;

viii) SARS may, on an on-going basis during the term of the contract, disclose the tenderer's tax compliance status to the Employer and when called upon to do so, obtain the written consent of any subcontractors who are subcontracted to execute a portion of the contract that is entered into in excess of the threshold prescribed by the National Treasury, for SARS to do likewise.

Signed ---------- Date ----------

Name ---------- Position ----------

Enterprise name ----------

T.2.2.13 MUNICIPAL DECLARATION AND RETURNABLE DOCUMENTS

The following particulars must be furnished in relation to tenders for municipalities and municipal entities:

a) where consultancy services are required; and

b) goods, services or a combination thereof, where the estimated total of the prices exceeds R10 million, including VAT.

In the case of a joint venture, separate municipal declarations and returnable documents shall be submitted in respect of each partner.

Section 1: Enterprise details

Name of enterprise	
Contact person	
Email	
Telephone	
Cell	
Fax	
Physical address	
Postal address	

Section 2: Declaration for consultancy services

The enterprise has been awarded the following consultancy services by an organ of state during the last five years:

Name of organ of state	**Estimated number of contracts**	**Nature of service, e.g. quantity surveying**	**Service similar to required service (yes/no)?**

Attach separate page as necessary

Section 3: Goods, services, or a combination thereof, where the estimated total of the prices exceeds R10 million, including VAT

I/we certify that

1) (tick one of the boxes):

☐ the enterprise **is not** required by law to prepare annual financial statements for auditing

☐ the enterprise **is** required by law to have audited annual financial statements (attached herewith for the past three financial years or the years for which the enterprise has been in operation)

2) the enterprise and its directors have no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days (i.e. all municipal accounts are paid up to date);

3) source of goods and/or services :

(tick one of the boxes and insert percentages if applicable)

☐ goods and/or services are sourced only from within the Republic of South Africa

☐ [ ] % of the total cost of goods and/or services will be sourced from outside the Republic of South Africa, and the percentage of payment from the municipality or municipal entity which is expected to be transferred out of the Republic is [ ] %.

I furthermore confirm that the following contracts were awarded to the enterprise by an organ of state during the last five years and attached particulars of any material non-compliance or dispute concerning the execution of such contracts:

Name of organ of state	**Estimated number of contracts**	**Nature of contracts**

Attach separate page as necessary

I, the undersigned who warrants that I am duly authorised on behalf of the tendering entity, hereby declare that the contents of this Declaration are within my personal knowledge, and save where stated otherwise, are to the best of my belief both true and correct.

Signed ..... Date .....

Name ..... Position .....

Tenderer .....

MBD 4: DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state∗.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

3. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

3.1 Full Name of bidder: …….

3.2 Identity Number:……...

3.3 Registration number of company, enterprise, close corporation, partnership agreement or trust:

……..

3.4 Tax Reference Number: ……

3.5 VAT Registration Number: ……....

3.6 Are you presently in the service of the state∗ **YES / NO**

3.6.1 If so, furnish particulars.

……

……

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

3.7.1 If so, furnish particulars.

……

……

∗ "in the service of the state" means to be –

(a) a member of –
  (i) any municipal council;
  (ii) any provincial legislature; or

(iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

(d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);

(e) a member of the accounting authority of any national or provincial public entity; or

(f) an employee of Parliament or a provincial legislature.

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

3.8.1 If so, furnish the following particulars:

……

……

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

3.9.1 If so, furnish particulars

……

……

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

3.10.1 If so, furnish particulars.

……

……

3.11 Are any spouse, child or parent of the company's directors, managers, principal shareholders or stakeholders in service of the state? **YES / NO**

3.11.1 If so, furnish particulars.

……

……

DECLARATION

I, THE UNDERSIGNED (NAME) ……

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

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

....
Signature Date

....
Position Name of bidder

MBD 8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1 This Municipal Bidding Document must form part of all bids invited.

2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3 The bid of any bidder may be rejected if that bidder, or any of its directors have:

a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
b. been convicted for fraud or corruption during the past five years;
c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).

4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the *audialterampartem* rule was applied). **The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? **The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐

Item	Question	Yes	No
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) ……..……..……..…. CERTIFY THAT THE

INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.

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

……... **……..**
Signature **Date**

……. **……..**
Position **Name of Bidder**

MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

1. This Municipal Bidding Document (MBD) must form part of all bids[1] invited.

2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).[2] Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.

3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:

    a. take all reasonable steps to prevent such abuse;
    b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
    c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.

4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD9) must be completed and submitted with the bid:

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

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

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

_____

(Bid Number and Description)

in response to the invitation for the bid made by:

_____

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of: _____ that:

(Name of Bidder)

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

(e) the submission of a bid which does not meet the specifications and conditions of the bid; or

(f) bidding with the intention not to win the bid.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

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

……	……
Signature	Date
……..	……
Position	Name of Bidder

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

DECLARATION

1. I hereby declare that I have read, understood, agree and comply with all of the sections below, if included, that it shall be deemed to form and be construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Tax clearance certificate;
   - Pricing schedule(s);
   - Technical Specification(s);
   - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations, 2011;
   - Declaration of interest;
   - Declaration of bidder's past SCM practices;
   - Certificate of Independent Bid Determination
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and

   (iii) Other (specify)

2. I confirm that I am duly authorised to sign this document.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

DATE ……..

WITNESSES

1 …….

2. …….

DATE: …….

MBD 15 – CERTIFICATE FOR PAYMENT OF MUNICIPAL SERVICES

NAME OF THE BIDDER: _____

FURTHER DETAILS OF THE BIDDER'S; Director / Shareholder / Partners, etc:

Director / Shareholder / partner	Physical address of the Business	Municipal Account number(s)	Physical residential address of the Director / shareholder / partner	Municipal Account number(s)

NB: **Please attach** a copy of your latest municipal account.

I, _____,
(full name in block letters) the undersigned, certify that the information furnished on this declaration form is correct and that I / we have no undisputed commitments for municipal services towards a municipality in respect of which payment is overdue for more than 90 days.

If the value of the transaction is expected to exceed R10 million (VAT included) I certify that the bidder has no undisputed commitments for municipal services towards **a Municipality** in respect of which payment is overdue for more than 30 days;

THUS DONE AND SIGNED for and on behalf of the Bidder, at _____, on the _____

_____ day of _____ 20____ .

Number of sheets appended by the tenderer to this schedule (If nil, enter NIL)	

SIGNATURE:		NAME (PRINT):	
CAPACITY:		NAME OF FIRM:	

For office use (comments):

THE CONTRACT

PART C1 – AGREEMENTS AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE (Agreement)

OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

Kouga Municipality: Notice No: 134/2026: Phase 4 of 66kV Double Circuit Overhead Line between Humansdorp and Jeffreys Bay: Specification No. G/10713/E

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

By the representative of the Tenderer, deemed to be duly 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 INCLUSIVE OF VALUE ADDED TAX IS:

……..

…….. Rand (in words)

R ……. (in figures).

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

For the Tenderer:

Signature ……
Name ……
Capacity ……

Name and address of organisation:

……
……..

Signature and name of witness:

Signature ……
Name ……
Date: ……..

ACCEPTANCE

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

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Agreement)
Part C2	Pricing Data
Part C3	Scope of Work
Part C4	Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

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 changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

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 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 of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five 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.

For the Employer:

Signature ……
Name ……
Capacity ……

Name and address of organisation:

……
……..

Signature and name of witness:

Signature ……
Name ……

Date: ……..

SCHEDULE OF DEVIATIONS

Notes:

1. 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.
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of Agreements reached during the process of offer and acceptance, the outcome of such Agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
4. Any change or addition to the tender documents arising from the above Agreements and recorded here, shall also be incorporated into the final draft of the Contract.

(i) Subject _____

Details _____

_____

_____

(ii) Subject _____

Details _____

_____

_____

(iii) Subject _____

Details _____

_____

_____

(iv) Subject _____

Details _____

_____

_____

(v) Subject _____

Details _____

_____

_____

(vi) Subject _____

Details _____

_____

_____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change 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 Agreement 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	……
Name and address of organisation:		Name and address of organisation:
……..		……
……..		……
……..		……
……..	Witness Signature	……
……..	Witness Name	……
……..	Date	……

CONFIRMATION OF RECEIPT

The Tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

the …….. (day)

of …….. (month)

20 …….. (year)

at …….. (place)

For the Contractor:

Signature ……

Name ……

Capacity ……

Signature and name of witness:

Signature ……

Name ……

C1.2 CONTRACT DATA

The General Conditions of Contract for Construction Works, Third Edition (2015) published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from www.saice.org.za

The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition, 2015, are applicable to this Contract. Tenderers must read the abovementioned General Conditions of Contract in order to understand the implications of the Data provided by the Employer, as well as the Data which has to be completed by the Tenderer.

PART 1: DATA PROVIDED BY THE EMPLOYER

Clause	Data
1.1.1.13	The Defects Liability Period is 12 months measured from the date of the Certificate of Completion.
1.1.1.14	The time for achieving Practical Completion includes the days referred to under Clause 5.3.2 and the non-working days but excludes the special non-working days (Clauses 5.1.1 and 5.8.1).
1.1.1.15	The name of the Employer is Kouga Municipality.
1.1.1.16	The name of the Employer's Agent is Clinkscales Maughan-Brown. Also referred to as the "Engineer" elsewhere in this document.
1.1.1.26	The Pricing Strategy is a Re-measurement Contract.
1.2.1.2	The address of the Employer is: Address (physical): 33 Da Gama Road, JEFFREYS BAY, 6330 Address (postal): PO Box 21, JEFFREYS BAY, 6330 Telephone: 042-200 2200 Facsimile: 042-200 8606 E-mail: tenders@kouga.gov.za
1.2.1.2	The address of the Employer's Agent is: Address (physical: 39 Victoria Street, GEORGE, 6529 Address (postal): PO Box 2551, GEORGE, 6530 Telephone: 044-8741511 Facsimile: 044-8741510 e-mail: sadams@cmbgeorge.co.za
3.2.3	The Employer's Agent shall obtain the specific approval of the Employer before carrying out any of his functions or duties according to the following Clauses of the General Conditions of Contract: None.
5.1.1 and 5.8.1	The non-working days are Sundays, with the exception of work which must be undertaken during scheduled outages planned for Sundays. The special non-working days are: The public holidays. The year-end break commencing on about 16 December and ending on about the first Monday of the subsequent year, **or** the days on which the Contractor grants the majority of his permanent workforce leave.

5.3.1	The documentation required before commencing with the Works are: Health and Safety Plan (refer to Clause 4.3 of the GCC 2015 conditions). Initial programme (refer to Clause 5.6). Security (refer to Clause 6.2). Insurance (refer to Clause 8.6). Occupational Health and Safety Agreement (refer to Part C1.4 hereof). Letter of Good Standing from the Compensation Commissioner.
5.3.2	The time to submit the documentation required before commencement of the Works is **14 days**.
5.12.2.2	A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Employer's Agent, all progress on an item or items of work on the critical path of the working programme of the Contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of **two (2)** working days per month caused by normal rainy weather, for which he will not receive any extension of time. Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of **two (2)** working days. It shall be further noted that where the critical path is not affected, no extension of time for abnormal climatic conditions or for any other reason will be entertained. Abnormal climatic conditions are conditions that occur less frequently than once in ten years.
5.13.1	The penalty for failing to complete a works instruction in the time as confirmed under Item 5.6.1 above is R 5 000.00 per day.
5.14.1	The requirements for achieving Practical Completion are that the Works must be in a state of readiness, fit for the intended purpose and occupation without danger or undue inconvenience to the Employer.
5.16.3	The latent defects period is five (5) years.
6.5.1.2.3	The percentage allowance on the net cost of materials actually used in the completed Works is 10%, unless specifically tendered otherwise in the Pricing Schedules. The percentage allowance on the gross remuneration of the workmen and foremen actually engaged is 10%, unless specifically tendered otherwise in the Pricing Schedules.
6.8.2	Contract Price Adjustment (CPA) will not be allowed. Tenderers must take cognisance of the contract duration and make allowance for escalation in the tendered rates. It must be taken that the contract can be awarded anytime within the tender validity period.
6.8.3	Price adjustments for variations in the costs of special materials are not allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%. The percentage advance on Plant not yet supplied to Site is 80%. Documentary evidence of ownership and an indemnity against claims in respect of the plant and or materials shall be provided, and items shall be clearly marked and identified as being the property of the Employer. A Certificate of Ownership of Plant / Materials as per Part C1.5 shall be submitted to the Employer's Agent together with the claim for payment.

6.10.3	Retention of 10% will be withheld on progress payment, up to the limit of retention money which is 5% of the Contract Sum. A guarantee in lieu of retention is not permitted.
6.11	Failing agreement, between the Contractor and the Employer's Agent, both the Preliminary and General Fixed Charge and Time Related Items shall be adjusted on a pro-rata basis.
8.6.1.1.2	The value of Plant and material supplied by the Employer to be included in the insurance sum is R Nil
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is 5% of the contract sum.
8.6.1.3	The limit of indemnity for liability insurance is R10 million.
10.3.2	Amicable settlement in terms of Clause 10.4 shall be contemplated for all disputes prior to referring any dispute to adjudication or arbitration.
10.5.3	The number of Adjudication Board Members to be appointed is one (1).
10.7.1	The determination of disputes which are unresolved in terms of Clause 10.4.2 shall be by arbitration.

C1.2 CONTRACT DATA

PART 2: DATA PROVIDED BY THE CONTRACTOR

The Tenderer shall provide the following information:

<table>
<tr><th>Clause</th><th colspan="2">Data</th></tr>
<tr><td>1.1.1.9</td><td colspan="2">The name of the Contractor is ……...</td></tr>
<tr><td>1.2.1.2</td><td colspan="2">The address of the Contractor is:
Address (physical): .....
.....
……
Address (postal): .....
.....
……
Telephone: ……
Facsimilee: ……
E-mail: ……</td></tr>
<tr><td>1.1.1.14</td><td colspan="2">The time for achieving Practical Completion measured from the Contract Commencement Date is …….. working weeks.</td></tr>
<tr><td rowspan="4">6.2.1</td><td colspan="2">The security to be provided by the Contractor shall be one of the following:</td></tr>
<tr><td>Type of security
(Value Added Tax is excluded from the Contract Sum and the value of the Works for calculating the percentages)</td><td>Contractor’s Choice (Indicate “Yes” or “No”)</td></tr>
<tr><td>Cash deposit of 10% of the Contract Sum plus retention of 5% of the value of the Works</td><td>No</td></tr>
<tr><td>Performance guarantee of 10% of the Contract Sum plus retention of 5% of the value of the Works.</td><td>……</td></tr>
<tr><td></td><td>Variable Performance guarantee of 10% of the Contract Sum for the first period and 5% of the Contract Sum for the second period plus retention of 5% of the value of the Works.</td><td>No</td></tr>
</table>

C1.3 PRO FORMA PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, Third Edition (2015)

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: ……..

Physical Address: …….....

"Employer" means: ……

"Contractor" means: ……..

"Employer's Agent" means: ……

"Works" means: …….....

"Site" means: …….....

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

"Contract Sum" means: The accepted amount inclusive of tax of R ……..

Amount in words: …….....

"Guaranteed Sum" means: The maximum aggregate amount of R ……..

Amount in words: …….....

Type of Performance Guarantee: ……..… *(Insert Variable or Fixed)*

"Expiry Date" means: ……*(Give date)* or any other later date set by the Contractor and/or Employer provided such instruction is received prior to the Expiry Date as indicated here.

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works as defined in the Contract.

1. **VARIABLE PERFORMANCE GUARANTEE**

1.1 Where a Variable Performance Guarantee has been selected, the Guarantor's liability shall be limited during the following periods to diminishing amounts of the Guaranteed Sum as follows:

1.1.1 From and including the date of signing the Performance Guarantee up to and including the date of the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum:
R …… (Amount in words) ……

1.1.2 From the day following the date of the said interim payment certificate up to and including the Expiry date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, whichever occurs first:
R …… (Amount in words) ……..

1.2 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum, has been issued and the date on which the Certificate of Completion of the Works has been issued.

2. FIXED PERFORMANCE GUARANTEE

2.1 Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2.2 The Guarantor's period of liability shall be from and including the date on which the Performance Guarantee is signed, up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, or the date of payment in full of the guaranteed Sum, whichever occurs first.
2.3 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

3. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

3.1 The Guarantor hereby acknowledges that:
3.1.1 Any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
3.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.
3.2 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.2.1 to 3.2.3:
3.2.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim of Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 3.2.2;
3.2.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 3.2.1 and the sum certified has still not been paid;
3.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.2.
3.3 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
3.3.1 The Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 3.3; or
3.3.2 A provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 3.3; and
3.3.3 The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
3.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3.2 and 3.3 shall not exceed the Guarantor's maximum liability in terms of 1.1 or 2.1.
3.5 Where the Guarantor has made payment in terms of 3.3, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus.

All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

3.6 Payment by the Guarantor in terms of 3.2 or 3.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

3.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.

3.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

3.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.

3.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 1.1.2 or 2.2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

3.11 This Performance Guarantee, with the required demand notices in terms of 3.2 or 3.3, shall be regarded as a liquid document for the purposes of obtaining a court order.

3.12 Where the Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at …….....

Date …….....

Guarantor's signatory (1) ……..……...

Capacity …….....

Guarantor's signatory (2) ……...

Capacity …….....

Witness signatory (1) …….

Witness signatory (2) …….

C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

AGREEMENT MADE AND ENTERED INTO BETWEEN

Kouga Municipality …….. (Employer)

and

……. (Contractor / Mandatary)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, ACT No. 85 OF 1993 AS AMENDED.

I, …… representing

the Contractor / Mandatary as an employer in its own right, do hereby undertake to ensure, as far as is reasonably practicable, that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (OHSA) and the Regulations promulgated there under.

I furthermore confirm that we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that we are insured with an approved licensed compensation insurer.

COID ACT Registration Number: ……

OR Compensation Insurer: ..... Policy No.: .....

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him/them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Employer's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable.

I further undertake to ensure that any subcontractors employed by me will enter into an occupational health and safety agreement separately, and that such subcontractors comply with the conditions set.

I hereby declare that I have read and understand the Occupational Health and Safety Conditions and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan.

Signed at ..... on the ..... day of ..... 20 ….

_____ _____

Witness **Contractor / Mandatary**

Signed at ..... on the ..... day of ..... 20 ....

_____ _____

Witness **Employer**

C1.5 CERTIFICATE OF OWNERSHIP OF PLANT / MATERIALS

NAME OF CONTRACTOR: ………………………………………………………………
ADDRESS: ………………………………………
………………………………………
………………………………………
………………………………………

NAME OF EMPLOYER: ………………………………………………………………
ADDRESS: ………………………………………
………………………………………
………………………………………
………………………………………

CONTRACT DESCRIPTION: ………………………………………………………………

CONTRACT NO: ....

The undersigned Contractor (duly authorised hereto by virtue of a resolution of the Board of Directors/Members on ....) hereby certifies the following in accordance with the terms of Clause 6.10.1.5 of the General Conditions of Contract:

(i) The plant and or materials listed hereunder, which are the Contractor's sole and exclusive property and to which no third party has any rights will upon payment be lawfully acquired by the Employer.
(ii) The Employer is indemnified against any claim to or in respect of the plant and or materials by reason of the Contractor's sequestration or liquidation, or of any defect in the Contractor's title to the plant and or materials.
(iii) Upon payment, effective delivery of the plant and or materials to the Employer will take place.
(iv) Ownership of the plant and or materials will then vest in the Employer.
(v) The plant and or materials are insured in accordance with the requirements of the Conditions of Contract.
(vi) The Contractor shall be responsible for the care of the plant and or materials and clearly mark and identify same as being the property of the Employer.
(vii) The plant and or materials are held by the Contractor in storage for and on behalf of the Employer at address: ………………………………………………………… (the premises).
(viii) The premises is:
*a) the property of the Contractor; or
*b) the property of .... of (address) ....

.... and are let to the Contractor by

.... of (address) ....

....
* (delete whichever is not applicable)

SIGNATURE OF CONTRACTOR: ……...……..…………… **WITNESS: …………......………….**

DATE: ………………………….

LIST OF PLANT / MATERIALS IN STORAGE OF CONTRACTOR

BILL OF QUANTITIES ITEM NUMBER	DESCRIPTION	QTY	STORAGE PREMISES LOCATION

SIGNATURE OF CONTRACTOR: …….. WITNESS: ……..……..

DATE: ……..

PART C2 – PRICING DATA

C2.1 PRICING INSTRUCTIONS

1.0 The Bills of Quantities form part of and must be read in conjunction with the Specification. The Price Summary is to reflect the total price carried forward from the Bills of Quantities which need to be submitted with the tender documents.

2.0 The tender price must be based on the Bills of Quantities. The priced Bills of Quantities shall be submitted with the tender documents.

3.0 The completed Bills of Quantities shall detail the unit rate and total amount for material and labour respectively for each Item. Tenderers are advised to check their Item extensions and total additions since no claim for arithmetical errors will be considered.

"Material Rate" shall include the supply and delivery of all items of material and equipment (plant) to the site including all incidentals necessary for the completion of each Item, plus the profit thereon. Rates shall be exclusive of VAT.

"Labour Rate" shall include the cost of all labour, both skilled and unskilled, including supervision and profit required to complete the installation of all material covered by each Item. Rates shall be exclusive of VAT.

4.0 No alteration, erasure or addition is to be made in the text of the Bills of Quantities. Should any erasure or addition be made it will not be recognised but the original wording of the Bills of Quantities will be adhered to.

5.0 The quantities in the Bills are not to be considered as limiting or extending the amount of work to be done and materials to be supplied.

6.0 The Engineer will check the completed Bills of Quantities for arithmetical errors, omissions and discrepancies in accordance with the Standard Conditions of Tender.

7.0 Only major Items have been scheduled but the Tenderer shall nevertheless include for all things he considers necessary whether specified in detail or not to complete the work to specification and in a satisfactory and workmanlike manner, in order to provide a complete and working system. No extra price will be considered for the provision of materials which should have been allowed in order to provide the completed works unless detailed by the Contractor in the space provided elsewhere in the Specification.

8.0 Where alternative prices for equipment of different manufacture are offered, the lowest alternative price for equipment to specification must be included, against the relevant Item in the Bills of Quantities. The remaining alternative prices must be furnished separately.

Where such equipment is found not to comply with the Specification, the Contractor will be required to provide equipment which does comply, without adjustment to the price in the Bills of Quantities.

9.0 All items in the Bills of Quantities are deemed to include supply, delivery, installation and commissioning where appropriate, unless specifically stated otherwise. The unit rate must include for all things necessary, whether specified in detail or not, including all components, small installation materials, allowance for off-cuts, wastage etc., erection and fixings to complete the item to Specification in a satisfactory and workmanlike manner, in order to provide a complete and working system.

10.0 In certain instances prices are requested for Items which may be required during the progress of the work, but which are not included in the known quantities of material / labour required. These Items are indicated by the designation “R/O” (rate only) in the “Quantity” column and the price is to be noted in the “Rate” columns only and must not be carried forward.

11.0 Where no rates are filled-in by the Tenderer, or the rate is indicated as Nil, it will be assumed that there is no charge for the particular item and that the cost thereof has been included in the other rates provided.

12.0 The Bills of Quantities shall not be used for ordering purposes. The Contractor shall check and measure the lengths of cables / conductors on site before ordering any of these materials.

13.0 The quantities and rates included for Daywork shall form part of the tender price, but Tenderers shall note that this item must be regarded as provisional and will only be payable to the Contractor if and when a written instruction to this effect has been issued.

14.0 Expenditure in connection with Provisional and Prime Cost Sums and under the Contingency Allowance (if any) shall be solely at the discretion and on the written instruction of the Engineer.

15.0 An Excel spreadsheet version of the Bill can be made available to Tenderers on request. The spreadsheet may be used for calculation purposes only. The Engineer or the Employer does not take responsibility for any arithmetical or other errors that may occur due to the use of the spreadsheet. The original wording and quantities of the Bills included in the tender document will be adhered to and this Bill must be completed by hand in black ink and submitted with the tender.

C2.2 BILLS OF QUANTITIES

INDEX TO BILLS OF QUANTITIES **Page No's**

BILL 1.0: PRELIMINARY AND GENERAL ITEMS

ITEM	DESCRIPTION	UNIT	QTY	MATERIAL		LABOUR	
				RATE	TOTAL	RATE	TOTAL
1.0	**Fixed Charge Items**						
1.1	Contractual requirements (Provision of 10% Performance Bond, Insurance of Works, etc.).	Sum	1	R -	R -	R -	R -
1.2	Establish facilities on site:						
1.2.1	Office and storage sheds.	Sum	1	R -	R -	R -	R -
1.2.2	Workshops.	Sum	1	R -	R -	R -	R -
1.2.3	Ablutions and latrines.	Sum	1	R -	R -	R -	R -
1.2.4	Tools and equipment	Sum	1	R -	R -	R -	R -
1.2.5	Water supply, electrical power, telephone and access.	Sum	1	R -	R -	R -	R -
1.3	Remove site establishment upon completion of contract.	Sum	1	R -	R -	R -	R -
1.4	Allowances:						
1.4.1	For the preparation and submission of a construction programme to the Engineer as required in the documents.	Sum	1	R -	R -	R -	R -
1.4.2	For the submission of construction drawings to the Engineer for approval as required in the documents.	Sum	1	R -	R -	R -	R -
1.4.3	For three (3) sets of electronic and hard copies of "As-built" drawings, test certificates to be submitted to Engineer on hand-over.	Sum	1	R -	R -	R -	R -
1.4.4	For testing, inspection and commissioning.	Sum	1	R -	R -	R -	R -
1.4.5	Allow for instruction to maintenance staff of operating and maintenance procedure.	Sum	1	R -	R -	R -	R -
1.4.6	Project notice board as per Drawing No. 10713/E/04.	Sum	1	R -	R -	R -	R -
1.4.7	Project notice board support structure as per Drawing No. 10713/E/05.	Sum	1	R -	R -	R -	R -
1.4.8	For compliance with the requirements of the Occupational Health and Safety Act construction regulations.	Sum	1	R -	R -	R -	R -
1.4.9	Provision of medical certificates for all local labourers appointed for the duration of the project, as required by the Construction Regulations (2014).	Sum	1	R -	R -	R -	R -
1.4.10	For compliance with environmental requirements.	Sum	1	R -	R -	R -	R -
1.4.11	Liaison and co-ordination with Kouga Municipality for the duration of the contract.	Sum	1	R -	R -	R -	R -
2.0	**Time Related Items**						
2.1	Contractual requirements, i.e. insurances, etc.	Sum	1	R -	R -	R -	R -
2.2	Accommodation and / or living out expenses for the duration of the	Sum	1	R -	R -	R -	R -
2.3	Travelling charges for the duration of the contract.	Sum	1	R -	R -	R -	R -
2.4	Supervision and provision of facilities and attendance of site meetings.	Sum	1	R -	R -	R -	R -

BILL 1.0: PRELIMINARY AND GENERAL ITEMS

ITEM	DESCRIPTION	UNIT	QTY	MATERIAL		LABOUR	
				RATE	TOTAL	RATE	TOTAL
2.5	Allowance to publically advertise for a local Community Liason Officer (CLO) for the duration of the contract, as specified.	Sum	1	R -	R -	R -	R -
2.6	Allowance to appoint a local Community Liason Officer (CLO) for the duration of the contract.	Sum	1	R -	R -	R -	R -
2.7	Allowance to fully comply with the Municipality's requirements for Preferential Procurement, Subcontracting, Sanctions, Monitoring / Reporting and Contractor's Obligations to Subcontracted EE's, etc. as specified under Clause No's 17.0 to 22.0 of Part C3.1, General Project Specification, for the duration of the contract.	Sum	1	R -	R -	R -	R -
2.8	Allowance to appoint an Environmental Control Officer (ECO) to oversee the environmental aspects for the duration of the contract.	Sum	1	R -	R -	R -	R -
2.9	Operate and maintain facilities on site:						
2.9.1	Office and storage sheds.	Sum	1	R -	R -	R -	R -
2.9.2	Workshops.	Sum	1	R -	R -	R -	R -
2.9.3	Ablutions and latrines.	Sum	1	R -	R -	R -	R -
2.9.4	Tools and equipment	Sum	1	R -	R -	R -	R -
2.9.6	Water supply, electrical power, telephone and access.	Sum	1	R -	R -	R -	R -
3.0	**Day work**						
	The following rates are for variations to the contract, as directed by the Engineer, and are for work not covered by rates in the schedules. The total cost will be adjusted in the final account in accordance with the variation orders issued.						
3.1	Labour, Normal Time:						
3.1.1	Installation Electrician and Labourer.	hour	10	R -	R -	R -	R -
3.1.2	Artisan Electrician and Labourer.	hour	10	R -	R -	R -	R -
3.1.3	Labourer.	hour	10	R -	R -	R -	R -
3.2	Labour, Normal Overtime:						
3.2.1	Installation Electrician and Labourer.	hour	10	R -	R -	R -	R -
3.2.2	Artisan Electrician and Labourer.	hour	10	R -	R -	R -	R -
3.2.3	Labourer.	hour	10	R -	R -	R -	R -
3.3	Labour, Sundays and Public Holidays:						
3.3.1	Installation Electrician and Labourer.	hour	10	R -	R -	R -	R -
3.3.2	Artisan Electrician and Labourer.	hour	10	R -	R -	R -	R -
3.3.3	Labourer.	hour	10	R -	R -	R -	R -
3.4	Transport:						
3.4.1	Private car or light delivery vehicle.	km	10	R -	R -	R -	R -
3.4.2	5 tonne truck.	km	10	R -	R -	R -	R -
3.4.3	10 tonne truck.	km	10	R -	R -	R -	R -
3.4.4	10 tonne truck with crane.	hour	10	R -	R -	R -	R -
3.4.5	5 tonne mobile crane.	hour	10	R -	R -	R -	R -

BILL 1.0: PRELIMINARY AND GENERAL ITEMS

ITEM	DESCRIPTION	UNIT	QTY	MATERIAL		LABOUR	
				RATE	TOTAL	RATE	TOTAL
4.0	Lump sum allowance for any items not included in this schedule, but deemed necessary by the Tenderer, to complete the installation in accordance with the specification, drawings and Tenderers own detailed design. Brief description of such items to be entered hereunder.	Sum	1	R -	R -	R -	R -
	TOTAL BILL 1.0 TO BE CARRIED FORWARD TO PRICE SUMMARY, ITEM 1.0				**R -**		**R -**

BILL 2.0: 66kV DOUBLE CIRCUIT OVERHEAD LINE

ITEM	DESCRIPTION	UNIT	QTY	MATERIAL		LABOUR	
				RATE	TOTAL	RATE	TOTAL
	Notes:						
(i)	This section is for "Design and Supply", therefore the Tenderer must determine his own quantities. Items descriptions and quantities are, however, given hereafter as provisional and is a guide only. The Tenderer must make adjustments where necessary to suit his design.						
(ii)	All rates must be exclusive of VAT.						
(iii)	Refer to Drawing No's 10713/E/01 to 03 under Annexure A.						
(iv)	All items to include for the supply, delivery and installaton thereof. Where indicated as free issue material, allowance to be made in the Labour Rate for uploading at the Municipality's stores in Jeffreys Bay, delivery to site and installation thereof.						
(v)	ACSR - Aluminium Conductor Steel Reinforced Cu - Copper HD - Hard Drawn HDGS - Hot Dip Galvanised Steel						
1.0	Verification of line design by Contractor's own Engineer, including preparation of construction drawings and issue of certificate of compliance by Structural Engineer.	Sum	1	R -	R -	R -	R -
2.0	Obtain services of Professional Land Surveyor to locate and peg servitude boundary positions.	No	20	R -	R -	R -	R -
3.0	Inspect the line route and set-out all pole positions, etc. as per Contractor's own design, in conjunction with the Engineer.	Sum	1	R -	R -	R -	R -
4.0	Tree, bush and ground clearance along route of 66kV overhead line, approx. 20m wide, incl. removal and disposal of material to Humansdorp Waste Management site:						
4.1	Trees and bushes up to 5m high.	m	50	R -	R -	R -	R -
4.2	Trees and bushes, 5m to 10m high.	m	50	R -	R -	R -	R -
5.0	Arrange power shut-down with Kouga Municipality (allowance to be made for max. 8 hours on a Sunday or Public Holiday).	No	2	R -	R -	R -	R -
6.0	Excavate hole for foundation, including backfilling and compaction. Note that the soil conditions provided below is for tendering purposes only. Actual excavations to be re-measured on site during construction:						
6.1	Earth:						
6.1.1	1+2ME/JB 026 *(Strain)*	No	1	R -	R -	R -	R -

BILL 2.0: 66kV DOUBLE CIRCUIT OVERHEAD LINE

ITEM	DESCRIPTION	UNIT	QTY	MATERIAL		LABOUR	
				RATE	TOTAL	RATE	TOTAL
6.2	Hard Earth:						
6.2.1	1+2ME/JB 027 *(Strain)*	No	1	R -	R -	R -	R -
6.2.2	1+2ME/JB 028 *(Strain)*	No	1	R -	R -	R -	R -
6.2.3	1+2ME/JB 029 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
6.2.4	1+2ME/JB 030 *(Strain)*	No	R/O	R -	R nil	R -	R nil
6.2.5	1+2ME/JB 031 *(Intermediate)*	No	1	R -	R -	R -	R -
6.3	Rock:						
6.3.1	1+2ME/JB 032 *(Intermediate)*	No	1	R -	R -	R -	R -
6.3.2	1+2ME/JB 033 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
6.3.3	1+2ME/JB 034 *(Strain)*	No	R/O	R -	R nil	R -	R nil
6.3.4	1+2ME/JB 035 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
6.3.5	1+2ME/JB 036 *(Strain)*	No	1	R -	R -	R -	R -
6.3.6	1+2ME/JB 037 *(Strain)*	No	R/O	R -	R nil	R -	R nil
7.0	Concrete foundation, complete including steel reinforcing, mass concrete, backfilling, compaction, etc. for HDGS Pole Structure No's:						
7.1	1+2ME/JB 026 *(Strain)*	No	1	R -	R -	R -	R -
7.2	1+2ME/JB 027 *(Strain)*	No	1	R -	R -	R -	R -
7.3	1+2ME/JB 028 *(Strain)*	No	1	R -	R -	R -	R -
7.4	1+2ME/JB 029 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
7.5	1+2ME/JB 030 *(Strain)*	No	R/O	R -	R nil	R -	R nil
7.6	1+2ME/JB 031 *(Intermediate)*	No	1	R -	R -	R -	R -
7.7	1+2ME/JB 032 *(Intermediate)*	No	1	R -	R -	R -	R -
7.8	1+2ME/JB 033 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
7.9	1+2ME/JB 034 *(Strain)*	No	R/O	R -	R nil	R -	R nil
7.10	1+2ME/JB 035 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
7.11	1+2ME/JB 036 *(Strain)*	No	1	R -	R -	R -	R -
7.12	1+2ME/JB 037 *(Strain)*	No	R/O	R -	R nil	R -	R nil
8.0	HDGS Pole Structure No., complete with ladder and ground earth, but excluding excavations, concrete foundation and insulators measured elsewhere:						
8.1	1+2ME/JB 026 *(Strain)*	No	1	R -	R -	R -	R -
8.2	1+2ME/JB 027 *(Strain)*	No	1	R -	R -	R -	R -
8.3	1+2ME/JB 028 *(Strain)*	No	1	R -	R -	R -	R -
8.4	1+2ME/JB 029 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
8.5	1+2ME/JB 030 *(Strain)*	No	R/O	R -	R nil	R -	R nil
8.6	1+2ME/JB 031 *(Intermediate)*	No	1	R -	R -	R -	R -
8.7	1+2ME/JB 032 *(Intermediate)*	No	1	R -	R -	R -	R -
8.8	1+2ME/JB 033 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
8.9	1+2ME/JB 034 *(Strain)*	No	R/O	R -	R nil	R -	R nil
8.10	1+2ME/JB 035 *(Intermediate)*	No	R/O	R -	R nil	R -	R nil
8.11	1+2ME/JB 036 *(Strain)*	No	1	R -	R -	R -	R -
8.12	1+2ME/JB 037 *(Strain)*	No	R/O	R -	R nil	R -	R nil
9.0	Collect from Municipality's stores in Jeffreys Bay and install free issue HDGS self-supporting pole structure, incl. uploading, transport and offloading on site, but excluding excavation for foundation and concrete foundation itself. Steel pole designed and manufactured to D-DT-7100, Tip Load 23kN, telescopic joint, 200mm above and 500mm below planting depth Bitumen treated:						
9.1	20.0m, 14m, CAH *(Intermediate Planted)*	No	7	R nil	R nil	R -	R -

BILL 2.0: 66kV DOUBLE CIRCUIT OVERHEAD LINE

ITEM	DESCRIPTION	UNIT	QTY	MATERIAL		LABOUR	
				RATE	TOTAL	RATE	TOTAL
9.2	18.0m, 14m, CAH *(17DEG Strain)*	No	1	R nil	R nil	R -	R -
9.3	18.0m, 14m, CAH *(25DEG Strain)*	No	1	R nil	R nil	R -	R -
9.4	18.0m, 14m, CAH *(60DEG Strain)*	No	1	R nil	R nil	R -	R -
9.5	18.0m, 14m, CAH *(85DEG Strain)*	No	1	R nil	R nil	R -	R -
10.0	Chicadee ACSR (stranding and wire diameter 18/1/3,77mm) greased overhead line phase conductor.						
10.1	Supply and install.	m	8000	R -	R -	R -	R -
10.2	Install only (free issue item).	m	8000	R nil	R nil	R -	R -
11.0	Set of three (3) 66kV long rod strain insulators, complete with end fitting bolt/socket, clevis, shackles, pins, etc:						
11.1	Supply and install, complete.	No	24	R -	R -	R -	R -
11.2	Install only (free issue item).	No	4	R nil	R nil	R -	R -
12.0	Terminate set of three (3) Chicadee ACSR overhead line conductor at strain insulators.	No	28	R -	R -	R -	R -
13.0	Set of three (3) 66kV linepost insulators complete with trunion clamp end fitting, bolts, nuts, washers, etc:						
13.1	Supply and install.	No	10	R -	R -	R -	R -
13.2	Install only (free issue item).	No	14	R nil	R nil	R -	R -
14.0	Bind-in set of three (3) Chicadee post top insulators using "Preformed" twin-ties.	No	24	R -	R -	R -	R -
15.0	Set of three (3) Chicadee ASCR jumper conductors at strain points, complete with AMPACT Tap Connectors.	No	28	R -	R -	R -	R -
16.0	Optical Ground Wire (OPGW) fibre count 12, similar or equal to Prysmian standard OPGW 16A41 at top of pole.	m	2700	R -	R -	R -	R -
17.0	Terminate Optical Ground Wire (OPGW) conductor at top of the pole.	No	12	R -	R -	R -	R -
18.0	Set of three (3) vibration dampers:						
18.1	Supply and install.	No	2	R -	R -	R -	R -
18.2	Install only (free issue item).	No	24	R nil	R nil	R -	R -
19.0	Pole number label fixed to pole at minimum height of 4000mm above finished ground level.	No	12	R -	R -	R -	R -
20.0	Allowance for hiring of submersible pump and associated equipment to pump out ground water from foundation hole before mass concrete is to be casted. Min. pump specifications: Operating range 30l/min; head up to 30m, nominal power 220A, 0,37W. Rate to include generator on site.	hr	24	R -	R -	R -	R -

BILL 2.0: 66kV DOUBLE CIRCUIT OVERHEAD LINE

ITEM	DESCRIPTION	UNIT	QTY	MATERIAL		LABOUR	
				RATE	TOTAL	RATE	TOTAL
21.0	66kV Outdoor isolator, complete with steel lattice support structure, earthing, etc. as specified.	No	1	R -	R -	R -	R -
22.0	Excavate hole for new 66kV stay:						
22.1	Earth	No	1	R -	R -	R -	R -
22.2	Hard Earth	No	2	R -	R -	R -	R -
22.3	Rock	No	1	R -	R -	R -	R -
23.0	Stay assembly, complete with 66kV fibre glass guy strain insulator, base plate and stay guard.	No	4	R -	R -	R -	R -
24.0	Excavate and expose existing pole or stay in order to remove:						
24.1	Earth	No	10	R -	R -	R -	R -
24.2	Hard Earth	No	12	R -	R -	R -	R -
24.4	Rock	No	10	R -	R -	R -	R -
25.0	Disconnect, dismantle, remove, recover and deliver abandoned material and equipment of existing 66kV wooden structure overhead line to municipal stores in Jeffreys Bay:						
25.1	Approx. 14m long tarred wooden pole.	No	20	R -	R -	R -	R -
25.2	Approx. 4,5m long tarred wooden cross-arm.	No	10	R -	R -	R -	R -
25.3	Set of 3 x 66kV long rod insulators, complete with clamp, etc.	Set	10	R -	R -	R -	R -
25.4	Hare ACSR conductor.	No	8000	R -	R -	R -	R -
25.5	66kV Stay.	No	12	R -	R -	R -	R -
25.6	66kV Outdoor isolator.	No	1	R -	R -	R -	R -
26.0	Specify and include any other items in accordance with Tenderer's own design deemed required in order to complete the project:						
	TOTAL BILL 2.0 TO BE CARRIED FORWARD TO PRICE SUMMARY, ITEM 2.0				**R -**		**R -**

PRICE SUMMARY

ITEM	DESCRIPTION	MATERIAL		LABOUR	
1.0	BILL 1.0: PRELIMINARY AND GENERAL ITEMS	R	-	R	-
2.0	BILL 2.0: 66kV DOUBLE CIRCUIT OVERHEAD LINE	R	-	R	-
3.0	SUB-TOTALS	R	-	R	-
4.0	TOTAL MATERIAL AND LABOUR			R	-
5.0	PROVISIONAL SUM FOR FOUNDATION DESIGN AND INCORPORATION OF FREE ISSUE STEEL POLE STRUCTURES	R	150 000,00		
5.1	CONTRACTOR'S MARK-UP ON PROVISIONAL SUM (…..... %)	R	-	R	-
6.0	CONTINGENCY SUM	R	100 000,00		
6.1	CONTRACTOR'S MARK-UP ON CONTINGENCY SUM (…..... %)	R	-	R	-
7.0	NETT TENDER AMOUNT, EXCLUDING VAT.			R	-
8.0	VAT @ 15%		15%	R	-
9.0	GROSS TENDER AMOUNT, TO BE CARRIED FORWARD TO FORM OF OFFER AND ACCEPTANCE IN PART C1.1 HEREOF.			R	-

Name of Tenderer: .....

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

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

Tel No: .....

E-mail: .....

PART C3 – SCOPE OF WORK

C3.1 GENERAL PROJECT SPECIFICATION

1.0 GENERAL

This tender includes for Phase 4 of a new 66kV double circuit overhead line between Eskom's Melkhout Substation at Humansdorp and Kouga Municipality's Main Intake Substation at Jeffreys Bay.

Phases 1 to 3 of the project were previously completed and collectively includes overhead line upgrades around Melkhout Substation in order to create a 2nd 66kV feeder bay and circuit to Jeffreys Bay. The total length of the line is approx. 12km. Due to budget restrictions, the project is being implemented in various phases as and when funding becomes available.

For this tender, a length of approx. 2,3km is envisaged to be completed. The exact position of the 2,3km section is provided on the Google Earth extract included under Part C4, Site Information hereof.

More detail of the line and existing infrastructure is depicted on Drawing No. 10713/E/01 included under Annexure A hereof. The new 66kV double circuit overhead line will ultimately replace the existing 66kV single circuit overhead line which follows the same route between the said points.

The construction of a new 66kV double circuit overhead line is a result of the existing line being aged and deteriorated, but to also create for more power carrying capacity to the Jeffreys Bay and surrounding areas.

A description of the existing 66kV and 22kV subsidiary overhead lines and the new 66kV overhead line to be constructed, is given hereafter.

2.0 DESCRIPTION OF EXISTING OVERHEAD LINES

2.1 Main Line

The existing 66kV single circuit overhead line is of wooden H-pole construction with a horizontal cross-arm and vertical poles spaced ±2,5 metres. The vertical poles are ±12 metres above ground level and ±2 metres underground.

The cross-arms each support three (3) HARE Aluminium Conductor Steel Reinforced (ACSR) conductors with mostly porcelain long rod insulators at strain and suspension points. In certain cases, the Municipality has already replaced some of the porcelain insulators with silicon long rod insulators.

2.2 Secondary Lines

There is an existing 22kV overhead line "Farmers Line" in parallel with the 66kV overhead line that supplies various farms in the area and is served from the Main Intake Substation in Jeffreys Bay.

The steel frames each supports three (3) Hare ACSR conductors with porcelain long rod insulators at strain and suspension points, and the 22kV line is spaced ±15 metres from the 66kV line on its Northern side. There are various spur feeders that T-off from the 22kV overhead line, all as depicted on Drawing No. 10713/E/01.

3.0 DESIGN OF NEW 66kV OVERHEAD LINE

The Technical Specification contained herein only specifies the basic requirements and performance functions required for the new 66kV overhead line.

Tenderers are required to submit a price for this item based on their own design in terms of pole structures, pole spacing, etc, but following the design guidelines given in the Technical Specification.

This means that the Contractor will provide his own detailed specification and construction drawings for the line and take full responsibility therefore and ensure it complies with all relevant statutory requirements.

4.0 EXTENT OF CONTRACT

This contract covers the following work:

(i) Design and construction of ±2,3km of new double circuit 66 kV overhead line using self-supporting hot dip galvanised steel poles and CHICADEE ACSR conductor.

(ii) Dismantling and removal of ±2,3km existing 66kV main overhead line and HARE ACSR conductor.

The work is further depicted on the drawings and as detailed hereafter.

5.0 SITE INFORMATION

Refer to Parts C3.3 and C4.

It is important that tenderers familiarise themselves with the local conditions and the line route itself.

The Contractor shall notify Kouga Municipality's Electrical Department and the Engineer of the anticipated delivery of the equipment at least fourteen (14) days before the expected arrival time, to enable the necessary arrangements to be made.

6.0 NATURE OF CONTRACT

The conditions of contract will be the General Conditions of Contract for Construction Works, Second Edition, 2015, as amended and described in Part C of this document.

Tenderers must carefully study and understand the entire contents of this document and all annexures, and particularly the Contract Data, Part C1.2, which contains vital information peculiar to this contract.

7.0 ENGINEER'S DRAWINGS

The Engineer's Drawings applicable to this installation are listed in Annexure A to this document.

These drawings are sufficiently accurate for tendering purposes, but all dimensions must be verified on site prior to manufacture. No extras will be considered where work has been proceeded with, without such prior verification or approval.

8.0 PROGRAMME AND COMPLETION

The Electrical Contractor will be responsible for drawing up his own programme in which he must consider the delivery dates of the equipment/materials.

The programme shall be submitted to the Engineer two weeks after acceptance of tender in order that such programme may be available for discussion at the first official site meeting.

9.0 WORK BY OTHERS

Not applicable.

10.0 ENVIRONMENTAL CONTROL OFFICER (ECO)

The Tenderer shall make allowance to appoint an Environmental Control Officer (ECO) from a registered and Professional Environmental Services Firm for the construction phase of the project who will undertake responsibility to ensure that the mitigation / rehabilitation measures and recommendations referred to in the Environmental Authorisation (EA) are implemented and also to ensure compliance with the provisions of the approved Environmental Management Programme (EMPr*).*

Refer Clause 15 on Page 9 of the EA, which is together with the Construction & Operational Management Plan, included under Annexure C hereof.

The ECO previously responsible for Phases 1 to 3 was Messrs. Sharples Environmental Services (SES) from George. Contact person is Mr. John Sharples, Tel. No. 044 873 4923 and e-mail: john@sescc.net

11.0 PROJECT NOTICE BOARD

A project notice board is required as part of the contract. The details of the board and support structure are depicted on Drawing No's 10713/E/04 and 05 as included under Annexure B hereof.

12.0 ELECTRICAL SUPPLY

The existing electrical supplies are 66kV and 22kV three phase, 50 Hz, as indicated on the drawings. Actual voltages may deviate by up to 10% from these values and all equipment, jointing materials, etc., shall be suitably rated for these conditions. The phase rotation is to be checked and maintained through-out the network.

The existing 66kV and 22kV overhead lines will be individually de-energised for the time duration/s required to complete interconnecting of certain sections on it, while it is assumed that construction of the bulk of the concrete plinths and new structures for the new 66kV double circuit overhead line can be safely accomplished while the existing lines are energised.

Where shutdowns are required, the following days and times shall apply, and the Tenderer shall make suitable allowance for this in the Pricing Data, Bills of Quantities, Part C2.2 hereof:

- 66kV Overhead Line: Only on Sundays and Public Holidays
  Maximum of eight (8) hours, i.e. between 8h00 and 16h00

- 22kV Overhead Line: Any day of the week
  Maximum of eight (8) hours, i.e. between 8h00 and 16h00

Any shutdown required shall be prior arranged with the Municipality and would need to be publicly advertised at least two (2) weeks in advance. It is therefore very important that the successful tenderer take cognisance hereof when preparing the construction programme.

Under no circumstances can work be carried out on any existing of overhead lines unless the lines are properly earthed after de-energisation and a permit to work has been issued by the Municipality.

13.0 SWITCHING OF SUPPLIES

All switching of the HV and MV supplies shall be arranged in advance with Kouga Municipality. The Electrical Contractor shall establish their requirements regarding advance notice, permits to work, etc., at the beginning of the contract and shall comply with these requirements.

The contact persons at Kouga Municipality's Electrical Department in Jeffreys Bay are as follows:

- Director: Electro- & Mechanical Engineering Services: Mr. Theo Madatt
- Manager: Electro Technical Services: Mr. Bonga Mpongwana
- Area Electrical Engineer: Mr. Mandla Mangembe

14.0 SITE STAFF

The Contractor shall have a competent supervisor on site at all times that work is being carried out under this contract. Such supervisor shall be fully conversant with the equipment and materials being installed.

15.0 SITE FACILITIES

The Contractor shall be responsible for negotiating with the Employer to obtain a location for erection of his site office and storage yard. The Contractor shall also arrange for the supply of water, electricity and telephone services to this site at his own costs.

Latrine facilities will be required and must be in accordance with the local Health Department's regulations.

The Contractor shall further comply with all Environmental requirements.

16.0 CLEARANCES WITH OTHER SERVICES

It shall be the Electrical Contractor's responsibility to obtain all necessary drawings and information from the Municipality, Eskom and Telkom regarding existing and new overhead power and telephone lines to ensure that no damage occurs to the existing services during the installation of electrical services, and also to ensure that all necessary clearances with existing and future plant are maintained.

17.0 KOUGA SUPPLY CHAIN MANAGEMENT POLICY

Tenders will be adjudicated in terms of Kouga Municipality's Supply Chain Management Policy of 30 May 2014. A copy of this document is available at the Municipality and on the Kouga website.

18.0 PREFERENTIAL PROCUREMENT

18.1 Requirements

Refer to Clauses C2.23 and C3.11.1 of the Tender Data, Part T1.2, and the Preferencing Schedule: Broad Based Black Economic Empowerment Status, Part T2.2.11, in terms of the Preferential Procurement Regulations 2022 (80/20 version).

18.2 Resources Standards pertaining to targeted procurement

Tenders will be evaluated in terms of the Employer's Procurement Points system. The criteria for allocation of procurement points are stated under Clause C2.1.1 and C3.11.1 of the Tender Data.

19.0 SUBCONTRACTING

19.1 Scope of mandatory subcontract works.

The Contractor shall note that the Employer is committed to local Emerging Enterprise development and this forms part of this.

The sub-contracting of work is required for all CIDB-related projects in the following ranges:

a) R 5M >, but < R 10M requires Bidder to sub-contract 10% of the value of the project
b) R 10M >, but < R 15M requires Bidder to sub-contract 15% of the value of the project
c) R 15M >, but < R 20 requires Bidder to sub-contract 20% of the value of the project
d) R 20M >, but < R 30M requires Bidder to sub-contract 25% of the value of the project
e) R 30M > requires Bidder to sub-contract 30% of the value of the project

The sub-contracting value will be based on the estimated value of the project either determined by the director or project manager.

Where the successful bidder's price falls within any other range, the sub-contracting range included in the Bid Document will be applied.

The municipality may include sub-contracting for any other none CIDB related project as may be requested by the Director of the Department to promote local development.

Community Based Suppliers or service providers/ward-based suppliers or service providers must be considered for subcontracting by the main contractor. The first preference for subcontracting must be given to community or ward-based suppliers of that particular ward where the project is taking place.

If the required skill or expertise is not available from the ward / area where the project is taking place, the main contractor is permitted to accept service provers or suppliers within the KLM jurisdiction. Those service provider or suppliers would then contract directly with the main contractor.

19.2 Preferred subcontractors / suppliers

Local Emerging Enterprises registered on the Kouga Local Municipality Database and/or nominated by the municipality.

19.3 Subcontracting procedures

All matters pertaining to subcontractors and the work executed by them shall be dealt with directly between the Employer's Agent and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.
Subcontractors shall comply in full to all aspects of the Contract.
The Employer's Agent will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

Contractors are required to confirm work performed by SMMEs prior to an invoice being submitting by the SMMEs. Once the SMMEs submit the invoice, the Contractor must pay the SMMEs must within seven (7) days of receipt of the invoices

Subcontractors shall comply in full, to all aspects of the Contract.

19.4 Attendance on subcontractors

The Contractor shall guide, assist, advise and mentor the local EE subcontractor/s and guidance on how to establish and determine rates.

The Contractor shall be responsible for ensuring that the prospective local EE subcontractor/s fully comprehend the:

- Implications of the liabilities and responsibilities inherent in the contract into which the tenderer entered.
- Implications of the tendered rates.
- Scope and extent of the Works.
- Proper procedures for the submission of a tender.
- Procedures and basis on which tenders will be evaluated and awarded.

The Contractor shall closely manage, mentor, supervise, guide and assist the EE in all aspects of management, planning, execution and the completion of work.

The above shall include inter alia, but is not limited to, the following:

(i) Planning and programming of the Works.
(ii) The sourcing, ordering, purchasing, hiring all the necessary Construction Equipment, Materials, tools and accidentals necessary and required for the successful execution and completion of the Permanent as well as the Temporary Works.
(iii) Labour relations and employment.
(iv) Monthly measurements, costing and invoicing.
(v) General safety, occupational health and safety matters.
(vi) Functions of civil Employer's Agenting infrastructure, structures, services and systems.
(vii) Interpreting and understanding the contract.
(viii) Construction and maintenance methods and procedures.
(ix) Communication.
(x) Cash-flow control, submitting invoices and payment certificates.
(xi) Planning, programming, scheduling, critical path control and acceleration.

(xii) Maintenance planning.
(xiii) Material procurement and control.
(xiv) Risk limitation and management.
(xv) Quality assurance and procedures.
(xvi) Compliances with all applicable laws, regulations, statutory provisions and agreements.
(xvii) General Conditions of Contract and Contract Data.
(xviii) Contractual claims, if situations arise that entitle a contractor to claims in terms of the Conditions of Contract.
(xix) Profit and loss.
(xx) Replacement and running costs of Construction Equipment.

The extent and level of management, mentorship, supervision, guidance and assistance to be provided by the Contractor shall be in commensuration with the expertise of the relevant EE and should be so directed as to enable the EE to achieve the successful execution and completion of the respective works.

20.0 SANCTIONS

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal (CPG) outcomes was due to quantitative under runs, the elimination of items, or any other reasons beyond the Contractor's control which may be acceptable to the Employer, the Contractor shall be liable to pay to the Employer a financial penalty calculated in the following manner:

$$P = \frac{0{,}50 \times (D - Do) \times NA}{100}$$

, where D = tendered Contractor participation goal percentage.

Do = the Contract Participation Goal, which the Employer's Representative based on the credits passed, certifies as being achieved upon completion of the contract.

NA = Net Amount of the Tender.

P = Rand value of penalty payable.

The penalties will be calculated with each certificate, based on the information provided under the monitoring indicated in clause 14.0 below.

21.0 MONITORING / REPORTING

The reporting requirements below will be adhered to.

CPG attainment will be monitored on a monthly basis, and for this the Contractor will supply the relevant information at a time set by the Employer's Agent.

21.1 The Contractor shall submit all the documentation required in terms of details of his plan to achieve CPG, compliance with the contract and 14.2 timeously and, together with his programme of activities, a schedule which indicates clearly the expected commencement and completion dates of work and services to be performed by all the targeted enterprises engaged on the contract for the purpose of securing credits towards the contract participation goal. This schedule shall be updated by the Contractor whenever a change in date occurs.

21.2 The Contractor shall prepare and attach to his claim for payment, in a form approved by the Employer, the following:

a) a brief report which describes the commercially useful functions performed by the targeted enterprises in the performance of the contract, both over the interim period and on a cumulative basis;

b) a schedule reflecting the estimated total value of the contracts, the cumulative value of the contracts and the value of supplies provided or work and services performed (or both) over the period for which payment is claimed in respect of each and every targeted enterprise performing commercially useful functions;

21.3 Should random inspections conducted by the Employer's Agent on targeted enterprise activities indicate that such enterprises are not performing in accordance with the requirements of this part, the Contractor shall provide, in addition to the requirements of 14.2, separate weekly resource returns and any other relevant information in respect of such targeted enterprises in a format approved by the Employer's Agent.

21.4 The Employer's Agent shall certify the value of the credits counted towards the contract participation goal whenever a claim for payment is issued to the employer and shall notify the Contractor of this amount.

21.5 The Contractor shall, upon completion of each individual targeted enterprise's contract, issue a completion certificate and certify the amount paid to such targeted enterprises. He shall submit the certificates, counter-certified by the relevant targeted enterprise, to the Employer's Agent for record-keeping purposes. The Contractor shall furnish reasons to the Employer whenever it is not possible to obtain such counter certification.

22.0 **CONTRACTOR'S OBLIGATIONS TO SUBCONTRACTED EEs**

22.1 Dispute Avoidance and Resolution Procedures

The Contractor shall at all times

(a) apply the terms and conditions of the subcontract fairly and justly, taking due cognisance of the level of sophistication and experience of the EE subcontractor concerned.

(b) closely monitor all EE subcontracts and issue reasonable warnings when any contravention of the terms of the subcontract has occurred or appears likely to occur. The Contractor shall give EEs reasonable opportunity to avoid or make good any such contravention.

When taking any disciplinary actions or imposing any penalties provided for in the subcontract, the Contractor shall explain fully that such actions are in accordance with the conditions of subcontract.

Should any dispute arise between the Contractor and an EE, such dispute shall be resolved in accordance with the provisions of the subcontract.

Should an EE subcontractor be terminated, the Contractor shall replace such subcontractor with a local EE subcontractor listed on the KLM database.

22.2 Quality of Work and Performance of EE subcontractors

If, in the opinion of the Employer's Agent, an EE Subcontractor fails to comply with any of the criteria listed below, he/she shall issue a written warning to the Contractor stating all the areas of non-compliance.

(a) Acceptable standard of work as set out in the subcontract specifications.
(b) Progress in accordance with the time constraints in the subcontract.
(c) Site safety.

The circumstances that may warrant the issue of a written warning are, however, not limited to those listed above. A copy of the letter of warning shall be forwarded to the Employer.

23.0 ISSUING OF COMPLETION CERTIFICATE

The Contractor shall, within seven (7) days of the completion of each subcontract completed in accordance with the provisions of this specification, issue free of charge to the EE a Certificate of Completion co-signed by the Employer's Agent and a senior representative of the Contractor who has been duly authorised to do so.

24.0 MEASUREMENT AND PAYMENT

No direct payment will be made for the cost of dealing with EE's. Payment will be deemed to be covered by the rates and sums tendered and paid for the various items of work included under the contract.

25.0 CONSTRUCTION AND "AS-BUILT" DRAWINGS AND MANUALS

The Electrical Contractor shall submit to the Engineer, within one (1) month after appointment, construction drawings of all work to be undertaken under this project.

Before the date of the issue of the Certificate of Completion, the Electrical Contractor shall hand-over to the Engineer three sets of electronic and hard copies of "As-Builts" of the above-mentioned drawings. These drawings shall be complete in all respects, together with operational and maintenance manuals, test certificates, commissioning report, etc, where relevant.

The manual shall include a description of the works, operating instructions, manufacturer's pamphlets and catalogues on all the equipment supplied and a spares list for the same equipment.

These drawings shall clearly show, with measurement relative to the various structures where applicable, all cable routes and positions of cable markers, final details of all circuits, and revised schedules of equipment etc. The Contract will not be considered complete until these drawings and manuals have been received.

26.0 DAMAGE TO STRUCTURES

The Electrical Contractor shall be responsible for the making good of damage caused by his / her staff to any part of the structures / equipment. In the event of the occurrence of damage, he/she shall arrange the repair of such damage to be carried out at his / her own expense to the satisfaction of the Engineer and Employer.

C3.2 HEALTH AND SAFETY

1.0 GENERAL

The principal Contractor and Contractors are required to adhere to the provisions of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), as amended, and including the Construction Regulations 2014, as amended, forming part thereof. For the purposes of this part of the document, the terms principal Contractor and Contractor, and Client, shall have the meanings as defined in the abovementioned Regulations.

The principal Contractor, or Contractor shall undertake all the duties and activities required of him in terms of the abovementioned regulations. These may include but not necessarily be limited to the following:

- Notification of construction work.
- Preparation, liaison with and submission to the Client, and implementation and maintenance of a suitable and sufficiently documented health and safety plan which must include and involve all Contractors under a principal Contractor's control.
- Liaison and cooperation with all other Contractors.
- Supervision of construction work, including appointment of a construction supervisor in terms of the Regulations.
- Risk assessment.
- Fall protection.
- Structures, formwork and support work, excavation work, demolition work, scaffolding and suspended platforms, hoists of any type, and explosive powered tools.
- Electrical installations and machinery on construction sites.
- Use and storage of flammable liquids, water hazards, general housekeeping and stacking and storage, as well as fire precautions.

2.0 HEALTH AND SAFETY INFORMATION

The design described in this document has considered the hazards to persons which may occur during construction, commissioning and subsequent use and maintenance. However, the nature of the work is such that certain hazards are unavoidable and will be prevalent during the above operations and these must be considered by the Contractor when preparing and implementing the health and safety plan.

In order to assist the Contractor, certain hazards and aspects of health and safety are identified in this document and on the drawings and a Hazard Identification List is provided below to inform the Contractor of any known or anticipated dangers or hazards relating to the design or construction work. The information is provided in order to assist the Contractor to analyse and evaluate the risks and does not, in any way, relieve the Contractor of his/her responsibilities in terms of health and safety.

3.0 HEALTH AND SAFETY PLAN

The Contractor shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith.

The Contractor shall prepare a Health and Safety Plan in respect of the Works in accordance with the Act and Regulations, which shall cover inter-alia the following details:

- Management Structure, Site Supervision and Responsible Persons including a succession plan.
- Contractor's induction training programme for employees, sub-contractors and visitors to the Site.
- Health and safety precautions and procedures to be adhered to in order to ensure compliance with the Act, Regulations and Safety Specifications.
- Regular monitoring procedures to be performed.
- Regular liaison, consultation and review meetings with all parties.
- Site security, welfare facilities and first aid.
- Site rules and fire and emergency procedures.

The Contractor is required to ensure that all sub-contractors or others engaged in the performance of the contract also comply with the above requirements.

4.0 HEALTH AND SAFETY CONDITIONS

The Chief Executive Officer of the Contractor shall assume the responsibility in terms of Section 16(1) of the Occupational Health and Safety Act (as amended). Should the Contractor assign any duty in terms of Section 16(2), a copy of such assignment shall immediately be provided to the representative of the Employer as defined in the Contract.

All work performed on the Employer's premises shall be performed under the supervision of the construction supervisor who understand the hazards associated with any work that the Contractor performs on the site in terms of Construction Regulations 2014.

The Contractor shall appoint a Competent Person who shall be trained on any occupational health and safety aspect pertaining to them or to the work that is to be performed.

The Contractor shall ensure that he familiarises himself with the requirements of the Occupational Health and Safety Act and that he, his employees, and any sub-contractors, comply with them.

Discipline in the interests of occupational health and safety shall be strictly enforced.

Personal protective equipment shall be issued by the Contractor as required and shall be worn at all times where necessary.

Written safe work procedures and appropriate precautionary measures shall be available and enforced, and all employees shall be made conversant with the contents of these practices.

No substandard equipment/machinery/articles or substances shall be used on the site.

All incidents referred to in terms of Section 24 of the Occupational Health and Safety Act shall be reported by the Contractor to the Department of Labour and the Employer.

The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of Section 32 of the Occupational Health and Safety Act and into any incident involving a Contractor and/or his employees and/or his sub-contractor/s.

No use shall be made of any of the Employer's machinery / plant / equipment / substance / personal protective equipment or any other article without prior arrangement and written approval.

No alcohol or any other intoxicating substance shall be allowed on the site. Any person suspected of being under the influence of alcohol or any other intoxicating substance shall not be permitted access to or allowed to remain on the site.

Prior to commencement of any work, verified copies of all documents mentioned in the agreement, must be presented to the Employer.

5.0 HEALTH AND SAFETY HAZARD IDENTIFICATION LIST

The following list highlights items identified as presenting a hazard or danger to persons during construction and commissioning:

Item	Hazard Description	Applicable to the Project Yes / No / N/A	Hazard Rating (Low, Medium, High) *	Comment / Recommendation
	Are there any specific client H&S requirements for the work?	Yes	High	The work will be undertaken in close vicinity of live 22kV to 132kV overhead power lines. All regulatory requirements in this regard shall be adhered to.
	Have site archaeological issues been identified and evaluated (might be of historical importance)	Yes		
	Has a geotechnical survey been carried out, and if so do the results indicate hazards which require control measures?	N/A		
	Is the site adjacent to or over public transport (railways, taxi ranks, bus stops etc.)?	Yes	Low	Railway line will be crossed with overhead line
	Is the site adjacent to or over water (eg. rivers, dams, sea, canals)?	Yes	Low	Water valleys/streams and dams across farm lands will be crossed with overhead line
	Is the site adjacent to, over or under any services or drains etc.(eg. high voltage cables, municipal sewer lines)?	Yes	High	The work will be undertaken in close vicinity of live 22kV to 132kV overhead power lines.
	Is the site adjacent to, over or under any public buildings such as schools and hospitals?	No		
	Are there any other local hazards such as overhead power cables?	Yes	High	The work will be undertaken in close vicinity of live 22kV to 132kV overhead power lines.
	Will the ground contours present any construction problems?	Np		
	Is there any asbestos removal involved?	No		
	Will excavation be close to live electrical cables or pressure pipes?	No		
	Will any excavation works take place?	Yes	High	Concrete foundations for self-supporting pole structures.
	Will any work be carried out close to live electrical apparatus?	Yes	High	The work will be undertaken in close vicinity of live 22kV to 132kV overhead power lines.
	Is there confined space or tank entry work involved?	No		
	Will any steel erection works be taking place?	Yes		Steel pole structures

Item	Hazard Description	Applicable to the Project Yes / No / N/A	Hazard Rating (Low, Medium, High) *	Comment / Recommendation
	Will tower cranes be used or heavy lifting operations taking place?	Yes		
	Will mobile work platforms, cradles or abseiling be necessary?	No		
	Is the access to the site adequate for vehicles and pedestrians? Are there any special arrangements and/or requirements?	Yes	Low	
	Will the public have access to the site?	Yes		Open space and across farmlands
	Have arrangements been made or co-ordinated for temporary electric supplies?	N/A		
	Have site lighting needs been identified for all stages of the work?	N/A		
	Will any accommodation/ office units be located inside an existing structure?	No		
	Have arrangements been made or co-ordinated for temporary supplies such as water and sewage disposal?	N/A		
	What is the type of roof construction? Evaluate fall hazards	NA		
	Are there any 'Hot Works' to be undertaken?	No		
	Are electrical items to be installed?	Yes	Medium	New 66kV double circuit overhead lines.
	Will there be any lift installation works?	No		
	Will there be any escalators to install?	No		
	Is the project a fire risk?	No		
	Have all environmental issues been evaluated and controlled?	N/A		
	Are there any specific fall protection hazards not already assessed?	N/A		
	Are there any additional hazards which have been identified as being site specific and which are not covered by the foregoing? If YES, note here:	No		

* The hazard rating considers the likely level of consequence (injury/death) to which workers are exposed, the likely number of workers exposed to the hazard, and the probability of occurrence on the site.

C3.3 PROJECT TECHNICAL SPECIFICATION

1.0 GENERAL

This part of the specification deals with the main items of material and equipment which will be the Contractor's responsibility to supply and install in accordance with this document and the drawings.

Sufficient information is provided in this document and on the drawings to enable the tenderer to accurately price the work. Tenderers must allow for all items, whether specified in detail or not, required to complete the installation in a neat and workmanlike manner.

2.0 STANDARD TECHNICAL SPECIFICATION

This section of the Specification shall be read in conjunction with the Standard Technical Specification, Part C3.5 hereof, and the installation shall comply with the relevant clauses thereof.

All materials used under this Contract shall be of a quality and class most suitable for working under the conditions specified and shall withstand the variations of temperature and atmospheric conditions that may arise without distortion, deterioration or the setting up of undue stresses in any part such as to affect the efficiency and reliability of the plant, and also without affecting the strength and suitability of the various parts for functions which they have to perform.

3.0 SUPPLY AUTHORITY

The Supply Authority for the area is Kouga Municipality and the installation shall fully comply with their requirements.

4.0 66kV OVERHEAD LINE WORK

4.1 General

The 66kV overhead line work shall be tendered on and be constructed on a "supply and design" basis, i.e. the Contractor shall take full responsibility for the construction as well as the design of the 66kV overhead line and ancillary work to meet all statutory requirements and the design guidelines given hereafter.

4.2 Design Guidelines

(i) The route for the new line is depicted on Drawing No. 10713/E/01. The line route and pole structure positions is provided as a guide only. The Contractor shall select his own pole positions and types to optimise the design and meet the statutory requirements.

(ii) The line is to be a 66kV double circuit line and both circuits to be constructed for 66kV operation.

(iii) The pole structures shall all be of the typical "Self-Supporting" Galvanised Steel, Mono or Double Pole type.

Drawing No's 10713/E/02 to 03 shows some typical strain and intermediate pole structures that can be considered for the above-mentioned pole types but must not be seen as limiting the Contractor's options.

Below are some images of the section of 66kV double circuit overhead line between the Main Intake Substation and the Fountains Shopping Centre, which was completed previously:

Photo 1. Typical Intermediate Structure

Photo 2. Typical Strain Structure (Double Pole)

Photo 3. Typical Strain Structure (Single Pole)

(iv) The foundations for the poles or method of planting the poles are to be of the Contractor's own design. The Contractor shall, however, take full responsibility to assess the soil conditions to ensure that the foundations meet the necessary requirements.

The design of the foundations must also consider the position of the line relative to the existing line servitudes which differs from area to area as indicated on Drawing No. 10713/E/01.

(v) Most important is that the design and construction of the line must consider that it has to be constructed very close to an existing line as explained before.

(vi) The phase conductors shall be Aluminium Conductor Steel Reinforced, ASCR (code name Chicadee), stranding and wire diameter 18/1/3,77mm and greased for coastal conditions.

The Optical Ground Wire (OPGW) conductor shall be similar or equal approved to the Single Layer Prysmian standard OPGW 16A41, also greased, and shall have the following minimum characteristics:

- Fibre count – 12
- Diameter – 11,6mm
- Weight – 412kg/km
- UTS (kN) – 64
- Short circuit – 35kA for 2 secs

The conductor dead end to consist of preformed dead end and aluminium thimble. The earth conductor shall be insulated in an approved manner on all poles. All conductors to be tension strung with tension equipment approved by the Engineer.

Compression dead ends to be used and all fittings of 120kN strength. Conductors shall comply in all respects with the requirements of BS 215 (Part 2), specification for aluminium conductors. In the case of local damage to the conductor during erection the use of repair sleeves of an approved type may be permitted at the discretion of the Engineer. Such repair sleeves shall be designed to be compressed onto the conductor.

Vibration dampers shall be provided where required and can be of the spiral, Stockbridge or dog bone type. All bolts shall be locked in an approved manner. Dampers shall be installed when clamping the conductors, but only after the conductor has been securely fastened in its support assembly.

(vii) The insulators shall be the composite silicon rubber type, suitable for coastal conditions, of the following types and minimum requirements:

Line post
- Minimum 22kN working load
- Trunion clamp end fitting to take up to 36,75 mm diameter conductor.
- Minimum creepage 31 mm/kV
- BIL 325 kV

Long rods
- Minimum 120 kN strength
- Minimum creepage 31 mm/kV
- BIL 325 kV
- End fitting bolt/socket IEC 16

Fittings, bolts, nuts, etc. made of steel or malleable iron shall be galvanised. All bolts shall be locked by means of a locknut or approved means. All bolt threads shall be greased before erection.
Armour rods shall be provided where required.

Contractor to determine kN cantilever rating of insulators to suit line design and meet safety requirements.

Contractor to determine the best solution to select line post or other method to support the conductor jumper at strain poles. Cognisance must be taken of the impact hereof on the width of the line so that the conductors do not come too close to the existing lines.

(viii) All poles shall be provided with a ground earth of ≤ 20 ohm earth resistance. The earth to consist of two earth spikes (6 metres apart) / trench earth connected with 35 x 3 mm galvanised steel strap or equivalent to earth stud on each pole.

(ix) All poles and foundations shall be designed by an ECSA (Engineering Council South Africa) registered professional structural engineer who shall provide a certificate to certify that these items comply with all the statutory requirements and consider the specific soil conditions, wind loading, etc.

It is to be noted that the Jeffreys Bay area is notorious for very heavy wind conditions.

To assist the Contractor with the design of the line, a longitudinal section and ground profile for the line route is provided on Drawing No. 10713/E/01 as a guideline.

The ground profile was previously provided by Messrs. Maarschalk & Partners Land Surveyors in Humansdorp.

The ground profile drawing provide a 1:2000 horizontal and 1:200 vertical scale. Should the Contractor require other scales then he must advise the Engineer of such requirements.

(x) The line is to be constructed within approximately 2km from the coast and this needs to be considered in selecting the materials and protection for corrosion, etc.

In this regard the galvanising for the steel poles, etc. shall be heavy duty hot dipped galvanisers to min 110 microns in accordance with SABS – ISO 1461 edition. All bolts, washers and nuts and other steelwork used shall also be hot dip galvanised.

(xi) All poles shall be vertical within a tolerance at the top of the pole of 0,3% of the overall pole height, before the erection of the pole. Proper precautions shall be taken that poles are not strained or damaged in any way during erection.

(xii) Unless otherwise approved conductors shall be erected by means of snatch blocks of approved material and dimension at every intermediate pole and by other approved means so as to reduce to a minimum any contact between the conductor and the ground or obstructions during erection.

The stringing method shall be submitted to the Engineer for approval prior to construction. Tension stringing shall be employed as directed by the Engineer.

The Contractor shall provide suitable dynamometers, thermometers, etc. for proper checking of the conductor tensioning.

(xiii) It is the Contractor's responsibility to ensure that the line is not energised until such permission has been obtained in writing from the Engineer.

(xiv) The Contractor shall also ensure that the line construction complies with the statutory requirements regarding Telkom communication lines and road crossings.

(xv) Each pole shall be fitted with a permanent ladder and shall start at an approximate height of 5m above ground level to prevent unauthorised persons climbing the structures.

The following is a guideline only:

- Overall ladder width = 300mm
- Rungs: Minimum diameter = 16mm
- Spacing = 300mm
- Stringers: 40mm x 5mm
- Brackets for the attachment of the ladder to the structure shall provide a minimum of 150mm
- Horizontal spacing from the structure as per OHS Act requirements
- Permanent ladders shall be bolted onto structures on site when erected and not permanently welded onto structures. This will prevent damage to ladders during transportation.
- If long ladders are required, the welded sections are to be bolted together.
- Back-support rings are not required unless specifically stated by the purchaser
- Ladder material: 300W steel
- All ladders shall be hot dip galvanised to SABS ISO 1461

(xvi) For tendering purposes, the Contractor shall make provision for the supply and installation of all materials as required above and under Part C2.2, Bills of Quantities, hereof in order to complete the project to an acceptable working standard.

(xvii) Certain materials assigned to this project was previously procured by the Municipality, which will be free issued to the successful Tenderer for installation under this contract. A list of the materials is provided under Part C2.2, Bills of Quantities, and includes large items like steel pole structures, insulators and overhead line conductor.

It is deemed important that tenderers familiarise themselves with these materials at the compulsory site inspection meeting in order to incorporate into their own design.

A Provisional Sum has been included in the Price Summary for specific foundation design relevant to free issue steel pole structures.

5.0 EARTHING

A ground earth shall be provided for each of the steel pole structures for the 66kV overhead line, which includes bonding with the OPGW conductor.

An earth test certificate shall be provided listing the earth resistance value for each of the ground earths.

A concrete cable marker labelled “Earth Spike” shall be installed above each earth spike.

The Contractor shall issue an earth test certificate confirming the measured earth resistance values at each structure to be within acceptable limits.

The earthing shall further comply with clause “Earthing and Bonding” of the Standard Technical Specification, Part C3.5 hereof.

6.0 DISMANTLING

All conductors recovered shall be neatly rolled up and the coils tied together.

All recovered materials and equipment shall be transported and delivered to the municipal stores at Jeffreys Bay, which is approximately 4km from the construction site.

A list must be drawn-up of all the materials and equipment recovered, which must be signed by the storeman at the municipal stores when delivered. This signed list must be included with the Contractor’s claim for work completed and no payment will be made for such work unless this condition is met.

7.0 BUSH CLEARANCE / TREE FELLING

This Contract is to include for bush clearing and lopping of tree branches encroaching on the overhead line route, approximately 20m wide. Approval must be obtained from the Engineer before commencing with any clearance, if any areas of encroachment are identified.

Under no circumstances are protected indigenous trees to be removed or lopped without the written permission of the Engineer, who is to be advised immediately it is known that any such trees are affected.

All material is to be removed from the Site although the Contractor shall not be deemed to have ownership of any such material.

All the necessary arrangements shall be made with the owners of the erven on which the bush clearance must be performed. Owners shall be notified in advance when the work is to be undertaken.

The Contractor shall ensure that all the necessary controls are in place to ensure the safety of all persons and to avoid any damage to any property during the bush clearance work. Any possible damage to existing fences, etc. shall be repaired to its original state.

Any alien trees are to be cut at 100mm above the ground level, and tree stumps are to be treated to prevent re-sprouting and painted with blue marking.

Tree trunks and large branches are to be cut up in small enough sections and removed from the property to an authorised disposal site. No heaps of tree litter and small branches which may become a fire hazard are to be left under the overhead line route.

8.0 66kV OUTDOOR ISOLATOR

Allowance shall be made for the replacement of an existing 66kV outdoor isolator at the Main Intake Substation in Jeffreys Bay.

The detailed specification of the equipment required is given in tabled form hereafter. It must be noted that Schedule A of each table gives information affecting and laying down the requirements for the equipment, whilst Schedule B is to be completed by the Tenderer in order to provide guarantees, technical and other particulars of the equipment offered and for acknowledgement of certain requirements. Failure to complete Schedule B could invalidate the tender. The detailed specification shall be read in conjunction with the Standard Specifications in Part C3.5 hereof.

ITEM	DESCRIPTION	SCHEDULE A	SCHEDULE B
1.0	Number required, complete with mechanism and auxiliary switches.	One (1).	.....
2.0	Type	Hand operated centre rotate double break with earthing switch.	....
3.0	Creepage	31mm/kV	.....
4.0	Auxiliary switch arrangement	1 x F, 5 x M, 8 x G and 2 x N contacts	....
5.0	Disconnector rating:		
5.1	Nominal system rms voltage	66kV	.....
5.2	Normal continuous current rating	1600A	.....
5.3	Nominal short-time current withstand (thermal).	25kA	.....
5.4	Short time withstand current duration.	3 seconds	.....
5.5	Rated peak withstand current (dynamic)	50kA	.....
5.6	60 second power frequency withstand rms voltage.	140kV min	.....
5.7	Lightning impulse withstand peak voltage.	350kV min	.....
5.8	Phase spacing	1500mm	.....
5.9	Isolating distance		.....
6.0	Earthing switch rating:		
6.1	Nominal system rms voltage	66kV	.....
6.2	Nominal short-time current withstand (thermal).	31.5kA	.....
6.3	Maximum system rms voltage	72.5kV	.....
6.4	Short time withstand current duration.	3 seconds	.....

ITEM	DESCRIPTION	SCHEDULE A	SCHEDULE B
6.5	Rated peak withstand current (dynamic)	50kA	.....
7.0	Mounting	Hot dip galvanised steel lattice support structure min. 3000mm height, to form part of isolator. To be mounted on existing concrete plinth.	....
8.0	Standard Technical Specification	Line isolator / earthing switch to further comply with the relevant Clauses of Part C3.5 hereof and Eskom Specification ESP 32-536.	....
9.0	Supply and Delivery Details:		
9.1	Manufacturer		.....
9.2	Delivery Time	To site, from the date of tender acceptance.	.... weeks

9.0 LABELS AND NOTICES

Labels and safety notices shall be provided in compliance with the relevant clauses of the Standard Technical Specification, Part C3.5 hereof.

10.0 INSPECTION, TESTING AND COMMISSIONING

The inspection, testing and commissioning procedure to be followed shall comply with the relevant clause of the Standard Technical Specification, Parts C3.5 hereof.

C3.4 STANDARD PRELIMINARY AND GENERAL INFORMATION

1.0 PREAMBLE

This Part of the Tender Document deals with general requirements to be met and standards for plant and workmanship which shall be observed in the execution of the contract covered by this Tender Document. "Plant" is defined as machinery, apparatus, materials, articles and things of all kinds to be provided under the contract other than Construction Equipment.

When the requirements of this Part are at variance with any detailed requirement of any other Part hereof, or the Drawings, such other detailed requirements shall take precedence. All items of plant which are specified in this Tender Document or by nature of the installation are required, shall comply with this Part, unless stated otherwise elsewhere in this Tender Document. In the event of ambiguity the Engineer shall be asked for his clarification prior to submission of the Tender.

Any reference herein to "elsewhere in this Tender Document" shall be deemed to mean in any of the other Parts of this Tender Document or on the Drawings.

This Tender Document covers major items required for this installation but shall not limit the contractor's responsibility to provide everything necessary to complete the contract. The works shall be carried out with best quality items of plant and to a high class of workmanship. All items of plant shall be the best of their respective kinds, and the contractor shall, upon request of the Engineer, furnish him with proof to his satisfaction that they so comply.

This Tender Document and accompanying Drawings are copyright and are the property of the Engineer and must be returned to him whether a bona-fide tender is submitted or not.

2.0 ALTERNATIVE OFFERS

No alternative tender offers will be considered.

3.0 SPARE PARTS

Tenderers shall state in the Schedule of Particulars / Information, Part T2.2.3, the names of the accredited South African Agents from whom spare parts for all items of plant offered are obtainable and the place nearest to the Works from which such spare parts are available. Submission of a tender will be construed as confirmation that spare parts for all equipment offered are readily available, and the contractor will be held responsible for any costs involved if this should prove to be otherwise.

4.0 DELIVERY TIMES OF MANUFACTURED ITEMS

The Tenderer shall, if required in the Schedule of Equipment Offered, state the times quoted by suppliers for both dispatch and delivery of major items of plant which may contribute to an extension of the time for completion.

The contractor shall, during the continuance of the contract, keep the Engineer well and sufficiently informed regarding the placing of all orders for materials and the progress of manufacture of any plant so as to ensure that no extension of the time for completion may be occasioned because of non-delivery of plant within the time specified for delivery of same. A delivery status report on each major item of plant shall be submitted by the 7th of every second month.

The contractor shall at all times remain fully and solely responsible for the timeous delivery to site of all plant, equipment and materials in terms of this contract.

5.0 PACKING AND DELIVERY

Plant shall be carefully packed and protected to avoid mechanical or other damage during transport and off-loading. The contractor will be held responsible for any damage occurring prior to its acceptance in writing by the Employer.

Every item of plant is to be clearly labelled with its description and with the contract number.

All consignments shall be addressed to the contractor on site and he/she shall make prior arrangements for receipt and storage upon arrival. The employer will not accept delivery of items of plant for the contractor unless the contractor has made prior arrangements to this effect with the employer. The contractor will be required to make all arrangements for off-loading since no equipment for this will be available on site unless specifically stated to the contrary elsewhere herein.

6.0 LAYOUT OF INSTALLATION

The layouts shown on the Engineer's Drawings shall be strictly adhered to in principle, only alterations to suit specific plant being provided being acceptable. The Engineer's Drawings show general arrangements of layout but the contractor is required to prepare detailed Drawings of pipework, fabricated plant, machine and plant rooms, ductwork, switchboards, transformers, sub-stations, etc. The position of services detailed by the Engineer shall not be altered.

All architectural and structural dimensions shown on the drawings are approximate and must be verified by the contractor on Site. All measurements specially marked on the drawings in connection with engineering services shall be strictly adhered to.
If Tenderers require alterations to structure these must be described at the time of tendering. Minor structural alterations which may facilitate the work can be arranged with the Engineer as the work progresses, but no claims will be entertained for alteration of any part of the contract works constructed before the necessary dimensions and details have been verified.
Before work on any particular section is commenced, the position of all control equipment and plant shall be approved by the Engineer.

7.0 DRAWINGS, CERTIFICATES AND OPERATING INSTRUCTIONS

7.1 Tenderers shall submit with their tender, outline drawings and pamphlets showing principal dimensions of the plant offered together with a general description of its operation.

7.2 In instances where, for any reason, the contractor is required to prepare and/or submit detailed drawings of any portion of the contract works, the contractor shall, within one month of the date of acceptance of the contract tender, or on such other date as may be agreed with the Engineer to suit the contract programme, submit duplicate copies of such contractor’s detailed drawings to the Engineer for approval. A further two copies of the finally approved drawings shall subsequently be supplied to the Engineer. The following drawings shall be submitted, as appropriate:

General arrangement details of all items of plant.

Schematic and wiring diagrams of all switchboards and control systems.

Detailed layout drawings of all pipework, ducting, cable racking etc.

Detailed layouts, sections and elevations of all plant rooms.

Rating plate details of all plant including inter alia- max. kW rating, speed, temperature limitations, no-load voltage, full load current, percentage impedance, etc.

Cable termination arrangements of all transformers, motors etc.:

Detailed drawings of all plinths, foundations or bases.

Failure to comply with this requirement may result in the Engineer instructing the contractor to place the order for the specific item of plant with another Manufacturer. Where failure of the Contractor to ensure that the proposed Manufacturer complies with this requirement necessitates the above action being taken, no increase in price will be considered.

7.3 The contractor shall, within one month of acceptance of the contract tender, or on such other date as may be agreed with the Engineer to suit the contract programme, submit triplicate copies of type test certificates issued by an authorised inspection authority or other approved testing agency in respect of all items of plant for which such certificates are required by the Engineer.

7.4 After completion of manufacture, all test certificates called for elsewhere in this Part shall be provided in duplicate.

7.5 Prior to the issue of the Practical Completion Certificate the following documents shall be provided, as appropriate, in duplicate, bound in a durable folder bearing the contract title and number:

Test certificates relating to tests done after completion of the installation as called for elsewhere in this Part.

Catalogue extracts of all major items of plant with performance curves marked to show operating duties.

List of spare part numbers and local Agents for these parts.

"As built" drawings, including layouts, sections, wiring and control diagrams and plant schematic diagrams. These are to show in detail the positions of poles, stays, cables, joints, sleeves, ducts, heating and cooling coils, dampers, pipes, control and regulating valves, air release valves, expansion joints, fixed equipment and all other pertinent items of plant. In the case of buried services, the route of such services and location of all cables, pipes, joints, valves, tees, access manholes, etc. are to be dimensioned relative to permanent and fixed objects, and the GPS coordinates must be provided. These drawings must depict the complete installation as finally commissioned.

Detailed instruction manuals covering the operation, maintenance and servicing of each item of major plant provided under this subcontract and, where the complete plant has been supplied under this subcontract, the operation of the plant as a whole.

In addition, one complete set of Engineer's Drawings clearly marked up to indicate all alterations made to the original drawings must be provided.

The contractor shall note that the Practical Completion Certificate may be withheld until the above has been complied with.

8.0 **STANDARDS AND CODES OF PRACTICE**

The installation shall comply with the following, and all amendments thereto, as appropriate:-

- The Occupational Health and Safety Act and Regulations

- SABS 0142 Code of Practice for the Wiring or Premises, as appropriate (referred to herein as the Wiring Regulations).
- The Post Office Act.
- The SAIEE Code of Practice for Overhead Power Lines.
- The Local Authorities: Standard Electricity Supply By-Law and appropriate Additional By-Law or Regulations.
- Any further Specification, Regulation or Code of Practice stated elsewhere in this Specification.

All items of plant supplied and/or installed, whether expressly specified herein or not, shall conform in respect of quality, manufacture, tests and performance with the requirements of the appropriate South African National Standards (SANS) Specifications and addenda thereto, or, if no such Specification exists covering any one or more of these requirements, with the relevant requirements of the appropriate British Standard Specifications and addenda thereto, except where elsewhere required by this Specification or approved by the Engineer.

Where the South African Bureau of Standards has issued a licence for the use of its Mark on products complying with any of its Specifications, only such products which carry the Mark shall be supplied.

Preference will be given to plant manufactured in South Africa.

9.0 WORKMANSHIP

All work shall be carried out by qualified artisans or registered apprentices or, only where appropriate, labourers, under the constant supervision of a qualified artisan. At no stage during the construction programme shall any work be carried out without adequately qualified and experienced installation personnel being on site. If the contractor fails to comply with this requirement, the Engineer has the right to instruct the contractor to suspend the contract work. All costs incurred in so doing shall be for the account of the contractor.

10.0 CO-ORDINATION OF SERVICES ON SITE

The contractor will be required to work in close co-operation with other specialist direct contractors and subcontractors to ensure that no conflict arises between the various services, and to plan the progress of the various aspects of his work. It is imperative that such close liaison continues throughout the duration of the contract.

11.0 INTERRUPTION OF EXISTING SERVICES

No interruption of existing services will be permitted without the express permission of the Engineer and/or the Employer or his representative, given as a result of written notification by the contractor of the date, time and duration of such interruption. Any costs arising from the interruption of any service without such permission shall be for the contractor's account.

12.0 BUILDER'S WORK

All builders' work will be carried out as described in Part C3.1 of this Tender Document. The onus shall be on the contractor to ensure that all work carried out by others in this respect, is to the contractor's satisfaction.

Where builders work is to be carried out by others, the contractor shall notify the Engineer timeously of the positions where holes, cuts and recesses will be required and shall ensure

that each is correctly located, and that heavy-gauge draw-wires are supplied and installed in all sleeves.

13.0 APPROVAL OF DRAWINGS

All Drawings, circuit or schematic diagrams prepared by or on behalf of the contractor for submission to the Engineer in terms of the requirements of this Tender Document shall have been thoroughly checked, corrected where necessary and signed as approved by the subcontractor, prior to such submission.

14.0 OPERATING, MAINTENANCE AND SERVICING PROCEDURES

The contractor shall, by agreement with the Engineer, instruct the Employer's appointed Representative in routine operating, maintenance and servicing procedures of all items of plant supplied under this subcontract, and shall ensure that the Employer or his/her Representative, fully understands the documents provided in terms of Clause 7.5 hereof.

15.0 MAINTENANCE

During the defects liability period, up until issue of the Final Approval Certificate, the contractor shall, in addition to attending to any lists of work to be completed which may be issued by the Engineer, carry out full maintenance and servicing operations specifically recommended by the suppliers of any item of plant used in the contract works to maintain it in full and correct operation. Such maintenance shall include all attention necessary to comply with the suppliers' recommendations and shall include the provision of all necessary consumable items. The contractor will also be required to make any adjustments necessary during this period to ensure the satisfactory operation of the plant.

On completion of each such maintenance visit the contractor shall submit to the Engineer a schedule detailing the work done, which schedule shall have been countersigned by the Employer's representative, whereupon a certificate will be issued for moneys due, in respect of the particular maintenance service, as included in the original tender price.

Notwithstanding any maintenance and servicing which may be carried out during the defects liability period, the contractor shall carry out a full maintenance and servicing operation at the end of the defects liability period and before the Final Approval Certificate will be issued.

Allowance for all costs in relation to the above must be made in the tender price. It shall be noted that the Engineer reserves the right to omit partly or wholly the prices submitted for the maintenance of the contract works, should the installation not be adequately maintained within the stipulated maintenance period.

The Employer may request the contractor to enter into a Service/Maintenance Agreement for the contractor to continue to maintain and service the contract works, or a portion thereof, beyond the date of issue of the Final Approval Certificate. The terms and duration of such an Agreement shall be subject to mutual agreement between the Employer and Contractor, and shall be concluded before the issue of the Final Approval Certificate.

Mutually agreeable conditions will be negotiated by the Engineer with the Contractor should the contract works not be put into operation immediately on issue of the Practical Completion Certificate.

C3.5 STANDARD ELECTRICAL SPECIFICATION

SECTION 1 – REGULATIONS

The following Regulations shall apply as applicable:

Electricity Act, 1987 (as amended)

Occupational Health & Safety Act, 1993 (as amended)

Post Office, Act 1958 (as amended)

SECTION 2 – STANDARDS

With the exception of Clause 1.0, all clauses hereafter will first contain a list of the SANS, NRS, BS, CKS, etc. Standards, and thereafter the Clinkscales Maughan-Brown Standards, whilst the latter Standards shall take precedence over the afore-mentioned Standards.

The Project Technical Specification contained elsewhere in this document shall, however, take precedence over all Standards contained in this Section.

1.0 DEFINITION

In this Part, the term "Contractor" means the person, firm or company whose tender has been accepted for the work specified in the document of which it forms a part.

High Voltage (HV):	Voltage in excess of 33 000 Volt
Medium Voltage (MV):	Voltage of 6 600 to 33 000 Volt
Low Voltage (LV):	Voltage up to 1 000 Volt

2.0 ELECTRICAL SUPPLY AND PHASE ROTATION

SANS 1019	**Standard voltages, currents and insulation levels for electricity supply**
SANS 1816	**Electricity supply - Quality of supply: Power quality instruments**
NRS 048	**Quality of supply**

CMB Standards

2.1 Electrical power supply details relative to fault levels, voltage and phase rotation are given elsewhere in this Document.

2.2 Phase rotation specified shall be maintained on all overhead lines, cables, transformers, switchgear and distribution equipment.

2.3 Where existing connections are to be reconnected to a new system, phase rotation is to be checked before disconnection and reconnection made to maintain the same phase rotation.

3.0 SWITCHING OF HV, MV AND LV POWER SUPPLIES

3.1 Switching of existing power supplies shall be pre-arranged with the appropriate Authority.

3.2 All possible preparations shall be made in advance, to minimize the time required for re-energising the system.

3.3 All such switching shall be carried out by the “responsible person” unless such authority is given to the Contractor by that person in writing.

4.0 EARTHING AND BONDING

SANS 10142	**The wiring of premises (Part 1) Low voltage installations**
SANS 10200	**Neutral earthing in medium voltage industrial power systems**
SANS 10292	**Earthing of low-voltage (LV) distribution systems**
NRS 076	**Earthing of distribution substations with nominal voltages up to and including 132 kV.**

CMB Standards

4.1 Resistance Values:

4.1.1 Every effort should be made to obtain an earth resistance value of 1,0 ohm or less.

4.1.2 Maximum acceptable values of earth electrode resistance:

Miniature substation = 10 Ohms

Indoor, outdoor switchboard or gang links = 15 Ohms

Cradle, lightning arrestors or other pole mounted equipment = 20 Ohm

Combined resitance to earth of LV feeder and overhead line neutrals = 10 Ohms

4.2 Main Indoor Substation Earth System:

4.2.1 Main earth bar shall consist of an adequate length of minimum 50mm x 6,3mm tinned copper bar.

4.2.2 Main earth bar shall be supported by means of insulators in a suitable position on a wall or plinth.

4.2.3 Conductors connecting equipment to main earth bar shall be 80mm² copper terminated in compression type lugs.

4.2.4 Size of earth bar and number of earth conductors shall be specified elsewhere.

4.2.5 All connections shall be suitably labelled.

4.3 Main Outdoor Substation Earth System:

4.3.1 Shall comply with the above Standards.

4.4 General Earth Systems:

4.4.1 Earth systems for distribution transformers, minisubs shall comprise two earth electrodes with 1,5m long earth spikes located 6,0m apart, linked with 80mm² bare conductor. Spikes are to be located adjacent to pole structures or ends of plinths in case of minisubs and shall be located at least 1,0m therefrom.

4.4.2 In case of transformer earthing, if neutral earth system resistance is not 1,0 ohm or less, two systems as above are to be installed, one for the LV neutral and the other for the tank and associated equipment, in which case they are to be kept at least 6,0m apart and at opposite sides of the transformer position.

4.4.3 Earth system is to be connected with 80mm² insulated earth conductor to the earth bar or transformer tank earth stud as appropriate.

4.4.4 Common leg of secondaries of CT's, other than secondaries of summation transformers, shall be effectively earthed to main earth system.

4.5 Transformer Earthing:

4.5.1 Transformers, pole mounted, ground mounted or in minisubs, shall be provided with earth systems as described in the Sub-Clause "General Earth Systems" above. If earth system resistance is ≤ 1,0 ohm minisub neutral and earth bars, or transformer neutral and tank earth stud, shall be bonded with an insulated earth conductor.

4.5.2 Where earth system resistance is in excess of 1,0 ohm, a second separate earth system shall be installed in accordance with the foregoing Sub-Clause and neutral and tank connections shall be taken to each of the independent earth systems with separate insulated earth conductors. In this case a neutral surge arrestor, complying with the Clause "Lightning Protection" elsewhere in this Part, is to be installed and connected between the transformer neutral and the tank earth point. For tendering purposes it shall be assumed that the second earth system and neutral arrestor will not be required.

4.5.3 Earthing shall further comply with the AMEU/SAIEE Code of Practice for the use of Combined Neutral and Earth (CNE) on Low Voltage Distribution Systems and Separate Neutral Earth (SNE) System for the service connections.

4.6 Reticulation Feeder Neutral Earthing:

4.6.1 At kiosks and fused feeder pillars a 30m length of bare earth conductor of half the size of the phase conductors but not greater than 80mm² shall be laid from each kiosk earth bar towards the source of supply. Neutral bar shall be connected to the earth bar with green insulated conductor of equivalent size.

4.6.2 At various points not exceeding 150m apart along length of overhead lines and at tee connections and ends thereof as indicated on the drawings, neutral conductor shall be bonded to an earthing point which shall comprise a 1,5m long earth spike. Insulated earth conductor shall be carried in a galvanised sleeve from 500mm below ground to 3,5m above, unless otherwise advised. Connection of earth conductor to line conductor shall be made with a connector suitable for the particular line conductor material.

4.7 Earthing of Pole-Mounted Equipment:

4.7.1 At cradle earthing points, reclosers, or sets of lightning arrestors, one 1,5m long earth spike shall be provided, insulated earth connection being enclosed in galvanised conduit as described above.

4.8 Earth Spikes:

4.8.1 Top of earth spikes and interconnecting conductors are to be 1,0m below finished ground level.

4.8.2 Connections to earth spikes shall be by means of at least two suitable mechanical clamps of an approved type for this duty. Clamps shall not be attached to the rod but must be installed so that the bolt face is in contact with the rod. Brazing will not be accepted. Connection must be wrapped with two layers of "Denzo" tape.

4.8.3 Cable marker as described elsewhere in this Part shall be installed above each spike and shall be labelled "Earth Spike".

4.9 Earth Continuity Conductors:

4.9.1 Earth conductors shall be hard drawn bare copper wire or bi-coloured green/yellow or black PVC covered as specified elsewhere in the Specification, the PVC being UV stabilised. Sizes of earth wire are depicted on the drawings.

4.9.2 Bare earth continuity conductors shall be run with all cables constituting a low voltage distribution system except in case of township reticulation where an earth system as

described in the sub-Clause “Reticulation Feeder Neutral Earthing" above shall be installed at kiosks, etc.

4.9.3 Uninsulated earth conductors shall not be less than 500mm below ground level. Above this level all earth conductors shall be green insulated carried in a PVC conduit sleeve.

4.9.4 Terminal lug shall be crimped onto the end of the main earth conductor for bolting to the main earth bar of a substation or minisub or other outdoor equipment. Two mechanical clamps shall be used for connection onto cradles or other equipment, as appropriate.

4.9.5 Earth connections must not be carried through metal conduits or sleeves.

4.9.6 Earth connections shall be so made that in event of any connections being removed the earth connection to the rest of the equipment will not be affected.

4.10 Bonding Generally:

4.10.1 All metallic parts of an installation are to be bonded to the earth system as required by the appropriate Standards.

4.11 Bonding of Equipment:

4.11.1 All earth bars shall be run in one continuous length as far as possible, and shall not be bent or formed in any way that requires hammering or severe distortion.

4.11.2 Any joints shall be lapped with at least two bolts with nuts and washers of suitable size. Lapped ends shall be pre-tinned.

4.11.3 If multiple straps are used, they shall be bolted and fixed together at not more than 750mm intervals.

4.11.4 All connections shall be made using brass or stainless steel bolts, nuts and washers, together with a star lock washer, on all kiosks, fused feeder panels, miniature substations and outdoor equipment. Connections to indoor equipment may be made with cadmium plated steel bolts, nuts and washers, with a steel spring washer.

4.11.5 All steelwork on a pole is to be bonded using 20mm² solid copper conductor. Requirement applies to cross-arms, all insulator supports and any other hardware.

4.11.6 Where equipment is also mounted on the pole, bonded metal is to be earthed to an earth spike as elsewhere specified herein, using a 40mm² bare copper conductor.

4.12 Bonding of Steel Lighting Poles

4.12.1 For three phase systems, steel streetlight and site lighting poles shall be bonded with a continuous earth continuity conductor of the size as specified elsewhere. For single phase systems three core cables, of the size specified, shall be installed where the third conductor will be utilised for the continues earth.

4.12.2 Continuous earth continuity conductor shall be connected to the pole earth stud.

4.12.3 At last pole in a run the neutral conductor shall be bonded to earth.

4.13 Supplementary Requirements for Building Services:

4.13.1 Main earth system is to comply with the Supply Authority's requirements.

4.13.2 Earth spikes, mats and conductors shall be installed as early as possible in building programme, and onus is on Contractor to arrange this with Building Contractor so as to avoid later disturbance of completed construction.

4.13.3 Ends of earth conductors shall be terminated in lugs securely bolted to switchboard frames or trays.

4.13.4 Earth conductors run outside flexible tubing, where this has been permitted, shall be run neatly along tubing and shall be held in place by approved cable ties. Such conductors shall not be wound around the tubing.

5.0 INSTRUMENTS, METERS AND PROTECTION RELAYS

SANS 473 / NRS 071	Automated meter reading for large power users
SANS 474 / NRS 057:2005	Code of practice for electricity metering
SANS 1524	Electricity payment systems
SANS 1799	Watt-hour meters - AC electronic meters for active energy
SANS 1966 / IEC 60211	Maximum demand indicators, Class l.0
SANS 60044 / IEC 60044	Instrument transformers
SANS 62052 / IEC 62052	Electricity metering equipment (A.C.) - General requirements, tests and test conditions
SANS 620532003 / IEC 62053	Electricity metering equipment (A.C.) - Particular requirements
NRS 057 / SANS 474	Code of practice for electricity metering
NRS 068	Electricity distribution - cable earth fault indicator
NRS 071 /SANS 473	Automated meter reading for large power users
NRS 072	Overhead line fault path indicators
BS EN 60044, BS EN 60044	Specification for voltage transformers

CMB Standards:

5.1 General:

5.1.1 Indicating instruments and meters shall have HRC fuse protection on all voltage connections as specified elsewhere on the drawings.

5.1.2 Meters and instruments shall have labels fitted below, stating in which circuit they are installed.

5.1.3 Cases of all meters shall afford complete protection from dust and damp and shall be suitable for attachment of seals.

5.1.4 Selector switches shall be rated at 16A shall be provided with an "OFF" position.

5.1.5 Tenderer shall submit full details of meters, instruments and control switches offered in the tender, including connection diagrams for all equipment.

5.2 Potential Indicators:

5.2.1 Potential indicators shall comprise three neon indicating lamps each energised from a capacitor bushing connected to indicate that incoming cable or busbars are alive, unless specified elsewhere in the Project Technical Specification.

5.3 Protection Relays:

5.3.1 Protection relays are specified elsewhere in the specification.

5.4 Current Transformers:

5.4.1 Current transformers are specified elsewhere in Project Technical Specification.

5.5 Voltage Transformers:

5.5.1 Voltage transformers shall be three phase and of the type specified in the Project Technical Specification.

5.5.2 Output shall be 50VA per phase at 110V phase to phase.

5.5.3 Fuse protection shall be provided on both primary and secondary.

5.5.4 Transformers shall not be affected by single-phasing on the MV side.

5.6 Indicating instruments:

5.6.1 All instruments shall be as specified elsewhere in the Project Technical Specification.

5.7 Ammeters*:*

5.7.1 Ammeters, including whole current ammeters, unless specified otherwise in the Project Technical Specification, shall be calibrated to 120% of rated current. Overload capability shall be 10 x rated current for 1,0 second. Those reading in excess of 100A shall be CT operated with 5A full scale deflection.

5.7.2 One instantaneous reading ammeter, unless specified otherwise in the Project Technical Specification, shall be provided and connected via a phase selector switch with "OFF" position.

5.7.3 Maximum demand reading ammeters, unless specified otherwise in the Project Technical Specification, shall be of combined maximum demand and instantaneous type, one meter being supplied per phase.

5.7.4 Shall comprise a thermal maximum demand ammeter with drag pointer combined with a moving iron instantaneous pointer. The drag pointer reset knob shall be sealable.

5.7.5 Where dual ratio CT's are specified, ammeter scale plates are to be engraved on both sides to suit these ratios, the plate for the lower ratio being outermost.

5.8 Voltmeters:

5.8.1 One instrument shall be provided in each instance connected via a selector switch to read line to line voltages and also line to neutral voltages.

5.8.2 Voltmeters for MV use shall be suitable for operation on the 110V side of the voltage transformer, while LV voltmeters shall operate off a nominal line to line voltage of 400V. Scales between 90% and 110% of nominal voltage shall be graduated in 1,25% divisions.

5.9 PF Indicators:

5.9.1 Power factor indicators shall be of the type specified in the Project Technical Specification.

5.10 Consumption Meters:

5.10.1 KWh meters shall be of the type specified in the Project Technical Specification.

5.10.2 Full details of programme facilities and operating instructions shall be supplied with these meters.

5.10.3 Allowance must be made in the tender price for Metval testing and the programming of the bulk meters.

5.11 Supply Monitors / Power Analysers

5.11.1 Power analyser module shall display the voltage and currents of all three phases as well as the record the peak, i.e. maximum values of same. The instantaneous power consumed, power factor and total harmonic distortion (THD) of all three phases shall also be accesses via a scrollable menu interface.

5.12 Medium Voltage Metering Units:

5.12.1 Shall comprise of a free standing panel mounted on a concrete plinth.

5.12.2 When used in conjunction with extensible switchgear, metering unit shall form an integral part of the switchboard. In such cases it shall be specifically designed to match the associated switchgear and to be connected to the busbars of the extensible switches from which the complete switchboard is assembled.

5.12.3 When mounted adjacent to non-extensible switchgear or within an extensible switchboard it shall share a common plinth with switchgear.

5.12.4 Voltage transformer, current transformers, and consumption metering equipment shall comply with the relevant requirements detailed elsewhere in this part and in the Project Technical Specification.

5.12.5 Operating voltages, CT and VT ratios, and metering requirements are detailed in the Project Technical Specification.

5.12.6 Voltage transformer shall not be affected by single phasing on the medium voltage side.

5.12.7 Cable boxes shall be suitable for the cable sizes and types specified in the particular specification or on the drawings.

5.12.8 Exposed metal work shall be hot dip galvanized or zinc metal sprayed and painted to match adjacent or associated MV switchgear. Where such switchgear is remote from the metering unit, the unit shall be painted as specified in Project Technical Specification.

5.12.9 Exposed bolts, nuts and hinges shall be galvanized or fabricated from a suitable grade of stainless steel designed to resist corrosion or discolouration in service.

6.0 CONTROL EQUIPMENT AND WIRING

SANS 767	Earth leakage protection units
SANS 1091	National colour standard
BS EN 60947	Specification for motor starters for voltages up to and including 1000 V A.C. and 1200 V D.C. Direct-on-line (full voltage) A.C. starters

CMB Standards*:*

6.1 Time Switches***:***

6.1.1 Time switches shall be mounted in an accessible position for ease of adjustment.

6.1.2 Shall be provided with re-chargeable batteries to provide up to 48 hours of operation should a power failure occur.

6.1.3 Shall be fully programmable as specified in the Project Technical Specification.

6.1.4 Shortest switching interval shall be 1,0 minute for motor control and 30 minutes for general purposes.

6.1.5 Units shall include a manual override facility and be suitable for wall or DIN-rail mounting.

6.1.6 Protection shall be at least to IP42 and the units shall operate satisfactorily in the temperature range - 5℃ to + 55℃.

6.2 Low Voltage Transformers:

6.2.1 Bell and other low voltage transformers shall be of the double wound type.

6.2.2 Shall have an adequate capacity for the duty required but not less than 50VA on short-time rating.

6.2.3 Transformers shall have one end or the centre point of the low voltage winding earthed.

6.3 Contactors:

6.3.1 Contactors shall, unless otherwise specified, comply with the standards for current making and breaking Category AC1 for non-inductive loads and Category AC3 for inductive loads.

6.4 Earth Leakage Protection Units:

6.4.1 Earth leakage protection units shall have a sensitivity of 30mA, unless stated to the contrary elsewhere in this Specification, or on the drawings.

6.4.2 Unit shall actuate a shunt trip isolator or MCB as specified.

6.4.3 Units shall carry the SABS Mark.

6.5 Motor Starters:

6.5.1 All Starters are to be of the same make.

6.5.2 Star-Delta starters are to be provided with both electrical and mechanical interlocks.

6.5.3 Starters are to be protected by moulded case circuit breakers as specified in Sub-Clause "Moulded Case Circuit Breakers" elsewhere in this Part.

6.5.4 Starters are to be so selected that they are not subjected to a higher fault current than that for which they are designed.

6.5.5 MCB's and isolators are to be lockable in "OFF" position where motors are situated remote from control panel.

6.5.6 Starters for all motors shall comprise magnetically operated contactors, shall be of robust design, and operate without undue noise and vibration.

6.5.7 Unless otherwise stated, they shall be of continuous rating, current making and breaking Category AC3.

6.5.8 Contactors shall be of the hold-in type capable of operating satisfactorily without overheating for a period of 10 minutes if the supply voltage falls to two thirds nominal.

6.5.9 Contactors shall not chatter when opened at two thirds voltage, or at a frequency 10% below nominal.

6.5.10 Low voltage release is to be inherent in the operating coil.

6.5.11 Starters are to be equipped with a voltage free auxiliary change-over contact to provide a "RUN" signal during operating.

6.5.12 No motor control gear shall have a continuous rating of less than 10A at Category of duty AC3.

6.5.13 Contactors shall be capable of making and breaking the starting current of the motor and of carrying this current without damage for a period of one minute.

6.5.14 Contactors shall also be capable of withstanding, without damage, the passage of the maximum fault MVA of the circuit until such time as the fault can be cleared by the operation of the back-up protection.

6.5.15 Where anti-condensation heaters are fitted, these must be disconnected by the starter main switch.

6.5.16 Overloads of the thermal type shall be matched to the motor ratings and are to be manually reset.

6.5.17 Overloads are to be so set that the motor will trip within 30 seconds of a single phase condition arising when the motor is hot and operating at 80% of full load current. If the starter is not capable of this, then single phase protection devices are to be fitted for all motors of 10kW and over.

6.5.18 All overload devices must be fitted with a voltage free auxiliary changeover contact to provide a "tripped" signal. If this facility is not available on the overload offered, an interposing relay is to be provided to perform the same function. Such a relay must be energised upon an overload trip occurring.

6.5.19 The following shall be included as standard features :

Overload protection; Phase imbalance and single phase protection; Locked rotor and excessive re-starts protection; Thermal memory; Auxiliary supply dip-proofing; Fail-safe operation on main trip relay; Analogue or LED indication of percentage motor load and thermal memory.

6.5.20 Optional features which may be specified elsewhere in this Specification are:

Earth fault protection; Short circuit protection, etc.

6.5.21 In the case of dual-speed motors, protection shall be provided by a dual-operation relay separately configured to provide full protection at each speed.

6.6 Pilot Lights:

6.6.1 Pilot lights are to be either cluster LED, neon, transformer or resistor reduced wattage type.

6.6.2 Lights shall be easily seen when operating in normal daylight.

6.6.3 Where pilot lights are connected to remote equipment by multi-core control cables neon lamps shall not be used because of the inductive effect of the control cores.

6.6.4 100% spare lamps are to be provided for all pilot lights.

6.6.5 Lamp test facilities via a lamp test push button wired to all indicator lights must be provided.

6.6.6 Pilot lights are to be of the colours indicated below, unless elsewhere specified.

Power on -	Amber
Fault -	Red
Run -	Green

6.6.7 Pilot lights indicating "STARTER CLOSED" and "OVERLOAD TRIP" shall be fitted to all motor circuits.

6.7 Hour Meters:

6.7.1 Hour meters shall be of the digital type reading up to 99999 hours, unless otherwise specified.

6.7.2 Meters shall be suitable for 230V, 50Hz. AC operation.

6.8 Duty Selector Switches:

6.8.1 Control of all items of equipment which can act as standby to each other must include a duty selector switch to enable the lead duty to be selected as well as second and third preference, i.e. 1,2,3; 2,3,1; 3,1,2 for a three motor system.

6.9 Hand/Off/Auto Switches:

6.9.1 The hand/off/auto switch shall be fitted to each starter subject to automatic control.

6.9.2 The hand control circuit, which shall comprise stop-start push button, shall be fed from a fuse other than that for the automatic control system.

6.10 Phase Failure Relays:

6.10.1 Phase failure relays are to provide reverse phase rotation protection.

6.10.2 The relay is to be so arranged with a timer that it will only initiate a trip upon a single phase condition occurring and not upon restoration of power.

6.10.3 Provision is to be made to ensure that a trip occurs irrespective of which phase is lost.

6.11 Relays:

6.11.1 Type of relay specified elsewhere in the Project Technical Specification.

6.11.2 Each relay is to be numbered and this number must appear on both relay and adjacent to its respective base in the case of the plug-in type.

6.11.3 Adjustable timing relays must be labelled with their function.

6.12 Photo-electric Controls:

6.12.1 Photo-electric switches shall be of the type comprising a photo-sensitive resistor, thermal actuator with an inherent operating delay to make it insensitive to short duration changes in light levels and a change-over switch mechanism, all housed within a tough, translucent, weather and ultra-violet resistant cover.

6.12.2 Operating level shall be factory preset to switch on at approximately 50 lux and off at approximately 100 lux.

6.12.3 Response time after sudden changes in light level shall be not less than 15 seconds.

6.12.4 Integral protection against voltage surges shall be provided.

6.13 Main and Control Circuits:

6.13.1 Control equipment shall be mounted in a separate hinged panel fitted with square key latches to permit ease of access to terminals, etc., at the rear of the panel.

6.13.2 Where busbars are located directly behind such panels, a separate removable insulated panel shall screen them.

6.13.3 Wiring shall be carried out using suitably rated, colour coded insulated wire.

6.13.4 Main terminals are to be connected in strict phase rotation.

6.13.5 Wires shall not be joined between terminal points and no terminal shall have more than two wires connected to it unless they are lugged connections.

6.13.6 Spare terminals are to be provided to accommodate all spare control cable cores.

6.13.7 Terminals for wires smaller than 16mm² shall have pressure plates.

6.13.8 Terminals for the connection of external control wiring shall be of the "disconnect" type.

6.13.9 Terminations shall be fitted with numbered ferrules, the numbers corresponding to those on the appropriate wiring diagrams to be prepared by the board Manufacturer. All terminal strips are to be similarly numbered.

6.13.10 Generally, wiring shall be enclosed in strategically placed plastic wireways. Small numbers of wires to remote positions may be neatly strapped, using plastic buckle clips or hard plastic "loom formers". Where wiring is run to equipment mounted on hinged doors, wiring shall be carried in a plastic "loom former" which is so installed that the wiring is not strained with the door fully open.

6.13.11 Colour of all panel wiring shall comply with the following:-

Colour of Wire	Circuit Particulars
Red, White and Blue	Phase connections in current and voltage transformer circuits and in all three phase circuits.
Green/Yellow bi-colour	Insulated earth wires.
Black	Neutral connections.
Grey	Control connections.
White	Connections in DC alarm circuits.

All control circuits shall have 5A HRC fuse protection.

6.14 Labelling:

6.14.1 Control equipment both within the panel as well as all projecting items, are to be labelled in accordance with Clause "Labels and Notices" elsewhere in this Part.

6.14.2 Any device which can be unplugged is to be labelled at the base and on the device.

7.0 TRENCHING, EXCAVATION AND COMPACTION

CMB Standards:

7.1 General:

7.1.1 Contractor to allow for all excavation and backfilling of cable trenches and holes for planting of poles, unless specified otherwise in Project Technical Specification.

7.1.2 Contractor shall be responsible for ensuring that any trenches opened by him, or for him, do not constitute a hazard to the public.

7.1.3 Barriers and warning lights at night, or any other protection of trenches or excavations, to be provided as required by Engineer or any Statutory or Local Authority.

7.1.4 Contractor shall be responsible for leaving all areas affected by cable trenches, holes in the ground, and any other work done by him or on his behalf, in a clean and tidy state, and for making good all tarmacadam, concrete, paved or grassed surfaces.

7.1.5 Contractor's responsibility to make good any subsidence that may occur within six months of back-filling trenches, and, in case of tarred surfaces, to remove and re-tar with new material.

7.2 Routing:

7.2.1 Routes for underground cables are shown on the drawings.

7.2.2 Variation of these routes shall be approved by Engineer or Clerk of Works before trenching is done.

7.2.3 Contractor's responsibility to ensure that the routes of the cables are correct.

7.3 Pegs:

7.3.1 Contractor will be responsible for the replacement of any pegs disturbed or removed by him.

7.4 Trenching and Excavation by Others:

7.4.1 Contractor to co-operate closely with the Trenching Contractor at all times and is required to be in attendance during backfilling of all trenches, etc., to ensure that cables are not damaged in any way and that poles are correctly aligned.

7.5 Type of Material:

7.5.1 Unless otherwise specified elsewhere in this Specification or Bill of Quantities, Tenderers shall allow for excavating cable trenches and holes in earth. In addition, unit rates shall be provided for excavating in soft rock and hard rock.

7.5.2 Following definitions shall apply to the three categories: Where the conditions experienced are a combination of two or more of the conditions listed below, the Contractor shall be paid on rates in proportion to the contents of earth, soft rock or hard rock experienced in the excavations.

"Earth" shall mean ground that can be removed by hand and includes loose gravel, clay, made-up ground, loose or soft shale, loose ouklip, and boulders less than 75mm in diameter.

"Hard Earth" shall mean all hard ground such as ouklip, hard shale, decomposed rock, loose boulders and large stones, etc., which require the use of pneumatic tools, mechanical rippers and / or excessive hard labour to excavate and remove economically.

"Rock" shall mean granite, quartzite, dolomite, or other rock of similar hardness, which can only be excavated and removed economically by blasting, wedging or breaking.

7.6 Verification of Excavation Claims:

7.6.1 Notwithstanding any Provisional Amounts for excavation in rock included in the Schedule of Quantities, payment will only be authorised for excavation in ground other than “earth” and “hard earth” upon submission of documentary proof of such excavation made and signed as correct at the time trenches or holes were excavated.

7.6.2 In all cases where rock has to be excavated, or where poles, etc., have to be stabilised with concrete or by other means, in loose sand or in soft or waterlogged ground or where substitution of excavated material is necessary for backfilling, that the Engineer or Clerk of Works be notified before such excavation work is back-filled.

7.6.3 Amounts and type of rock encountered shall be measured by the Contractor in the presence of the Engineer or Clerk of Works.

7.7 Precaution with regard to other Services:

7.7.1 Contractor shall exercise extreme caution in his work to avoid damage to existing underground services.

7.7.2 Certain services may be indicated on the drawings but it is not to be assumed that these are the only services, nor that their indicated position is entirely accurate. Such information is given as a guide only and does not negate the above responsibility.

7.7.3 All excavation in the vicinity of other services must be undertaken by hand.

7.8 Compaction*:*

7.8.1 Care shall be taken in compacting pole holes, trenches crossing roads and those crossing or running under or within 1,0m of paved or tarred sidewalks.

7.8.2 In trenches, the backfill shall be replaced in 150mm layers and four to six passes with a vibrating pan compactor shall be made per layer. Around poles, a jumping jack shall be used on each 150mm layer.

7.8.3 When clay is encountered, Engineer should be advised and may instruct the Contractor to remove all such excavated material and replace it with more suitable material, which shall then be compacted as above.

7.8.4 Where material is too wet for proper compaction, it should be dried out and if too dry, shall be dampened.

7.8.5 In the case of road crossings, the excavated base and sub-base material shall be mixed and replaced up to the top level of the original sub-base. New material equal in composition to the original base course shall be supplied, this material being used for the full depth of the base course layer.

7.8.6 Degree of compaction required shall be field densities of 95% in respect of poles and road crossings and 90% in respect of sidewalks.

7.8.7 All trenches crossing roads and side walks shall be approved by the Civil Engineer, who will be responsible for the roads and pavements after hand-over. Engineer will, if the compaction is in doubt, arrange to have it independently tested and should the compaction prove to be below standard, the cost of the test will be debited to the Contractor, who will be required, at his own expense, to open and re-fill the trench or pole hole to obtain the specified compaction value.

8.0 MV AND LV CABLES

SANS 97	Electric cables - Impregnated paper-insulated metal-sheathed cables for rated voltages 3,3/3,3 kV to 19/33 kV (excluding pressure assisted cables)
SANS 1339	Electric cables - Cross-linked polyethylene (XLPE) insulated cables for rated voltages 3,8/6,6 kV to 19/33 kV
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V)

SANS 10198	The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 1
SANS 60227	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V
SANS 60502	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)
NRS 011	Pilot Cables
NRS 013	Medium -Voltage Cables
NRS 074	Low-voltage (600/1000 V) cable systems for underground electrical distribution
NRS 077	XPLE -insulated cables and accessories for system with nominal voltages of 44 kV, 66 kV, 88 kV and 132 kV
NRS 078	Long-span all-dielectric self-supporting fibre optic cable

CMB Standards:

8.1 General:

8.1.1 Type and insulation requirements for paper insulated, or cross-linked polyethylene MV cables specified elsewhere in Project Technical Specification.

8.1.2 PVC insulated cables for LV shall consist of PVC insulated conductors, PVC bedding, galvanised steel wire armouring and PVC sheath. The abbreviation for this type of cable is PVCAS.

8.1.3 Type and insulation requirements for service connection cables specified elsewhere in the Project Technical Specification.

8.1.4 All cables are to be installed in compliance with Manufacturer's recommendations.

8.1.5 Sizes and conductor material, i.e. copper or aluminium, are specified elsewhere in Project Technical Specification and drawings.

8.2 Cable Lengths:

8.2.1 All scheduled cable lengths are for tendering purposes only and Contractor shall measure actual lengths required before ordering.

8.2.2 Length of all cables will be re-measured after installation and lengths indicated in bill will be adjusted accordingly.

8.2.3 Contractor will be paid for actual lengths measured on site and any allowance for snaking, joints or ends must be incorporated in unit price.

8.3 Handling of Cables:

8.3.1 No cable shall be bent to a radius less than 12 times overall diameter of cable.

8.3.2 Bending or straightening shall be done slowly.

8.3.3 Engineer shall be notified immediately should there be any suspicion of moisture having entered a cable.

8.4 Cables fixed to Surface:

8.4.1 Where cables enter flush boards from cable sleeves, sleeve shall turn up to floor level and a duct shall be formed in wall to accommodate cable.

8.4.2 Care shall be taken to ensure that bending tolerance of cable is not exceeded in drawing cable into sleeve.

8.4.3 Edges of duct are to be lined with timber battens to which a bevel edged metal cover is to be screwed, using countersunk headed screws and cup washers.

8.4.4 Wherever cable saddles or any other items are to be fixed to structural components, use of dry plugs of wood will not be permitted. 'Rawl plugs' or other plugs to approval only shall be used.

8.4.5 Surface mounted cable protection pipes shall be galvanised and shall be fixed with saddles of 32mm x 3mm galvanised strap bolted to wall using bolts grouted in, 'Rawlbolts' or similar.

8.4.6 All cables rising on outside of buildings or on poles shall be protected by such pipes to a height of 3,0m above ground level.

8.4.7 Where a cable is installed fixed to a pole, it shall be attached to pole using stainless steel "Bandit" strap or equal.

8.4.8 Care shall be taken to ensure that straps are tightened correctly and that they do not distort or indent cable sheath.

8.5 Cables in Sleeves:

8.5.1 Cables shall pass in and out of buildings and under roadways and pavements in sleeves.

8.5.2 In addition, where cables cross or run along a boundary between two plots, these cables shall, where called for, be installed in sleeves.

8.5.3 All sleeves shall be installed in accordance with Clause "Sleeves" elsewhere in this Part.

8.6 Cables laid in Trenches:

8.6.1 Cables shall be laid at a depth as specified elsewhere in Project Technical Specification and drawings. Should no dimensions be indicated, installations shall comply with applicable standard.

8.6.2 Where two MV cables are run in same trench, they shall be laid a minimum of 300mm apart with separate cable slabs over each cable.

8.6.3 Where MV and LV cables are laid in same trench, MV cable shall be located on road side and LV cables on plot side of trench.

8.6.4 A horizontal distance of not less than 400mm shall be maintained between cables of different voltage groups.

8.6.5 Where a number of LV cables are run in same trench, they shall be laid with a minimum separation of 100mm. This applies to feeder cables only and not streetlighting and service cables which shall be only 25mm apart. Cables shall not cross each other.

8.6.6 Where cables run across erven parallel to lateral boundaries, they shall be located 1,0m from the boundary at a depth of 1,0m. If so specified they shall be run in sleeves, otherwise both MV and LV cables shall be protected by cable slabs and a PVC sheet marker laid 300mm above them.

8.6.7 Trench bottom shall be cleared of all sharp or protruding stones. Trench is then to be refilled with 150mm of soft material and compacted. A further layer of soft material shall be installed after cables are laid to provide 200mm cover for cable when compacted. Protective cable slabs a minimum of 50mm thick x 230mm wide shall then be laid in case of MV cables, as specified in Project Technical Specification, and PVC sheet cable marker strip 300mm wide with indelibly printed warnings every 150mm along its length, in case of LV cables. In cases where MV and LV cables run in same trench, 100mm of soft bedding for LV cables shall be situated above protective cable slabs. Where LV service cables or streetlighting cables only are installed, a clean trench bottom and soft material back-fill only is required,

8.6.8 Soft material described above may be either sand or backfill material sifted through a 3,0mm mesh grid.

8.6.9 Balance of trench is to be back-filled with excavated material from which all stones, etc. greater than 100mm in size have been extracted. All such material is to be removed from site.

8.6.10 Cable route markers shall be provided for all MV and main LV feeder cables at road, culvert and Telkom cable crossings, at all changes of direction, at joints and at intervals not exceeding 60 metres along the straight.

8.6.11 Cable route markers shall comprise concrete blocks in shape of truncated pyramids 300mm high, 150mm x 150mm at top and 225mm x 225mm at base. An aluminium plate 3,0mm thick minimum, with four rods 75mm minimum, welded to it on underside, shall be cast into top of concrete block, and plate shall have stamped on it cable data and direction arrows, and at a crossing, crossing shall be indicated.

8.6.12 Cable route markers shall be placed over cable, in trench way, and shall protrude 25mm above finished ground level but not where they are likely to cause an obstruction or be in way of moving traffic. Joint markers shall indicate as such. Contractor shall ensure that ground under and around cable marker is properly compacted.

8.7 Laying of Cables with other Services:

8.7.1 Where cables are laid in trenches containing water and other pipes, etc., electrical cables shall be laid along one edge of trench with other services occupying the other edge.

8.7.2 Cables shall be laid not less than 600mm from such service unless otherwise approved by the Engineer.

8.7.3 At road and services crossings, sleeves as described elsewhere herein shall be provided, one for each MV cable and a separate sleeve for other cables, unless otherwise indicated on drawings.

8.7.4 At Telkom cable crossings, power cables shall cross 300mm below and at right angles to all such cables or sleeves for future cables. Power cables shall be enclosed in uPVC sleeves with cable slabs over, both of which shall extend 1,0m either side of the crossing. No power cable running parallel with a Telkom cable shall be laid within a distance of 1,0m measured horizontally from the Telkom cable. Wherever existing buried Telkom cables are encountered, strict precautions and care shall be taken and close supervision given. Any damage to, or disturbance of Telkom cables whatsoever shall be immediately reported and confirmed in writing to the Engineer.

8.8 Labeling of Cables:

8.8.1 All cables shall be clearly labelled with an everlasting type of label.

8.8.2 Label shall state cable size and number of cores.

8.8.3 All main feeder cables shall be labelled to state from whence they are supplied.

8.8.4 Labels shall be so installed that they are easily readable.

9.0 MV AND LV CABLE JOINTS AND TERMINATIONS

SANS 808	Cable glands for use on flameproof enclosures (Ex d)
SANS 10198-9	The selection, handling and installation of electric power cables of rating not exceeding 33 kV.
SANS 1213	Mechanical cable glands
SANS 1803	Lugs and ferrules for insulated electric cables
NRS 053	Accessories for medium-voltage power cables (3,8/6,6 kV to 19/33 kV)

CMB Standards:

9.1 General:

9.1.1 Cable jointing and termination shall be carried out by a qualified cable jointer using only approved standard methods for particular type of cable. Proof of his training may be required.

9.1.2 Joints in all cables shall only be made at full drum length intervals, but where necessary and when approved by Engineer cable through joints may be used in other approved positions.

9.1.3 Where a cable has steel wire armouring all strands of armouring shall be through jointed.

9.2 Connections***:***

9.2.1 Cable connections shall be made by means of crimped or sweated lugs, firmly bolted, one plain and one lock washer being placed under nut, so that plain washer is against lug and there shall be no washer between lug and terminal. A plain washer is also required under the bolt head. Alternatively, sweated sytems fitting into clamp connections will be acceptable.

9.2.2 Crimped lugs shall be fitted using manual tools up to 70mm² and hydraulic tools from this size upwards. Approved tools are to be used in both cases. An hydraulic tool is to be used on all sizes of aluminium cable. Where a single point hydraulic crimping tool is used, lug shall be crimped in three places. Where a hexagonal die is used, this shall extend full length of lug.

9.2.3 Where aluminium cored cables are to be connected to circuit breakers, aluminium cable lug shall be bolted to a copper tag or tail, which is to be connected to circuit breaker. Ensure that sufficient Densal paste is installed on faces of lugs.

9.2.4 Where an aluminium cable is to connect to copper, lug shall be a bi-metal type lug with a copper spade and an aluminium ferrule friction welded to the spade.

9.2.5 Cable connections shall be made using brass bolts, nuts and washers, together with a star lock washer, on all kiosks, fused feeder panels and minisubs and with cadmium plated steel bolts and nuts on all indoor equipment.

9.2.6 All bolted joints shall be taped with self-vulcanising (not adhesive) tape, unless otherwise specified elsewhere in Specification.

9.2.7 Where cable connections are required to the MV and LV terminals of transformers, these shall be made off as follows:-

9.2.8 Red Phase to Terminal A

9.2.9 White Phase to Terminal B

9.2.10 Blue Phase to Terminal C

9.2.11 All transformer connections shall be kept in strict phase rotation and where two or more units are to operate in parallel, respective connections are to be checked for phase rotation and polarity. In case of cable terminations to transformer bushings cable itself shall be clamped substantially to a post adjacent to transformer, connections to bushings being puttied and taped.

9.2.12 All connections are to be colour coded.

9.3 MV Cable Terminations:

9.3.1 PILCA Cables:

9.3.1.1 PILCA cable terminations are to be made in full compliance with recommendations of Supplier of termination system.

9.3.1.2 Where a PILCA cable is terminated onto an item of equipment with a cable box as in case of switchgear, whether indoor or outdoor, an outdoor type taped termination shall be used, unless otherwise specified in the Project Technical Specification.

9.3.1.3 Cable box must be effectively sealed against moisture but shall not be compound filled.

9.3.1.4 Standard compression type gland shall be used where cable enters cable box. Gland plate shall be effectively earthed to equipment earth bar.

9.3.1.5 For through joints a seamless non-porous type of straight through plumbed joint with cast iron protection box fitted with armour tape clamps and finally filled with compound or, heat shrink through-joint, shall be provided as specified in Project Technical Specification.

9.3.2 XLPE Cables**:**

9.3.2.1 XLPE cable terminations are to be made in full compliance with recommendations of Supplier of termination system.

9.3.2.2 Where an XLPE cable is terminated onto an item of equipment with a cable box as in case of switchgear, whether indoor or outdoor, an outdoor type taped termination complete with silicone tape shall be used.

9.3.2.3 Cable box must be effectively sealed against moisture but shall not be compound filled.

9.3.2.4 Standard compression type gland shall be used where cable enters cable box. Gland plate shall be effectively earthed to equipment earth bar.

9.3.2.5 Through joints in XLPE cables shall be provided with steel protective sleeves covering the joint.

9.3.3 Outdoor Terminations:

9.3.3.1 Outdoor cable ends to transformer or similar bushings, overhead line equipment or cable ends within minisubs shall be made with heat-shrinkable high voltage termination systems suitable for 5 - 69kV.

9.3.3.2 At all outdoor terminations a minimum of 3,0m of cable slack shall be provided adjacent to termination point.

9.3.3.3 Where a cold tail is joined to cable tail, this shall be done by means of a barrier ferrule. heat-shrink shall cover barrier ferrule.

9.3.3.4 Where cable tail itself is connected to lug or stud of an item of equipment, a sealed-end lug shall be crimped onto tail and lug connected to equipment. Heat-shrink shall cover all but spade of lug to prevent ingress of moisture.

9.3.3.5 Where a cable tail connects onto an overhead line, a solid centre sleeve shall be crimped onto cable tail and sleeve clamped to line. Heat-shrink is to overlap the sleeve to prevent the ingress of moisture.

9.3.4 LV Cable Terminations:

9.3.4.1 PVCAS cables shall be made off using adjustable mechanical glands.

9.3.4.2 Care shall be taken to ensure that armour wires are correctly seated in gland and that all parts are properly tightened.

9.3.4.3 Outdoors, in damp situations and in all minisubs and kiosks, neoprene waterproofing shrouds are to be fitted over all glands.

9.3.4.4 Wherever PVCAS cables are terminated to overhead lines a suitable moulded heat shrinkable glove to effect a watertight seal at crotch shall be used, in accordance with Manufacturer's instructions. Alternatively, a PVC cable cap may be used.

9.3.5 Service Cable Ends:

9.3.5.1 Service cable ends are to be located in positions indicated on drawings.

9.3.5.2 In general case, ends are to be located 1,0m from each of the front and lateral boundaries. Where they cross road in sleeves they are to be located 1,0m into erf directly opposite the sleeve.

9.3.5.3 No service cables are to be laid to erven directly behind kiosks or at pole positions.

9.3.5.4 Cables are to be left sealed with a heat shrink cap at a depth of 500mm, unless specified elsewhere in the Specification and drawings.

9.3.5.5 Before sealing, each cable is to be checked by Contractor, in Engineer's presence if he so decides, to ensure that it is correctly located and labelled at respective kiosk or pole.

9.3.5.6 After checking and sealing and while end of connection is still exposed, marker posts shall be installed at end of connection and vertically above it as detailed on drawings.

10.0 MV AND LV CABLE TESTING

SANS 97 Electric cables - Impregnated paper-insulated metal-sheathed cables for rated voltages 3,3/3,3 kV to 19/33 kV (excluding pressure assisted cables)

SANS 10198-13 The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 13: Testing, commissioning and fault location.

CMB Standards*:*

10.1 On completed sections of laid, jointed and terminated MV cables, a high voltage DC test of 15 minutes duration shall be carried out by persons qualified to make such tests.

10.2 Contractors must note that where such tests will include sections of cable which have already been in service, test voltages and duration are to be reduced in accordance with Engineer's instructions.

10.3 After cables have been laid, jointed and terminated, they may, if required, be subjected to appropriate test voltage as follows:

CABLES FOR EARTHED SYSTEMS							
TYPE	PVCAS[1]	BELTED		SCREENED		XLPE[2]	
Rated Voltage	600/1000	11000	22000	11000	22000	11000	22000
Between conductors - DC	3kV	31kV	60kV	-		18kV	36kV
Conductor to screen - DC	-	-	-	19kV	36kV	18kV	36kV
Conductor to earth - DC	3kV	19kV	35kV	19kV	36kV	18kV	36kV

[1] Test only when specifically called for

[2] Obtain instructions from the Engineer before testing.

11.0 MV AND LV OVERHEAD POWER LINES

SANS 182 Conductors for overhead electrical transmission lines

SANS 470 Concrete poles for telephone, power and lighting purposes

SANS 616 High-temperature wood-preserving creosote

SANS 673 Mixtures of copper-chromium-arsenic compounds for timber preservation

SANS 753 Pine poles, cross-arms and spacers for power distribution, telephone systems and street lighting

SANS 935 Hot-dip (galvanized) zinc coatings on steel wire

SANS 10280 Overhead power lines for conditions prevailing in South Africa

SANS 60282-1/IEC 60282-1 High-voltage fuses Part 1: Current-limiting fuses

SANS 60305/IEC 60305 Insulators for overhead lines with a nominal

	voltage above 1 000 V - Ceramic or glass insulator units for A.C. systems - Characteristics of insulator units of the cap and pin type
SANS 60372/IEC 60372	Locking devices for ball and socket couplings of string insulator units - Dimensions and tests
SANS 60383-1/IEC 60383-1	Insulators for overhead lines with a nominal voltage above 1 000 V Part 1: Ceramic or glass insulator units for A.C. systems - Definitions, test methods and acceptance criteria
SANS 61089/IEC 61089	Round wire concentric lay overhead electrical stranded conductors
SANS 61109/IEC 61109	Composite insulators for A.C.. overhead lines with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria
SANS 61211/IEC 61211	Insulators of ceramic material or glass for overhead lines with a nominal voltage greater than 1 000 V - Impulse puncture testing in air
SANS 61284/IEC 61284	Overhead lines - Requirements and tests for fittings
SANS 61467/IEC 61467:1997	Insulators for overhead lines with a nominal voltage above 1 000 V - AC power arc tests on insulator sets
SANS 61643-1/IEC 61643-1	Low-voltage surge protective devices Part 1: Surge protective devices connected to low-voltage power distribution systems - Requirements and tests
SANS 61952/IEC 61952	Insulators for overhead lines - Composite line post insulators for alternative current with a nominal voltage > 1 000 V
NRS 022	Electricity distribution - stays and associated components
NRS 028	Cable lugs and ferrules - for copper and aluminium conductors
NRS 031	Alternating current disconnectors and earthing switches (up to 145 kV)
NRS 035	Outdoor distribution cut-outs
NRS 038	Concrete poles
NRS 039	Surge arresters for use in distribution systems
NRS 043	Code of practice for the joint use of structures for power and telecommunication lines
NRS 044	Working procedures and standards in respect of the installation of new electrical works and telecommunication facilities, or the extension or modification of such existing works and facilities
NRS 060	Code of practice for clearances for electrical systems with rated voltages up to and including 145 kV, for the safety of persons
NRS 066	Medium voltage insulators
NRS 073	Wood poles, cross-arms and spacer blocks
NRS 075	Mechanical torque shear connectors

CMB Standards*:*

11.1 General:

11.1.1 Overhead power lines shall be erected to ensure their compliance with requirements of Occupational Health and Safety Act, especially so far as clearances and factors of safety

are concerned, as well as with requirements of Telkom's Regulations governing crossing, parallel running, etc. with Telkom lines and any other relevant Acts.

11.2 Surveying and Pegging:

11.2.1 Routes of overhead power lines are shown on drawings.

11.2.2 Contractor will be responsible for ensuring that route is accurately followed and that best locations are selected for poles, taking into account topographical conditions, road crossings, telephone crossings, buildings, gates, etc.

11.2.3 Contractor may not enter private property without owner's written consent.

11.3 Bush Clearance:

11.3.1 Bush clearing includes removal of all trees and bush within 5,0m of centreline of line and for lopping of branches encroaching within this area. Extend of bush clearing will be itemised in Bill of Quantities.

11.3.2 Under no circumstances are protected indigenous trees to be removed or lopped without written permission of Engineer.

11.3.3 All material is to be removed from Site although Contractor shall not be deemed to have ownership of any such material.

11.4 Supports:

11.4.1 Wood poles shall be used unless otherwise specified; various constructional arrangements being indicated on drawings.

11.4.2 All poles, crossarms, props and structures made from wood poles shall be Pinus-Radiata. No bent, bowed or split poles will be accepted. All rejected poles shall be removed and replaced at Supplier's / Contractor’s expense.

11.4.3 All poles shall be preserved with creosote and all crossarms with a mixture of creosote and waxy oil or, if so specified, with a copper-chromium-arsenic mixture otherwise referred to as 'Tanolith'.

11.4.4 All poles shall carry SABS mark.

11.4.5 Lengths, top diameter, etc., of poles required are given in Project Technical Specification.

11.4.6 Extreme care shall be taken to ensure that correct size of pole is used at strain and intermediate positions.

11.4.7 All wood poles and crossarms are to be banded by nailing and stapling.

11.4.8 Poles up to 10m shall be planted 1,5m in ground, longer poles 1,8m in ground, unless detailed elsewhere in Project Technical Specification.

11.4.9 Care shall be taken to ensure poles are planted plumb and in line and are properly compacted in accordance with the Clause "Trenching, Excavation and Compaction" elsewhere in this Part.

11.4.10 All drilling of wood poles and wood structures shall be done prior to erection and all drilled holes, cut surfaces, and pole tops, etc., shall be coated with a creosote/tar mixture.

11.4.11 "Shell" of treated poles shall not be damaged by cutting, shaving or drilling unnecessary holes.

11.5 Pole Holes:

11.5.1 It is preferred that pole holes be auger drilled.

11.5.2 Where pole holes are hand-excavated, material is to be set aside in layers to ensure that during back-filling material is replaced in its original strata.

11.6 Wood Crossarms:

11.6.1 Shall be of suitable lengths and diameter as detailed in Project Technical Specification.

11.7 Steel Crossarms

11.7.1 Shall be hot dipped galvanised rolled steel channel section not less than 100mm x 50mm x 6mm unless otherwise specified and of suitable length for the particular purpose.

11.8 Insulators:

11.8.1 Type and material of MV and LV insulators shall be as specified elsewhere in Project Technical Specification.

11.8.2 MV Strain insulators are clevis/tongue and shall be "in-line" for tension and "twisted" for suspension applications. A thimble clevis, aluminium for aluminium conductor and cast iron for copper conductor, shall be used.

11.8.3 All spindles mounted on wooden poles or cross-arms are to be bonded with 16mm² HD bare copper.

11.8.4 Type of construction, method of insulator support, details of brackets, spacing, etc., together with details of insulators for other duties or voltages are specified in Project Technical Specification.

11.9 Cross-arm Fixing:

11.9.1 Contact between cross-arm and pole surfaces shall be such as to ensure no possible movement of cross-arm, either longitudinal or rotational. Where necessary, suitable hot dipped galvanised braces shall stabilize cross-arms.

11.9.2 Cross-arms supporting strain insulators or cradles shall be mounted so that they pull towards pole, no tension being taken by the attachment bolts.

11.10 Pole Washers:

11.10.1 All bolts used in wood pole construction, all "D" bracket fixing bolts, "A" frame fixing bolts, crossarm bolts, etc. are to be fitted with suitable heavy duty galvanised pole washers below nut.

11.11 Conductor:

11.11.1 Full details of conductors required are given in Project Technical Specification.

11.11.2 Stringing of conductors shall be carried out in accordance with sag curves given in SAIEE "Code of Practice for Overhead Power Lines". Before making off at appropriate tension, conductors shall be over strained to 45% of their breaking strain for 20 minutes.

11.11.3 At strain points "Preformed" dead-ends shall be used.

11.11.4 Binding-in at intermediate MV insulators shall be carried out using "Preformed" twin-ties. Care shall be taken to ensure that ties are correctly sized for both insulator and conductor.

11.11.5 For binding-in of aluminium conductor, armour rods shall always be used except where armouring is automatically provided by use of the proprietary tie installed. In this case extreme care should be taken to ensure that all recommended conductor protection pads are properly in place.

11.11.6 Where slack spans are employed, care is to be taken to ensure that conductors are free of kinks, bends, etc., and that span has a neat and tidy appearance.

11.12 Mid-span Joints:

11.12.1 Approved type proprietary mid-span joints shall be used for copper to copper or for aluminium to aluminium conductors.

11.12.2 Such joints shall be made strictly in accordance with the Manufacturer's instructions.

11.12.3 Mid-span joints of dis-similar conductors will not be permitted.

11.13 Connections and Joints:

11.13.1 Connectors shall be suitable for the particular conductors, and shall comply with conductor Manufacturer's recommendations.

11.13.2 For aluminium to aluminium or copper to copper non-tension joints, these shall be parallel groove clamp, double line tap or compression sleeve joints made with an hydraulic tool.

Extreme care shall be taken to ensure that only compatible materials are used for jointing aluminium conductors. Terminating lugs shall be of cold compression type.

11.13.3 Where aluminium to copper connections are to be made, either from line to line or line to cable tail, these shall be made using sacrificial tails. These tails, which shall be of same material as line, shall be joined by means of bi-metal connectors to prevent electrolytic corrosion occurring, and installed in accordance with Manufacturer's recommendations.

11.13.4 Where copper cables not larger than 25mm² are to be connected to aluminium lines, grease tubes and aluminium line taps must be used. In all cases where joints are made between different metals, copper conductor must be below aluminium to reduce risk of electrolytic corrosion.

11.13.5 All aluminium to aluminium joints are to be coated with "Densal" paste, regardless of method of jointing, and are to be wrapped in "Denso" tape, unless detailed elsewhere in Project Technical Specification.

11.14 Fittings:

11.14.1 All fittings shall be selected to ensure that their factor of safety is in compliance with Code of Practice at maximum design tension.

11.14.2 Pigtail hooks will not be accepted.

11.14.3 All fittings such as clamps, tower hooks, spindle brackets, eye nuts, rods, nuts, washers, stay rods, turnbuckles, etc., shall be hot dip galvanised mild steel, and shall comply with any other requirements elsewhere in this Specification.

11.15 Stays:

11.15.1 Stays shall be provided as indicated on drawings, and in any other places necessary for proper stability.

11.15.2 Stay wires shall be galvanised steel of 700MPa UTS and shall be 12mm diameter 1/7/4,00mm.

11.15.3 Stays shall, in all cases, be looped twice around pole at a point mid-way between two bolts in case of an 'A' frame construction or at level of middle conductor in case of a vertical construction. Where two stays are called for, these shall be between vertical conductors, or at top and bottom bolts of an 'A' frame.

11.15.4 Stay rods shall be galvanised steel of 400/500MPa UTS of circular section, inc. turnbuckle. Shall have at least 30% take up remaining after line has been tensioned. Stay rods shall be 20mm dia and 2,5m long and base plates shall be 450mm square.

11.15.5 In case of LV ABC lines, rod shall terminate in an eye and no turnbuckle shall be used, guy grip being made off into eye with a GMS 'U' bolt at end of grip.

11.15.6 All stays shall, except in case of LV ABC lines, be fitted with stay insulators. Shall be located not less than 5,0m above ground.In case of ABC lines stay wire is to be bonded to neutral conductor.

11.15.7 Angle between stay wire and pole shall be as near to 45° as possible, but shall not be less than 35°.

11.15.8 Stay wire shall be attached to poles and stay rods using "Preformed" pole and guy grips as required.

11.15.9 Wooden, or approved uPVC, stay guards, shall be fitted to all stays readily accessible to pedestrian or vehicular traffic. Guards shall be painted in alternate yellow and black cross stripes along their complete length.

11.15.10 Flying stays shall be installed as indicated on drawings.

11.16 Props (Struts):

11.16.1 Wood props shall be provided as indicated on drawings.

11.16.2 A concrete block shall be installed at pole butt to decrease ground pressure.

11.17 Cradles and Cradle Supports*:*

11.17.1 Cradles shall be in the form of two stringer wires of 16mm² hard drawn solid copper, with cross-rungs of same wire at 600mm intervals.

11.17.2 Cradle wire stringers shall be securely fixed to each cross-arm and at shackle points. Two clamps per stringer wire shall be used for fixing.

11.17.3 Cradle supports shall be similar in construction to cross-arms or as detailed elsewhere in this Specification.

11.17.4 Earth continuity of each cradle to its earthing point must be ensured.

11.18 Bonding of Steelwork:

11.18.1 All equipment, steelwork, cross-arms, insulator supports and any other hardware on a pole is to be bonded in accordance with Clause "Earthing and Bonding" elsewhere in this Part.

11.19 Expulsion (D) Fuses:

11.19.1 Expulsion fuses, three units to a set, suitable for voltage specified, shall be provided as shown on drawings.

11.20 Links:

11.20.1 Type of links (set of three) specified in Project Technical Specification.

11.20.2 All steelwork shall be hot dip galvanised.

11.21 Lightning Arrestors:

11.21.1 Arrestors shall, be rated as follows for 11kV and 22kV operation. eak values shall apply with a 1,2/50 wave form and peak discharge voltages with 8/20 micro-second current wave of 10kA.

Nominal Voltage	kV	11	22
Rated Voltage	kV	11	24
Rated Current	kA	10	10
Minimum Flash-Over Voltage	kV rms	17.5	38
Peak Flash-Over Voltage	kV rms	44	80

11.21.2 A set shall comprise three units, complete with suitable steel cross arm mounting bracket.

11.21.3 Earthing shall be by means of a 40mm² bare copper conductor to an earth spike, as specified in the Clause "Earthing and Bonding" elsewhere in this Part.

11.21.4 Where arrestors have a connection of a metal not compatible with earth conductor, a sacrificial tail shall be used, generally as specified in Sub-Clause "MV and LV Cable Joints and Terminations" elsewhere in this Part.

12.0 **MV AND LV AERIAL BUNDLED CONDUCTOR**

SANS 1418 Aerial bundled conductor systems

SANS 1713 Electric cables - Medium-voltage aerial bundled conductors for voltages from 3,8/6,6 kV to 19/33 kV

CMB Standards*:*

12.1 General

12.1.1 Aerial bundled conductor shall be erected on wood poles whose supply and erection shall comply with Clause "MV and LV Overhead Power Lines" elsewhere in this Part.

12.1.2 Where mid-block distribution is called for construction must comply with Telkom's "Guidelines for Sharing of Structures Supporting Aerial Power Conductors and Telecommunication Lines".

12.2 Description:

12.2.1 Size of all conductors, together with details of any auxiliary (ie. streetlighting) cores or earth cores, shall be as specified in Project Technical Specification.

12.2.2 Supporting system shall be Trench type, i.e. supporting core system.

12.3 Suspension System:

Only three or four items of hardware shall be used for suspension of bundle irrespective of size of phase, neutral, streetlighting and earth cores. These items shall be:

1) Dead end or strain clamp assembly
2) Suspension clamp assembly
3) Suspension bracket
4) Eye bolts

12.3.1 Dead end or strain clamp assembly:

12.3.1.1 Shall comprise a heavy duty reinforced plastic body into which fits a glass fibre reinforced plastic or similar moulding designed to hold bundle in tension without damaging its insulation.

12.3.1.2 Clamp shall be attached to pole by means of an aluminium alloy bracket bolted to pole, a suitable pole washer being used on 16mm diameter bolt. Fixing with stainless steel strapping will not be accepted.

12.3.2 Suspension clamp assembly:

12.3.2.1 Shall comprise a support bracket of aluminium alloy with a suitable weather and wear resistant insert, the whole designed to hold the bundle rigidly into the clamp, while the clamp shall be unable to come loose from the suspension bracket.

12.3.2.2 Clamp shall be so designed that it can accommodate an angular line deviation of up to 35° when turning away from pole.

12.3.2.3 Clamp shall be attached to pole by means of an aluminium alloy bracket bolted to pole, a suitable pole washer being used on 16mm diameter bolt. Fixing with stainless steel strapping will not be accepted.

12.3.2.4 Suspension brackets shall be so designed that should line be subjected to excessive downward force due to a fallen tree etc, bracket will shear to prevent breakage of line.

12.3.3 Service conductor strain clamp assembly:

12.3.3.1 Shall generally comply with above, as appropriate, but strain clamp shall be fixed to pole by means of a threaded eye bolt, fitted complete with pole washer.

12.4 Joints and Terminations:

12.4.1 Bundled conductor jointing and termination shall be carried out by a qualified cable jointer using only standard methods approved by Manufacturer for particular type of bundle.

12.4.2 While mid-span joints will be accepted in LV conductor installations, they will not in case of MV installations.

12.4.3 All unconnected ends of line cores shall be sealed with an approved heat-shrink end cap.

12.4.4 MV connections shall be made using an approved heat-shrink termination for cable, as specified in Clause "MV and LV cable Joints and Terminations" elsewhere in this Part, and a termination system approved by the MV bundle Manufacturer for the line conductors.

12.5 Tap-off Connections:

12.5.1 Only tap-off connectors approved by bundle Manufacturer shall be used for connecting to bundled conductor.

12.5.2 Connectors (irrespective of conductor size) shall be of watertight, piercing type, to permit connection to a live cable without stripping of any insulation.

12.5.3 Contact faces of connectors shall have a sealant having a very high resistance to tracking, shall be watertight and have a minimum dielectric strength of 6kV.

12.5.4 Connectors shall have a main body manufactured of glass fibre reinforced plastic or similar material.

12.5.5 Contact faces of clamps shall have inserted copper alloy contact plates with teeth, which shall penetrate conductor insulation and establish sound electrical contact when bolt(s) that hold connector together are tightened. Bolts shall be hot dip galvanised.

12.5.6 Connector shall be suitable for insulated aluminium and copper conductors and shall be designed so that electrolytic corrosion does not occur. Entire construction shall be such that no part may be dislodged or lost during storage or installation.

12.6 Installation:

12.6.1 Installation shall be carried out in accordance with Manufacturer's recommendations. , the Contractor is to ensure that his employees erecting the system are familiar with all aspects of aerial bundled conductor, and shall be suitably equipped to install it.

12.6.2 Ground clearance of bundled conductor shall comply with latest requirements of Occupational Health and Safety Act.

12.6.3 Conductor shall be bound with heavy duty cable ties either side of all suspension points, at strain points and either side of all take-off points.

12.7 Earthing:

12.7.1 Earthing of neutral and/or earth conductor is to comply with appropriate requirements of Clause "Earthing and Bonding" elsewhere in this Part.

13.0 LIGHTNING PROTECTION

SANS 10313	The protection of structures against lightning
SANS 62305/IEC 62305	Protection against lightning

14.0 PADLOCKS

CMB Standards:

14.1 All padlocks shall be provided by Contractor.

14.2 In case of extensions to existing installations, all padlocks shall match existing with same combinations.

14.3 Padlocks with stainless steel shackles shall be provided.

14.4 Padlocks shall operate with a master key in addition to individual key. Where special combinations are required these will be stated elsewhere in Project Technical Specification. Padlocks and keys shall be stamped with combination number. Three (3)

sets of keys for each combination shall be provided.Keys shall be handed to Employer's authorised Representative and a receipt obtained.

Following equipment shall be fitted with padlocks:

Combination No. 1.

Outdoor substation gates.

Transformer tap-change switches.

MV switches and isolators.

Minisub MV compartment doors.

Combination No. 2.

Minisub LV compartment doors.

Distribution kiosk doors.

Combination No. 3.

Doors of compartments containing consumer meters.

15.0 HOT DIP GALVANISING

General Hot Dip Galvanizing Standards:

SANS 32	Hot-dip (galvanized) zinc coatings (other than on continuously zinc-coated and sheet wire)
SANS 121	Hot-dip (galvanized) coatings on fabricated iron and steel articles
SANS 10094	The use of high strength friction grip bolts
SANS 14713	General principles of design and corrosion resistance

Mechanical Cleaning and Zinc Thermal Spraying Standards:

SANS 2063	Metallic and other inorganic coatings

Continuously Hot Dip Galvanized Sheeting Standards:

SANS 4998	Continues hot dip zinc coated carbon steel sheet of structural quality
SANS 3575	Continues hot dip zinc coated carbon steel sheet of commercial, lock forming and drawing qualities
SANS 9364	Continues hot dip aluminium / zinc coated steel sheet of commercial, drawing and structural qualities
SANS 14788	Continues hot dip zinc / 5% aluminium alloy coated sheets

Continuously Hot Dip Galvanized Wire Standards:

SANS 675	Zinc coated fencing wire
SANS 935	Hot dip galvanized zinc coatings on steel wire
SANS 10244	Steel wire and wire products

CMB Standards:

15.1 Before galvanising, all cutting, drilling, welding, etc., shall be complete.

15.2 Galvanised parts shall be stored under cover and in stacks such that no part is resting on another and there is sufficient ventilation to prevent condensation occurring. No galvanised parts shall be stored directly on ground but on pallets or similar protection.

16.0 **PAINTING**

SANS 1274 Coatings applied by the powder-coating process

CMB Standards:

16.1 Equipment that is delivered to site painted shall, after installation, and as near as possible to handover be inspected for damaged paintwork and be touched up, if necessary, according to manufacturer's recommendation.

16.2 Where any galvanised or zinc coated surface has been damaged or cut, this shall be touched up using an organic zinc rich epoxy primer (containing min. 90% zinc).

17.0 **LABELS AND NOTICES**

SANS 1186 Symbolic safety signs

CMB Standards:

17.1 Contractor shall arrange for labeling of all equipment, instruments, meters, relays, cables, etc.

17.2 Where identical items of equipment can be removed from their housings, e.g. circuit breaker carriages, plug-in relays etc., both fixed and withdrawable portions are to be labeled identically.

17.3 All labels shall be ivorine or other back engraved white on black labels of sizes indicated.

17.4 Labels are to be located in purpose made holders or otherwise are to be screwed or riveted into position.

17.5 "Dymo" tape or similar labels will not be accepted nor will labels which are glued in position only.

17.6 Labels on poles shall be manufactured from a material as specified in Project Technical Specification with the designated number. Labels shall be nailed to pole 3,5m above ground level, unless otherwise specified in the Project Technical Specification. Nails shall be electro-galvanised clout nails.

17.7 Prior to any equipment being labeled, Contractor shall request Engineer to provide a complete labeling schedule for all items of equipment. Under no circumstances is equipment to be labeled in accordance with tender drawings since any description thereon is for identification purposes during construction only and is unlikely to apply to the completed Works.

17.8 Following list indicates general labeling requirements but does not limit extent of labeling required, which shall encompass full extent of equipment supplied, or in case of existing equipment, any such which is affected by this Contract.

17.8.1 50mm high lettering:-

Substation and minisub designation.

Outdoor switchgear designation. Transformer designation.

Distribution kiosk and fused feeder panel designation.

17.8.2 20mm high lettering:-

Main or sub-main board designation. Control panel designation.

Indoor switchgear designation.

17.8.3 10mm high lettering:-

Individual switches on switchgear.

Cubicles.

Sub-distribution board designation.

Poles for OH lines.

17.8.4 5mm high lettering:-

Minisub feeder breakers and isolators.

Distribution kiosk feeder breakers and isolators.

General distribution switchgear.

Meters, instruments and relays.

Multiplying factors.

17.8.5 3mm high lettering:-

This size shall be used to designate conductor size and number of cores of each cable. In addition, all feeder cables shall be labelled to state from whence they are fed.

17.9 All substations, minisubs, kiosks, transformer rooms and switchrooms shall be provided with notices as required by Occupational Health and Safety Act. All doors to such locations shall be fitted with appropriate notices.

17.10 Where more than one similar item of equipment is fed from same board or control panel, item itself shall be labeled, this being fixed in a permanent position, i.e. not attached to motors, pumps, etc., but to bases or adjacent thereto. The lettering shall be 50mm high.

18.0 DISMANTLING

CMB Standards:

18.1 Where dismantling of existing parts of installation is called for, all components including wire, insulators, poles, cable, switchgear, transformers, etc., are to be removed and handed to appropriate Authority.

18.2 Under no circumstances is any material or equipment to be taken over by Contractor.

18.3 In case of reclamation of conductor, this is to be done after removing binding wires on intermediate insulators so that full strain lengths are recovered.

18.4 All such material is to be neatly coiled, packed, etc., as appropriate.

18.5 Extreme care is to be taken in dismantling all such equipment, since it will be re-used by Employer.

18.6 If, in opinion of Engineer, unnecessary damage is done, cost of replacing such equipment will be debited to Contractor's account.

18.7 Receipt detailing all equipment and materials delivered in accordance with above must be obtained and a copy submitted to Engineer.

19.0 INSPECTION, TESTING AND COMMISSIONING

CMB Standards:

19.1 Engineer shall have access at all reasonable times to such parts of the Works or Contractor's premises or premises of Manufacturer of component parts, as may be necessary for purpose of inspecting, examining and testing materials, workmanship and performance of any plant or equipment specified for Works.

19.2 Contractor shall ensure that complete project and inspection, testing and commissioning of any equipment shall be done as per the applicable SANS or BS Specification.

19.3 Contractor shall supply all equipment necessary for testing and commissioning procedures.

19.4 Contractor shall provide duplicate test certificates relating to cable tests, current injection tests of all instruments, meters and relays and results of earth mat tests.

20.0 COMPLETION OF WORKS

CMB Standards:

20.1 Completion of works will be executed as per relevant contract conditions.

21.0 CERTIFICATE OF COMPLIANCE

CMB Standards:

21.1 Contractor to complete and submit certificate of compliance as per the relevant contract conditions.

C4 SITE INFORMATION

For this tender, a length of approx. 2,3km is envisaged to be completed. See section in red indicated on Figure 1 below. The line is located on private farmland, which also forms part of the greater Jeffreys Bay Wind Farm.

Access to the site can be gained via security gates of the Wind Farm, just off the Jeffreys Bay N2 offramp. It is further very important to also make prior arrangements with the relevant farm owners in liaison with the Municipality.

GPS co-ordinates are Latitude: -33.999092˚ and Longitude: 24.849870˚

The necessary work permits must be obtained from the Municipality. Extreme care shall be taken to ensure that all the requirements of the OHS Act are met when work is undertaken. Work will be undertaken in close proximity to live overhead lines.

The site conditions are as follows:

Altitude above sea level	±50 to 200m
Max temperature	40ºC
Min temperature	-5ºC
Max relative humidity	95%
Ambient atmosphere	Coastal climate with severely corrosive conditions

The Contractor will not have exclusive possession of the site. The municipality's authorised personnel will also have access to the site for operational and maintenance purposes.

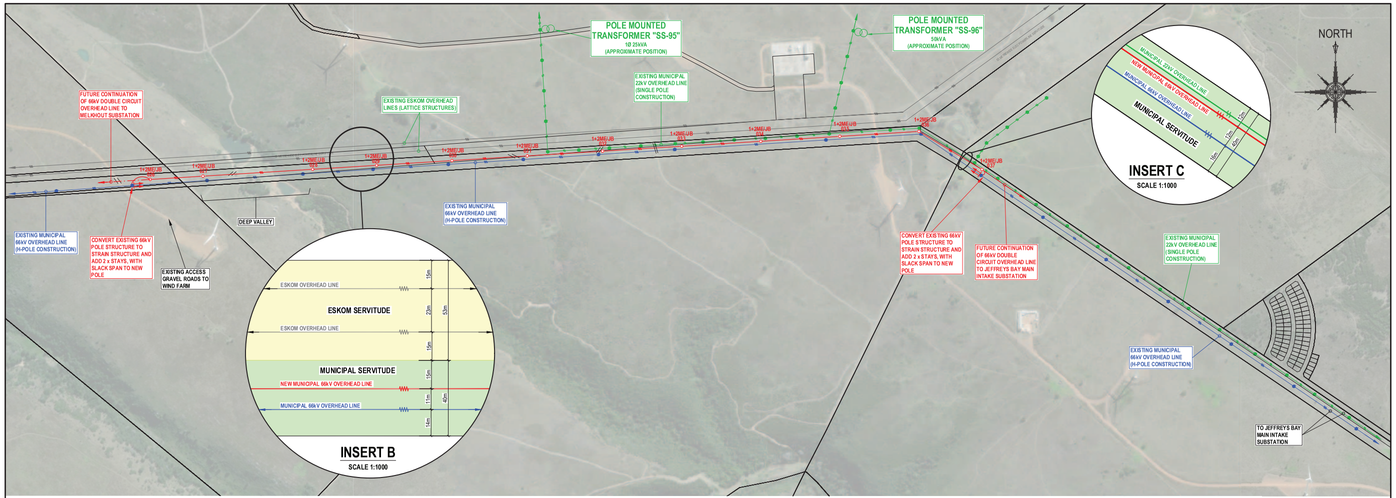
Figure 1. Route of existing 66kV overhead line.
Blue – Phases 1 to 3 previously completed.
Red – Approx. 2,3km this tender.
Green – Future

ANNEXURE A

Engineer's Drawings

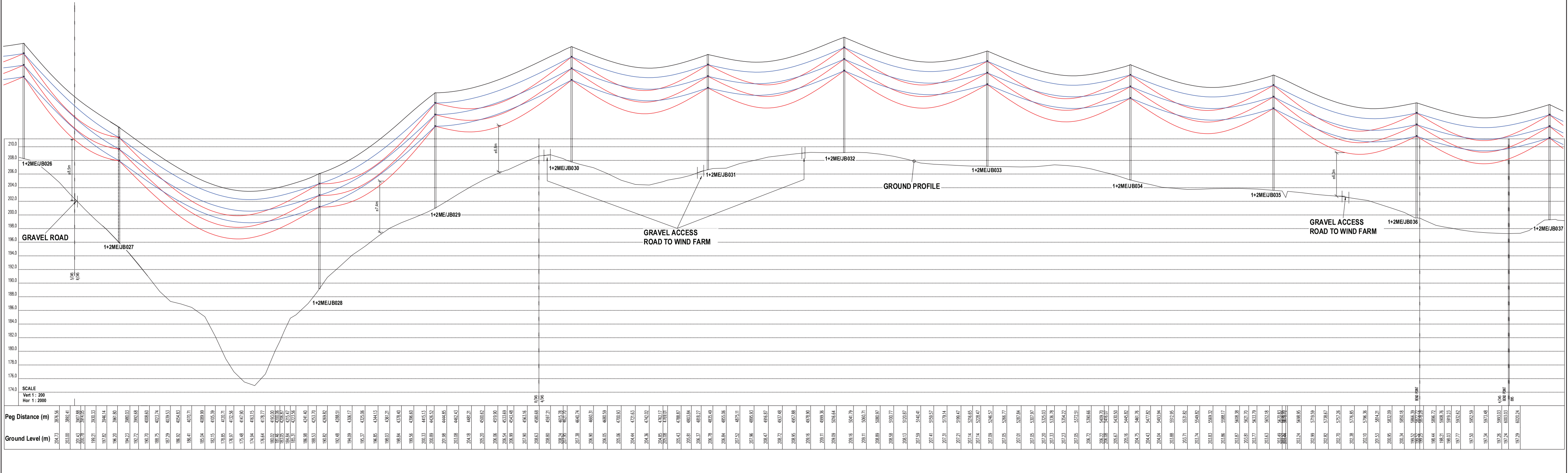
The following Electrical Engineers' Drawings are attached to this Document and are applicable to this installation:

Drawing No.	Description
10713/E/01	PLAN LAYOUT OF ROUTES OF EXISTING ESKOM AND MUNICIPAL OVERHEAD LINES AND THE PROPOSED NEW MUNICIPAL 66kV DOUBLE CIRCUIT OVERHEAD LINE AND LONGITUDE SECTION
10713/E/02	TYPICAL INTERMEDIATE MONOPOLE STRUCTURE (IM) DETAIL
10713/E/03	TYPICAL SELF-SUPPORTING STRAIN MONOPOLE STRUCTURE (SSSM) DETAIL



PLAN LAYOUT BETWEEN POLE STRUCTURES 1+2ME/JB026 AND 1+2ME/JB037

SCALE 1:5000



LEGEND

- PROFILE OF CHICADEE ACSR OVERHEAD LINE CONDUCTOR HOT CONDITION
- PROFILE OF CHICADEE ACSR OVERHEAD LINE CONDUCTOR COLD CONDITION
- PROFILE OF OPTICAL GROUND WIRE (OPGW) CONDUCTOR

LONGITUDINAL SECTION BETWEEN POLE STRUCTURES 1+2ME/JB026 AND 1+2ME/JB037

SCALE VERT 1:200
HOR 1:2000

NOTES

1. ALL POLE STRUCTURE POSITIONS AND STRUCTURE TYPES ARE GIVEN AS A GUIDE ONLY, AND SHALL BE DETERMINED IN ACCORDANCE WITH THE CONTRACTOR'S DESIGN. THE EXACT POSITIONS MUST BE APPROVED ON SITE BY THE ENGINEER.
2. BOTH CIRCUITS OF THE 66kV OVERHEAD LINE TO BE GREASED CHICADEE ACSR CONDUCTORS INSULATED FOR 66kV COASTAL CONDITIONS.
3. MINIMUM CLEARANCES FOR 66kV OVERHEAD LINE TO BE ADHERED TO AT ALL TIMES:
   A) ABOVE GROUND - 5,7 METRES
   B) ABOVE ROADS - 6,9 METRES
   C) TO COMMUNICATION LINES - 1,4 METRES
   D) TO BUILDINGS, POLES AND STRUCTURES NOT FORMING PART OF THE POWER LINE - 3,2 METRES BETWEEN LIVE METAL AND POSITION TO WHICH A PERSON IS PERMISSIBLE WITH THE EQUIPMENT LIVE - 3,2 METRES.
   E) CONDUCTORS AT 66kV: PHASE TO EARTH - 770mm & BETWEEN PHASES - 1050mm.
4. ACCESS TO BE ARRANGED WITH MUNICIPALITY / LAND OWNERS / ESKOM BY CONTRACTOR.
5. THE EXTENT OF THE PROPOSED OVERHEAD LINE INDICATED IS PROVISIONAL AND FOR TENDER PURPOSES ONLY, AND IS SUBJECT TO ADJUSTMENTS AFTER OFFICIAL COMMENTS / APPROVALS HAVE BEEN RECEIVED FROM ALL AFFECTED PARTIES.
6. ALL STEEL POLE STRUCTURES TO BE PROVIDED WITH A GROUND EARTH.
7. OPTIC COMMUNICATION AND EARTHING CONDUCTOR TO BE PROVIDED AT TOP OF STEEL POLE STRUCTURES.
8. THE NECESSARY SAFETY WORKING CLEARANCES MUST BE MAINTAINED WHEN WORKING NEXT TO LIVE OVERHEAD LINES AS REQUIRED IN TERMS OF THE OHS ACT AND ESKOM.
9. ALL WORK SHALL BE UNDERTAKEN WITH EXISTING ADJACENT LIVE OVERHEAD LINES. SHUTDOWNS OF MAXIMUM EIGHT (8) HOURS WILL ONLY BE ALLOWED TO MAKE CONNECTIONS / CROSSING ON A DATE TO BE ARRANGED IN ADVANCE WITH THE MUNICIPALITY AND ESKOM.

THIS DRAWING IS TO BE USED FOR THE ENGINEERING SERVICE DEPICTED ONLY.

ELECTRICAL

CLIENT
KOUGA MUNICIPALITY

cmb
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CLINKSCALES MAUGHAN-BROWN (SOUTH) (PTY) LTD (2012/075708/07)
CESA

PROJECT
PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY

DRAWING TITLE
PLAN LAYOUT OF ROUTES OF EXISTING ESKOM AND MUNICIPAL OVERHEAD LINES AND THE PROPOSED NEW MUNICIPAL 66kV DOUBLE CIRCUIT OVERHEAD LINE AND LONGITUDE SECTION

DRAWN	DESIGNED	CHECKED	APPROVED
MvM	GSA	GSA	

SCALE	DATE	CAD REF No.	DWG-SIZE
AS SHOWN	04/05/2026	10713-E-01	A0

DRAWING NO **10713/E/01** REVISION

REVISIONS

No.	DATE	DRAWN	DESCRIPTION
-	-	-	-

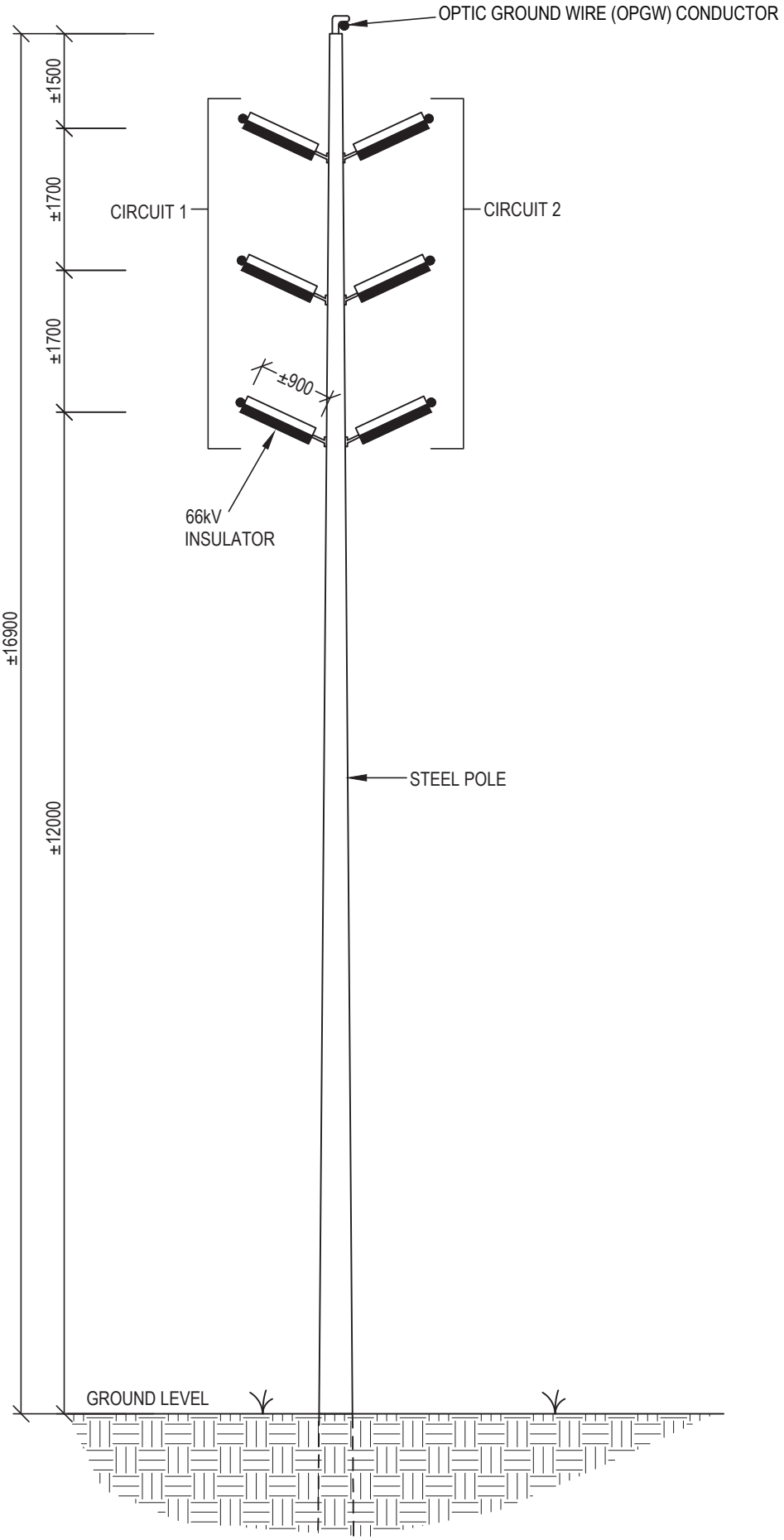
LEGEND

EXISTING

- MUNICIPAL 22kV SINGLE CIRCUIT OVERHEAD LINE
- MUNICIPAL 66kV SINGLE CIRCUIT OVERHEAD LINE
- ESKOM OVERHEAD LINES
- POLE MOUNTED TRANSFORMER

NEW

- NEW MUNICIPAL 66kV DOUBLE CIRCUIT OVERHEAD LINE (BOTH CIRCUITS GREASED CHICADEE ACSR CONDUCTORS AND INSULATED FOR 66kV COASTAL CONDITIONS)
- SINGLE POLE GALVANISED STEEL STRUCTURE
- 1+2ME/JB 009 — POLE STRUCTURE NUMBER BOTH CIRCUIT NO'S 1 & 2 ON THE SAME POLE STRUCTURE



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PROJECT
PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY

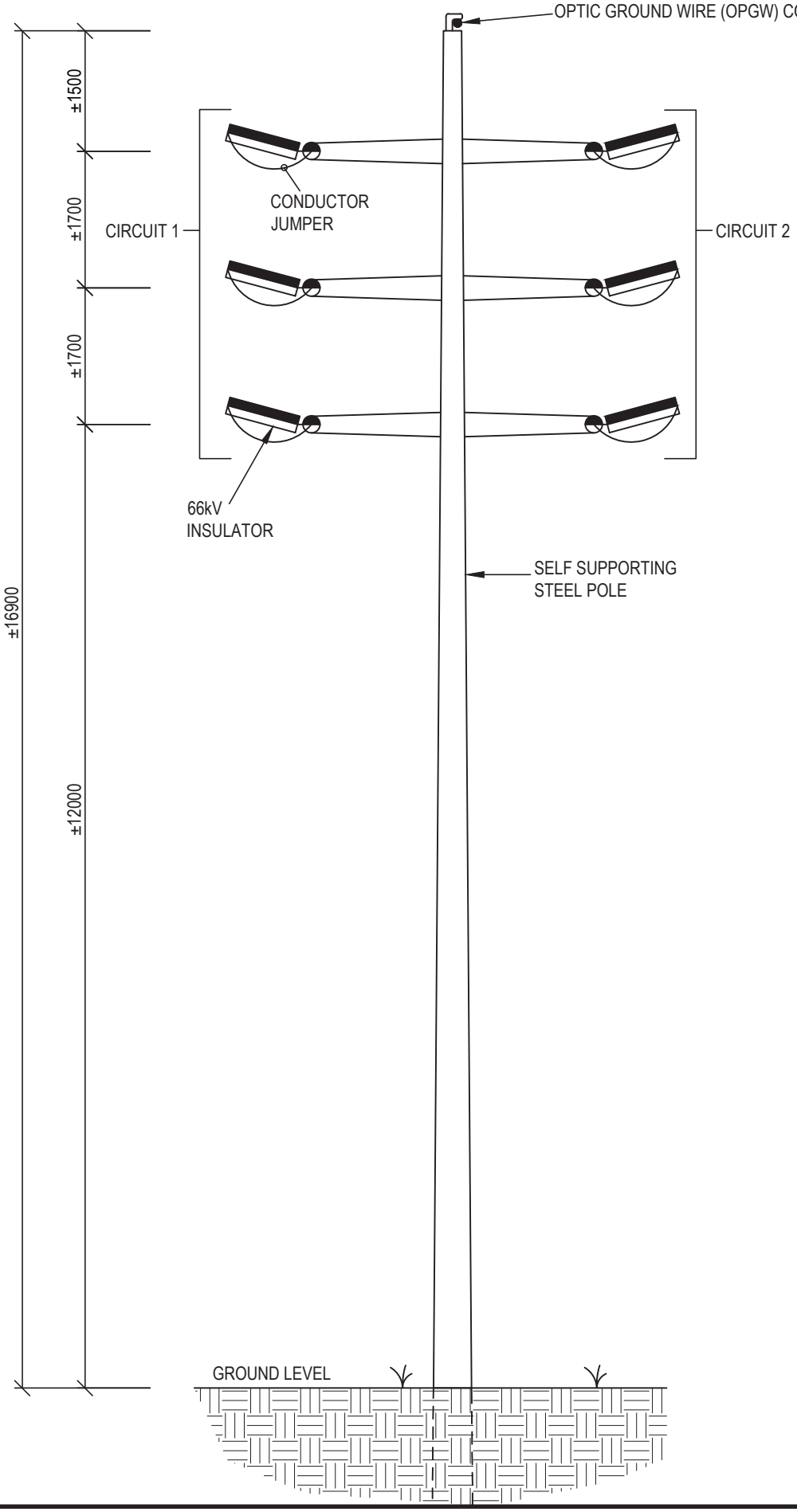
DRAWING TITLE
TYPICAL INTERMEDIATE MONOPOLE STRUCTURE (IM) DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED
MvM	GSA	GSA	

SCALE	DATE	CAD REF No.	DWG-SIZE
1:75	04/05/2026	10713/E/02	A4

DRAWING NO
10713/E/02

REVISION



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PROJECT
PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY

DRAWING TITLE
TYPICAL SELF SUPPORTING STRAIN MONOPOLE STRUCTURE (SSSM) DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED
MvM	GSA	GSA	

SCALE	DATE	CAD REF No.	DWG-SIZE
1:75	04/05/2026	10713/E/03	A4

DRAWING NO
10713/E/03

REVISION

ANNEXURE B

Project Notice Board

The following drawings of the project notice board are bound into this document over leaf and must be used when constructing and erecting the engineer's project notice board:

Drawing No.	Description
10713/E/04	PROJECT NOTICE BOARD
10713/E/05	PROJECT NOTICE BOARD SUPPORT STRUCTURE

cmb
CLINKSCALES MAUGHAN-BROWN
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CLIENT
KOUGA MUNICIPALITY

PROJECT
PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY

DRAWING TITLE
PROJECT NOTICE BOARD

DRAWN	DESIGNED	CHECKED	APPROVED
MvM	GSA	GSA	

SCALE	DATE	CAD REF No.	DWG-SIZE
N.T.S.	04/05/2026	10713/E/04	A4

DRAWING NO
10713/E/04

REVISION

LEGEND

(A) 3000mm x 2370mm, 1mm THICK SHEET METAL BOARD SECURED TO 25mm x 25mm GALVANISED STEEL SQUARE TUBING FRAME USING 4,8mm Ø x 10mm LONG ALUMINIUM REVITS.

(B) FRAME FIXED AGAINST TARRED WOODEN POLES USING 76,2mm WIDE GALVANISED STEEL CLAMPS SUITABLE TO FIT IN UNISTRUT IN ITEM G ON THIS DRAWING.

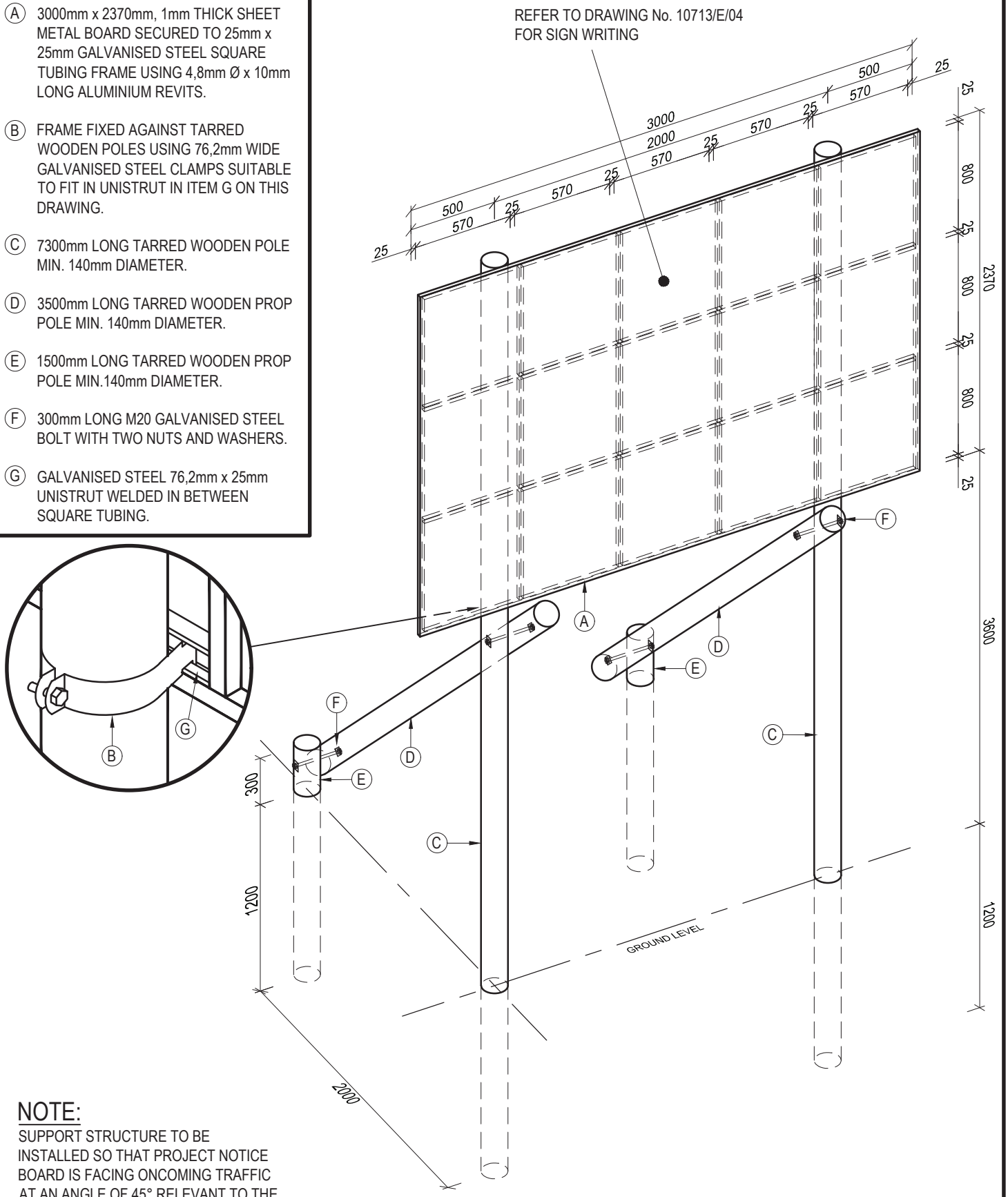
(C) 7300mm LONG TARRED WOODEN POLE MIN. 140mm DIAMETER.

(D) 3500mm LONG TARRED WOODEN PROP POLE MIN. 140mm DIAMETER.

(E) 1500mm LONG TARRED WOODEN PROP POLE MIN.140mm DIAMETER.

(F) 300mm LONG M20 GALVANISED STEEL BOLT WITH TWO NUTS AND WASHERS.

(G) GALVANISED STEEL 76,2mm x 25mm UNISTRUT WELDED IN BETWEEN SQUARE TUBING.



NOTE:

SUPPORT STRUCTURE TO BE INSTALLED SO THAT PROJECT NOTICE BOARD IS FACING ONCOMING TRAFFIC AT AN ANGLE OF 45° RELEVANT TO THE ROAD.

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CESA Consulting Engineers South Africa
CLINKSCALES MAUGHAN-BROWN (SOUTH) (PTY) LTD (2012/075708/07)

CLIENT: **KOUGA MUNICIPALITY**

PROJECT: **PHASE 4 OF 66kV DOUBLE CIRCUIT OVERHEAD LINE BETWEEN HUMANSDORP AND JEFFREYS BAY**

DRAWING TITLE: **PROJECT NOTICE BOARD SUPPORT STRUCTURE DETAIL**

DRAWN	DESIGNED	CHECKED	APPROVED
MvM	GSA	GSA	

SCALE	DATE	CAD REF No.	DWG-SIZE
N.T.S.	04/05/2026	10713/E/05	A4

DRAWING NO: **10713/E/05**

REVISION:

ANNEXURE C

Environmental Approval Documents

The following environmental approval documents are bound into this document for information.

All conditions, rules, regulations and specifications as detailed in these documents shall be fully adhered to during the entire duration of the construction process:

- Environmental Authorisation (EA) dated 23 May 2016
- Construction & Operational Management Plan dated February 2016

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447· PRETORIA · 0001· Environment House · 473 Steve Biko Road, Arcadia,· PRETORIA, 0083
Tel (+ 27 12) 399 9372

DEA Reference: 14/12/16/3/3/1/1479
Enquiries: Mr Jay-Jay Mpelane
Telephone: 012-399-9404 **E-mail:** jmpelane@environment.gov.za

Mr Edward Charles Oosthuizen
Kouga Local Municipality
P.O Box 21
JEFFREYS BAY
6330

Tel number: (042) 200 2200
Email address: eddieo@kouga.gov.za

PER EMAIL / MAIL

Dear Mr Oosthuizen.

ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R.983 FOR THE CONSTRUCTION OF A 66kV OVERHEAD POWER LINE AND SUBSTATIONS, JEFFREYS BAY WITHIN THE KOUGA LOCAL MUNICIPALITY IN THE EASTERN CAPE PROVINCE

With reference to the above application, please be advised that the Department has decided to grant environmental authorisation. The environmental authorisation (EA) and reasons for the decision are attached herewith.

In terms of regulation 4(2) of the Environmental Impact Assessment Regulations, 2014 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the EA, of the Department's decision in respect of your application as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 2 of Government Notice No. R.993, which prescribes the appeal procedure to be followed. An appellant must submit an appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party and any organ of state with interest in the matter within 20 days from the date that the notification of the decision for an application for an environmental authorisation was sent to the registered interested and affected parties by the applicant.

By post: Private Bag X447,
Pretoria,
0001; or

By hand: Environment House,
473 Steve Biko Road,
Arcadia
Pretoria

MS

If the applicant wishes to lodge an appeal, it must also serve a copy of the notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where, and for what period, the appeal submission will be available for inspection, should you intend to submit an appeal.

Appeals must be submitted in writing to:

Mr Z Hassam, Director: Appeals and Legal Review, of this Department at the above mentioned addresses. Mr Hassam can also be contacted at:

Tel number: (012) 399 9356
Email address: Appealsdirectorate@environment.gov.za

Please note that in terms of section 43(7) of the National Environmental Management Act, 1998, an appeal under section 43 of that Act will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

For guidance on appeals submitted to the Minister in terms of NEMA and the SEMAs, please find a copy of the guideline on the administration of appeals on the Department's website: (https://www.environment.gov.za/documents/forms#legal_authorisations).
Kindly include a copy of this document with the letter of notification to interested and affected parties.

Yours faithfully

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 23/05/2016

CC	Pieter Badenhorst	PBPS cc.	Cell: 0827763422	pbps@iafrica.com
	Mr A. Struwing	EC: DEDEAT	Tel: (041) 508 5815	Andries.struwig@deaet.ecape.gov.za

M-S

environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of Regulation 25 of the Environmental Impact Assessment Regulations, 2014

CONSTRUCTION OF A 66kV OVERHEAD POWER LINE AND SUBSTATIONS, JEFFREYS BAY WITHIN THE KOUGA LOCAL MUNICIPALITY IN THE EASTERN CAPE PROVINCE

SARAH BAARTMAN DISTRICT MUNICIPALITY

Authorisation register number:	*14/12/16/3/3/1/1479*
Last amended:	*First issue*
Holder of authorisation:	*Kouga Local Municipality*
Location of activity:	*EASTERN CAPE PROVINCE: within the Kouga Local Municipality*

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

MS

Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 the Department hereby authorises–

KOUGA LOCAL MUNICIPALITY

with the following contact details –

Mr Edward Charles Oosthuizen
Kouga Local Municipality
P.O Box 21
JEFFREYS BAY
6330

Tel number: (042) 200 2200
Email address: eddieo@kouga.gov.za

- to undertake the following activity (hereafter referred to as "the activity") indicated in Listing Notices 1, GN R. 983.

Listed activities	Activity/Project description
GN R. 983 Item 11: The development of facilities or infrastructure for the transmission and distribution of electricity- (i) Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or more. (ii) Inside urban area or industrial complexes with a capacity of 275 kilovolts or more.	Overhead 66kV power line and substations, partially inside and outside of urban areas, will be upgraded and installed. Two new substations (Boplaas and Wavecrest) are planned and the Main S/S will be extended.
GN R. 983 Item 27 The clearance of an area of 1 hectares or more, but less than 20hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for: (i) the undertaking of a linear activity, or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Clearance of vegetation for the building of two new substations and expansion of the Main Substation will be required. The total area for substation clearing is 18.7 hectares.
GN R. 985 12 (a) (ii) The clearance of an area of 300 square metres or more of indigenous vegetation, except where such clearance indigenous vegetation is required for: (ii) maintenance purposes undertaken in accordance with a maintenance management plan. (a) **In the Eastern cape**: (iv). On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.	Clearance of vegetation for the building of two new substations and expansion of the Main Substation will be required. The total area for substation clearing is 18.7 hectares. This listed activity is triggered because the one area is zoned Public Open Space. All other areas are not situated in a critically endangered or endangered ecosystem, within CBAs, littoral active zones or within 100m inland from the high water mark. None of the properties are zoned as open space, except for the Main substation, conservation or an equivalent zoning.
GN R. 985 14	

Listed activities	Activity/Project description
The development of: (x) buildings exceeding 10 square metres in size; (xii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; (a) **In Eastern Cape:** iii. In urban areas: (aa). Areas zoned for use as public open	The proposed project will include the construction of overhead 66kV line servitudes and substations, partially inside and outside of urban areas that will be upgraded and installed. Two new substations (Boplaas and Wavecrest) are planned and the Main S/S will be enlarged. This activity is triggered because the area at Main Substation which will be enlarged is inside the urban area and is zoned Public Open Space.

-as described in the Basic Assessment Report (BAR) dated 16 February 2016 and Addendum to the final BAR dated 6 April 2016 at:

21 DIGIT CODE PROPERTY DESCRIPTION:

No.	PROPERTY DESCRIPTION	SG 21 DIGIT CODE
1	ERF 1268 HUMANSDORP	C034 0005 00001268 00000
2	ERF 499 HUMANSDORP	C034 0005 00000499 00000
3	Portion 4 of Rheeboksfontein No 346	C034 0000 00000346 00004
4	Portion 28 of Rheeboksfontein No 346	C034 0000 00000346 00028
5	Portion 6 of Melkhoutbosch No 345	C034 0000 00000345 00006
6	Portion 5 of Melkhoutbosch No 345	C034 0000 00000345 00005
7	Remainder of Melkhoutbosch No 345	C034 0000 00000345 00000
8	Portion 4 of Melkhoutbosch No 345	C034 0000 00000345 00004
9	Farm No. 895	C034 0000 00000895 00000
10	Portion 77 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00077
11	Portion 1 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00001
12	Portion 119 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00119
13	Portion 10 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00010
14	Portion 3 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00003
15	Portion 123 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00123
16	Portion 63 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00063
17	ERF 8798 JEFFREYS BAY	C034 0006 00008798 00000
18	ERF 8786 JEFFREYS BAY	C034 0006 00008786 00000
19	ERF 8787 JEFFREYS BAY	C034 0006 00008787 00000
20	ERF 8790 JEFFREYS BAY	C034 0006 00008790 00000

21	ERF 8788 JEFFREYS BAY	C034 0006 00008788 00000
22	ERF 9208 JEFFREYS BAY	C034 0006 00009208 00000
23	ERF 10041 JEFFREYS BAY	C034 0006 00010041 00000
24	ERF 8789 JEFFREYS BAY	C034 0006 00008789 00000
25	ERF 10043 JEFFREYS BAY	C034 0006 00010043 00000

Substation Corners coordinates		
Boplaas Substation	**Latitude**	**Longitude**
A	34° 2'11.83"S	24°53'22.22"E
B	34° 2'11.95"S	24°53'25.34"E
C	34° 2'13.90"S	24°53'25.23"E
D	34° 2'13.76"S	24°53'22.12"E

Wavecrest Substation	**Latitude**	**Longitude**
A	34° 1'6.57"S	24°54'18.85"E
B	34° 1'8.19"S	24°54'20.15"E
C	34° 1'9.27"S	24°54'18.17"E
D	34° 1'7.60"S	24°54'16.90"E

Expansion of Main Substation	**Latitude**	**Longitude**
A	34° 2'28.40"S	24°54'29.76"E
B	34° 2'29.97"S	24°54'32.24"E
C	34° 2'31.29"S	24°54'31.09"E
D	34° 2'30.80"S	24°54'30.34"E
E	34° 2'29.86"S	24°54'29.66"E

Power line Alternative A (from Melkhout to Wavecrest SS)		
	Latitude (S)	**Longitude (E)**
Starting point	34° 0'5.31"S	24°47'2.68"E
Middle point	33°59'52.66"S	24°50'50.85"E
End point	34° 1'8.45"S	24°54'17.51"E
Power line Alternative C (from Main SS to Jubilee extension, pass Boplaas SS to meet the power line from Melkhout SS to the Wavecrest SS).		
	Latitude (S)	**Longitude (E)**
Starting point	34° 2'28.36"S	24°54'29.75"E
Middle point	34° 3'18.69"S	24°53'25.62"E
End point	34° 1'20.01"S	24°53'25.44"E

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- for the proposed 66kV overhead line servitudes and substations, Jeffreys Bay within the Kouga Local Municipality in the Eastern Cape Province, hereafter referred to as "the property".

Conditions of this Environmental Authorisation

Scope of authorisation

1. Two (2) substations (Boplaas and Wavecrest Substations), including the expansion of the existing Main Substation to the south with a building line and Power Line Alternative A (from Melkhout Substation to Wavecrest Substation), Power Line Alternative C (from Main Substation, passing the Jubilee extension, and Boplaas Substation to meet the power line from Melkhout Substation to the Wavecrest Substation) for the proposed project are approved.
2. Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
4. The activities authorised must only be carried out at the property as described above.
5. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
6. This activity must commence within a period of five (5) years from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.
8. The holder of an environmental authorisation must apply for an amendment of environmental authorisation with the competent authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.

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Notification of authorisation and right to appeal

9. The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
10. The notification referred to must –
    10.1. specify the date on which the authorisation was issued;
    10.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;
    10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
    10.4. give the reasons of the competent authority for the decision.
11. The holder of the authorisation must publish a notice –
    11.1. informing interested and affected parties of the decision;
    11.2. informing interested and affected parties where the decision can be accessed; and
    11.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in terms of the National Appeal Regulations, 2014.

Commencement of the activity

12. The authorised activity must not commence within twenty (20) days of the date of signature of the authorisation.
13. In terms of section 43(7) of the National Environmental Management Act, 1998, an appeal under section 43 of that Act will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

Management of the activity

14. The Environmental Management Programme (EMPr) that complies with GN R.982 of Appendix 4(1) was integrated as part of the BAR. The EMPr is approved and it must be implemented and adhered to.

Monitoring

15. The holder of the authorisation must appoint an experienced independent Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr.
    15.1. The ECO must be appointed before commencement of any authorised activities.
    15.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
    15.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
    15.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

Recording and reporting to the Department

16. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this environmental authorisation, must be submitted to the *Director: Compliance Monitoring* of the Department.
17. The holder of the environmental authorisation must, for the period during which the environmental authorisation and EMPr remain valid, ensure that project compliance with the conditions of the environmental authorisation and the EMPr are audited, and that the audit reports are submitted to the *Director: Compliance Monitoring* of the Department.
18. The frequency of auditing and of submission of the environmental audit reports must be as per the frequency indicated in the EMPr, taking into account the processes for such auditing as prescribed in Regulation 34 of GN R. 982.
19. The holder of the authorisation must, in addition, submit an environmental audit reports to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and a final environmental audit report within 30 days of completion of rehabilitation activities.
20. The environmental audit reports must be compiled in accordance with appendix 7 of the EIA Regulations, 2014 and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the approved EMPr.

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21. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

Notification to authorities

22. A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number.

Operation of the activity

23. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.

Site closure and decommissioning

24. Should the activity ever cease or become redundant, the holder of the authorisation must undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

Specific conditions

25. The applicant must ensure that the pylons are erected 60 metres away from the Provincial Road (R389). Precautionary measures must be put in place to ensure that all existing services are not damaged when work commences.
26. Vegetation clearing must be limited to the required footprint. Mitigation measures must be implemented to reduce the risk of erosion and the invasion of alien species.
27. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, re-use and disposal.
28. Any solid waste must be disposed of at a landfill licensed in terms of section 20 (b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).
29. Should any other historical, cultural, paleontological resources and graves be discovered, which were not anticipated to be found in the course of development of the proposed power line, all construction activities

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must be suspended and SAHRA must be contacted immediately so that the finds can be investigated and mitigation measures proposed. Furthermore, all heritage features must be demarcated and regarded as No-Go areas before construction commences.

30. Anti-collision devices such as bird flappers must be installed where the power line crosses avifaunal corridors and watercourses.

General

31. A copy of this environmental authorisation, the audit and compliance monitoring reports, and the approved EMPr, must be made available for inspection and copying-
    31.1. at the site of the authorised activity;
    31.2. to anyone on request; and
    31.3. where the holder of the environmental authorisation has a website, on such publicly accessible website.
32. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the holder of the authorisation or his/her successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the holder of the authorisation with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 23/05/2016

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs

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Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia,* the following into consideration -

a) The information contained in the BAR dated February 2016 and Addendum to the BAR dated April 2016.
b) Mitigation measures as proposed in the BAR dated February 2016, Addendum to the BAR dated April 2016 and the EMPr dated February 2016 contained in Appendix G.
c) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No.107 of 1998).

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

a) The findings of the specialist study conducted for this project and their recommended mitigation measures.
b) The proposed project is intended to increased reliability of electricity supply within the area.
c) The BAR dated February 2016 identified all legislation and guidelines that have been considered in the preparation of the BAR.
d) The methodology used in assessing the potential impacts identified in the BAR dated February 2016.
e) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2014 for public involvement.

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3. Findings

After consideration of the information and factors listed above, the Department made the following findings –

a) The identification and assessment of impacts are detailed in the Addendum to the BAR dated April 2016 as well as sufficient assessment of the key identified issues and impacts have been completed.

b) The procedure followed for impact assessment is adequate for the decision-making process.

c) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.

d) The information contained in the BAR dated February 2016 and Addendum to the BAR dated April 2016 is accurate and credible.

e) EMPr measures for the construction, Tower sites and rehabilitation phases of the development were proposed and included in the BAR and Addendum to the BAR dated April 2016 will be implemented to manage the identified environmental impacts during the construction process.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.

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CONSTRUCTION & OPERATIONAL MANAGEMENT PLAN

Proposed 66kV overhead powerline servitudes and substations, Jeffreys Bay For Kouga Municipality

DEA Reference nr: 14/12/16/3/3/1/1479

Preferred layout

Prepared by:

Pieter Badenhorst Professional Services

Date: February 2016

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List of Figures

List of abbreviations

EA	Environmental Authorisation
DEAT	Department of Environmental Affairs and Tourism
ECO	Environmental Control Officer

EMP	Environmental Management Programme
RE/ ENGINEER	Resident Engineer
ROD	Record of Decision

Definitions

For the purposes of this Specification the following definitions shall apply (please note some definitions may not apply to this EMP):

Alien species - Plants and animals which do not arrive naturally in an area - they are brought in by humans. Alien plants often force indigenous species out of the area. Rooikrans is a good example of alien species in the Cape.

Alternative - A possible course of action, in place of another, that would meet the same purpose and need defined by the development proposal. Alternatives considered in the EIA process can include location and/or routing alternatives, layout alternatives, process and/or design alternatives, scheduling alternatives or input alternatives.

Aspect – Element of an organisation's activities, products or services that can interact with the environment.

Auditing - A systematic, documented, periodic and objective evaluation of how well the environmental management programme is performing with the aim of helping to safeguard the environment by facilitating management control which would include meeting regulatory requirements. Results of the audit help the organisation to improve its environmental policies and management systems.

Biodiversity - The rich variety of plants and animals that live in their own environment. Fynbos is a good example of rich biodiversity in the Cape.

Built environment - Physical surroundings created by human activity, e.g. buildings, houses, roads, bridges and harbours.

Conservation - Protecting, using and saving resources wisely, especially the biodiversity found in an area.

Construction site, working area or Site - means any area within the boundaries of the property (ies) where construction is taking place.

Contamination - Polluting or making something impure.

Corrective (or remedial) action - Response required addressing an environmental problem that is in conflict with the requirements of the EMP. The need for corrective action may be determined through monitoring, audits or management review.

Degradation - The lowering of the quality of the environment through human activities, e.g. river degradation, soil degradation.

Ecology - The scientific study of the relationship between living things (animals, plants and humans) and their environment.

Ecosystem - The relationship and interaction between plants, animals and the non-living environment.

Environment - Our surroundings, including living and non-living elements, e.g. land, soil, plants, animals, air, water and humans. The environment also refers to our social and economic surroundings, and our effect on our surroundings.

Environmental Impact Assessment (EIA) - An Environmental Impact Assessment (EIA) refers to the process of identifying, predicting and assessing the potential positive and negative social, economic and biophysical impacts of a proposed development. The EIA includes an evaluation of alternatives; recommendations for appropriate management actions for minimising or avoiding negative impacts and for enhancing positive impacts; as well as proposed monitoring measures.

Environmental Management System (EMS) - Environmental Management Systems (EMS) provide guidance on how to manage the environmental impacts of activities, products and services. They detail the organisational structure, responsibilities, practices, procedures, processes and resources for environmental management. The ISO14001 EMS standard has been developed by the International Standards Organisation.

Environmental policy - Statement of intent and principles in relation to overall environmental performance, providing a framework for the setting of objectives and targets.

Fynbos - Low-growing and evergreen vegetation found only in the south Western Cape. Fynbos is known for its rich biodiversity.

Habitat - The physical environment that is home to plants and animals in an area, and where they live, feed and reproduce.

Hazardous waste – Waste, even in small amounts, that can cause damage to plants, animals, their habitat and the well-being of human beings, e.g. waste from factories, detergents, pesticides, hydrocarbons, etc.

Impact - A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.

Indigenous species - Plants and animals that are naturally found in an area.

Infrastructure - The network of facilities and services that are needed for economic activities, e.g. roads, electricity, water, sewerage.

Integrated - Mixing or combining all useful information and factors into a joint or unified whole.

See Integrated Environmental Management.

Integrated Environmental Management (IEM) - A way of managing the environment by including environmental factors in all stages of development. This includes thinking about physical, social, cultural and economic factors and consulting with all the people affected by the proposed developments. Also called "IEM".

Land use - The use of land for human activities, e.g. residential, commercial, industrial use.

Mitigation - Measures designed to avoid, reduce or remedy adverse impacts

Natural environment - Our physical surroundings, including plants and animals, when they are unspoiled by human activities.

No-Go area- means any area where no access is allowed.

Over-utilisation - Over-using resources - this affects their future use and the environment.

Policy - A set of aims, guidelines and procedures to help you make decisions and manage an organisation or structure. Policies are based on people's values and goals. See Integrated Metropolitan Environmental Policy.

Process - Development usually happens through a process - a number of planned steps or stages.

Proponent – Developer. Entity which applies for environmental approval and is ultimately accountable for compliance to conditions stipulated in the Environmental authorisation (EA) and requirements of the EMP.

Recycling - Collecting, cleaning and re-using materials.

Refuse- refers to all solid waste, including construction debris (cement bags, wrapping materials), waste and surplus food, food packaging, organic waste etc.

Resources - Parts of our natural environment that we use and protect, e.g. land, forests, water, wildlife, and minerals.

Scoping Report - A report presenting the findings of the scoping phase of the EIA. This report is primarily aimed at reaching closure on the issues and alternatives to be addressed in the EIA (in the case of a full EIA process).

Stakeholders - A subgroup of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term includes the proponent, authorities and all interested and affected parties.

Storm water management – Strategies implemented to control the surface flow of storm water such that erosion, sedimentation and pollution of surface and ground water resources in the immediate and surrounding environments are mitigated. This is specifically important during the construction and decommissioning phases of a project.

Sustainable development - Development that is planned to meet the needs of present and future generations, e.g. the need for basic environmental, social and economic services. Sustainable development includes using and maintaining resources responsibly.

Sustainability - Being able to meet the needs of present and future resources.

Waste Management – Classifying, recycling, treatment and disposal of waste generated during construction and decommissioning activities.

Wetlands - An area of land with water mostly at or near the surface, resulting in a waterlogged habitat containing characteristic vegetation species and soil types e.g. vlei's, swamps.

Zoning - The control of land use by only allowing specific type development in fixed areas or zones.

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1 Project Description & Environmental Issues

The proposed upgrade of the Municipal electrical infrastructure with a new 66kV powerline (red in Figure 1) will be from Eskom's Melkhout substation (S/S) near Humansdorp to the to be expanded existing main intake substation in Jeffreys Bay to establish a ring feed network.

The project layout with locality of the new powerline (red), existing power lines (green and yellow) and substations are shown in Figure 1 (note the distances between proposed and new power lines are not to scale). The total length of the 66kV powerline is approximately 21 km.

The new powerline is indicated in red. The yellow and green lines indicate existing power lines.

Powerline

The preferred powerline will run from Melkhout S/S (A) via Band C where it will be extended to D (Wavecrest S/S) with an approximate length of 12,5km. This powerline (red) will connect at H to an existing 66kV (green) that runs to the existing Main S/S (E).

At point C on the new preferred powerline it will branch to G (Boplaas S/S) and will be about 1.5km long. From G, the powerline will run via F (about 4km) to E (3km) which will result in a length of 8.5 km from C to E.

The entire powerline to be constructed will be 21km.

Figure 1: Locality and Layout of proposed project showing the preferred (red) and alternative (blue) route with the existing 66kV powerline in green

Substations

Two new substations will be constructed at Boplaas and Wavecrest and the existing Main S/S will be expanded (see Figure 1 above for localities). The general areas of the new substation sites were identified as per the existing and future infrastructure demand requirements.

The proposed Boplaas S/S will have a size of 5410m2 and Wavecrest will be 3600m2. Main S/S will be expanded from 3300m2 to 3560m2.

Project Phases

The project will be executed in two phases:

- Phase 1 will include the construction of a 66kV powerline (red) between Jeffreys Bay and Humansdorp next to the existing 22kV Powerline (yellow). This powerline will be 11,5km in length and will link to a relatively new double circuit 66kV powerline (green in Figure 1) at the future junction for the take-off powerline to Wavecrest Substation. This new powerline will eventually replace the existing 22kV wooden pole powerline on the same route of the preferred alternative. From the Main S/S to Jubilee extension (point F in Figure 1) (referring to the neighbourhood) the new 66kV powerline will also run in parallel with the existing 22kV powerline (yellow). Only from Jubilee extension to Boplaas a new powerline will be constructed that is not in parallel with an existing powerline.

The existing powerline owned by the Kouga Municipality is in a very poor condition and it is running close to its thermal capacity of 30MVA. This powerline also has the disadvantage of being single circuit, resulting in total loss of power to Jeffrey's Bay in case of power failures.

- Phase 2 will be to construct three 66kV substations and a ring linking the new substations to balance of the 66kV power lines in order to inject more power into the internal primary MV network. This phase might be subdivided depending on the available funds and future load growth of the town.

In addition to the above mentioned 66kV powerline and substations a few 22kV overhead power lines will also be constructed but these power lines do not form part of the application because they will not trigger any listed activities.

An example of the construction and profile of the overhead powerline structures is in Figure 2 below. The 66 kV structures will be steel poles with the minimum or where possible no use of stays. More detail of the other types of pylon structures is shown in Appendix D3 of the FBAR.

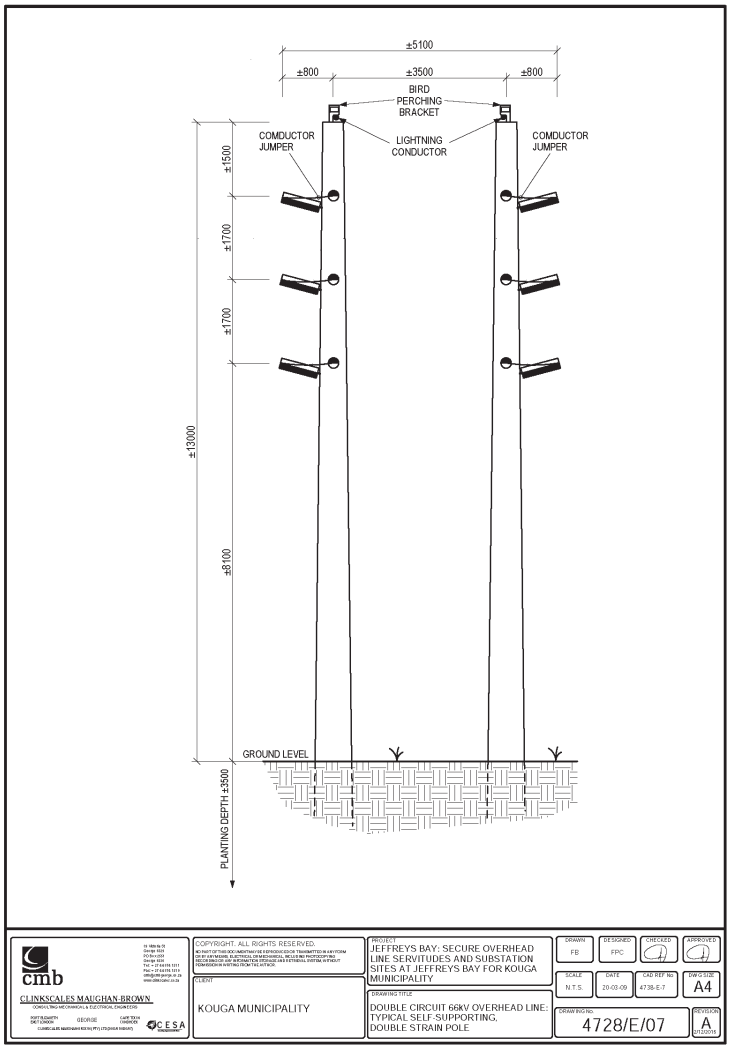

Figure 2: Pylon example

The new 66 kV substations will be outdoor yards with 66 kV overhead busbars, switchgear, transformers, etc. and a small building to house indoor 22/11 kV switchgear. The footprint size of each substation is included in Section 3. The yard will be of low-profile construction with a maximum height of approximately 7 metres that does not include the masts for lightning protection that will be approximately 20 metres high. The fence around the substation and the building construction will be designed to meet high aesthetical standards and to blend in with the area. The extension to the Main Intake Substation will be of the same construction as the new substations.

Please note – at the Site Visit of 27 November 2015 DEA indicated that many of the areas might be wetlands and a wetland study must be undertaken. Note that the site visit was following heavy rains the previous days and the area was quite wet. The vegetation study under the previous application identified only one wetland area – that is at the Main substation along the stream. The wetland specialist was requested to reinvestigate the possibility of wetlands with a short report as shown in Appendix D1 (of the FBAR). The report concluded as follows:

- The vegetation condition of the Power Line Servitude remains essentially unchanged or has deteriorated somewhat since the survey of 2009 (Campbell, 2009).

- None of the vegetation has a realistic rehabilitation potential, particularly since the installation of wind turbines across the landscape.
- After the heavy rains of the latter portion of 2015, standing and flowing water could be found in any depression or slope over the entire area. These do not constitute ecologically active wetlands and are likely to disappear shortly without an effect on the vegetation.
- The only wetland system at issue is the one adjacent to the main substation. This wetland can be avoided during its enlargement.

It is therefore clear that there are no wetlands along the electrical powerline routes or on substations except for the Main substation. The area for non-development has been identified and surveyed. In the table below the various substations are shown in locality together with photographs taken on 27 November 2015.

Also note that all areas (route and substation) were surveyed by the engineers to assess and ensure the soil suitability for construction as well as including mitigation measures identified in the impact assessment.

Wavecrest S/S

Figure 3: Wavecrest (yellow rectangle) is situated on Local Authority zoned land and is surrounded by agriculture.

Figure 4: Existing vegetation on proposed site

Existing and expanded Main S/S

Figure 5: The blue line depicts the actual surveyed edge of the stream. The white line to its right is the building line and identified the area to its left where no construction is allowed. From the white line to its right is the expansion area.

The zoning of the land is Public Open Space and it is surrounded by Residential to the east and south with a hospital to the north west.

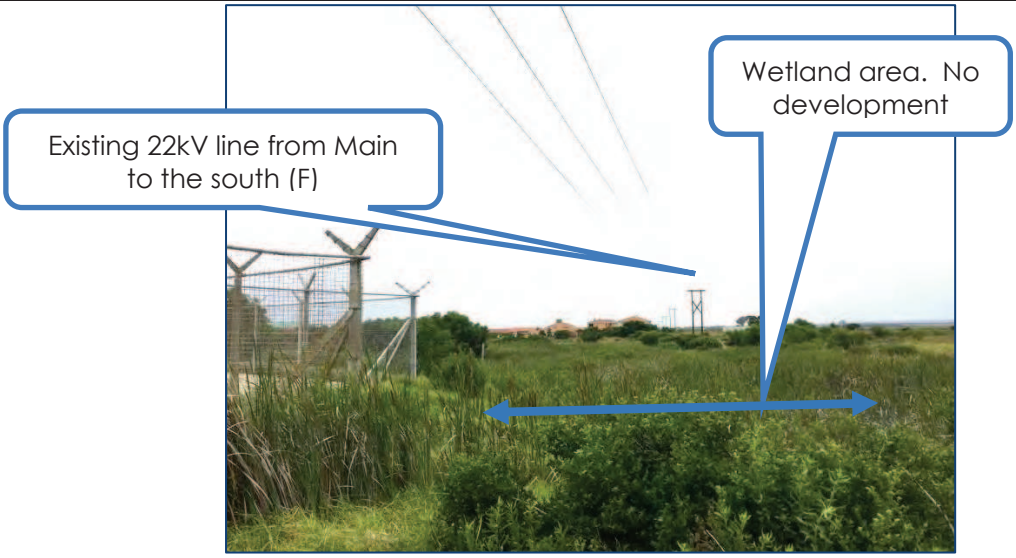

Figure 6: The new powerline route (red line in figure above) to the right of the existing (yellow in figure above) is on agricultural land with residential to the south. Houses are visible in the photograph. Further south the route passes through residential areas to end at Point F (see Figure 1) and is surrounded by Agriculture.

Boplaas S/S

Figure 7: The alternative site was identified in the previous study (2009) to be in the southern corner of the Municipal Wastewater Treatment Works site. It was, however, determined not to be preferred because of inadequate space and it being offline in position to the powerline route.

Boplaas is on Agricultural zoning with agricultural to the west and Institutional/Industrial to the east.

Figure 8: Substation Area

In 2009 the proposed project was granted Environmental authorisation (Ref: 12/12/20/1438). Work for the project did not commence because of a lack of funds resulting in the lapsing of the application in 2014. Funds have now been made available for the 2015/2016 financial year because of the urgency to construct at least the new 66kV powerline between Humansdorp and Jeffrey's Bay. An application has thus been made to the Department of Energy to as part of their infrastructure upgrade programme also provide funding for this project on the assumption that environmental authorisation for the new application will be received early in 2016.

A comprehensive description of the detail and need for the project is supplied in the FBAR.

2 Management Programme – Construction

Please note that all contractors on the site must be made aware of this EMP and they must at all times adhere to the procedures specified.

2.1 Contractual obligations

1) The Contractor shall acknowledge receipt of copies of the EMP and confirm in writing that he has familiarised himself with the contents thereof;
2) The Contractor shall comply with all environmental obligations imposed by the ECO.
3) The Contractor shall co-operate fully with the ECO and use his best endeavours to ensure that the objectives of the EMP are fulfilled in the course of the Contractor's execution of the works or the relevant part thereof.
4) The Contractor must ensure that all workers are given environmental awareness training on the requirements of the EMP. This must form part of the Contractor's contract agreement. The ECO must be informed in writing of implementation.
5) Preference must be given to local labour.

2.2 Penalties

Penalties will be instituted for non-compliance. The penalty is over and above the cost of rectifying the problem and/or damage. Penalties will vary on a sliding scale from R 1 000 to R 20 000 for non-serious to serious issues as determined by the ECO.

These penalties must be paid into a separate account to be administered by the developer. The ECO will decide how the penalties, if any, are to be spent.

2.3 Methodology statement

A methodology statement must be compiled by the contractor(s) before any construction or landscaping activity may commence. The statement must describe how the activity will be undertaken and environmental controls implemented. The statement must include a site establishment plan indicating area for the camp, cement mixing, No-Go areas, etc. The ECO must approve the methodology statement.

2.4 Demarcation and protection

1) Proper access control must be implemented to ensure that only authorised people obtain access to the site. No-Go areas must be clearly demarcated prior to commencing of earthworks/building operations. No-Go areas and demarcation to be approved by the ECO, with a minimum of orange snow netting.
2) Visitors will be required to report to site where they will receive induction training, sign indemnity and will be required to wear PPE.
3) The contractor must ensure that fencing and/or demarcations are maintained for the duration of the project.
4) Watercourses are seen as No-Go areas. The width of all buffers for watercourses must be according to those stipulated in the Eastern Cape Biodiversity Conservation Plan.
5) No work outside of the property boundary will be allowed.
6) Servitudes shall be demarcated as agreed with the ECO.
7) Access control shall be kept strict and adhered to for access to pylons and servitudes

8) Buffer zones surrounding wind turbines should be demarcated and respected at all times.

2.5 Contractor's camp

1) The Contractor's camp, offices and storage facilities shall not be located within an environmentally sensitive area. The camp's position must be approved by ECO.
2) The camp must be fenced as agreed with the ECO. The ECO should be on site daily
3) Water from the kitchens, showers, sinks etc., shall be discharged in a manner approved by the ECO.

2.5.1 Site of construction

1) Choice of site for the Contractor's camp requires the ECO's permission and must take into account location of local residents and / or ecologically sensitive areas, including flood zones and slip / unstable zones. A site plan must be submitted to the ECO and project manager for approval.
2) The construction camp may not be situated within the 1:100-year flood line or on slopes greater that 1:3.
3) If the Contractor chooses to locate the camp site on private land, he must get prior permission from both the project manager and the landowner.
4) The size of the construction camp should be minimized (especially where natural vegetation or grassland has had to be cleared for its construction).
5) The Contractor must attend to drainage of the camp site to avoid standing water and / or sheet erosion.
6) Suitable control measures over the Contractor's yard, plant and material storage to mitigate any visual impact of the construction activity must be implemented.
7) No development, or activity of any sort associated with camp, is allowed below the 1:100-year flood line of any water system.

2.5.2 Storage of materials (including hazardous materials) at site camp

1) Choice of location for storage areas must take into account prevailing winds, distances to water bodies, general on-site topography and water erosion potential of the soil.
2) Storage areas must be designated, demarcated and fenced.
3) Storage areas should be secure so as to minimize the risk of crime. They should also be safe from access by unauthorised persons.
4) Fire prevention facilities must be present at all storage facilities.
5) Proper storage facilities for the storage of oils, paints, grease, fuels, chemicals and any hazardous materials to be used must be provided to prevent the migration of spillage into the ground and groundwater regime around the temporary storage area(s). These pollution prevention measures for storage should include a bund wall high enough to contain at least 110% of any stored volume, and this should be sited away from drainage lines in a site with the approval of the ECO.
6) These storage facilities (including any tanks) must be on an impermeable surface that is protected from the ingress of storm water from surrounding areas in order to ensure that accidental spillage does not pollute local soil or water resources.
7) Clear signage must be placed at all storage areas containing hazardous substances / materials.
8) Staff dealing with these materials / substances must be aware of their potential impacts and follow the appropriate safety measures.

9) A Waste Disposal Contractor must be employed to remove waste oil. These wastes should be disposed of by a recycling company or at a licensed landfill sites designed to handle hazardous wastes. A disposal certificate must be obtained from the Waste Disposal Contractor.

10) The Contractor must ensure that its staff is made aware of the health risks associated with any hazardous substances used and has been provided with the appropriate protective clothing/equipment in case of spillages or accidents and have received the necessary training.

11) All excess cement and concrete mixes are to be contained on the construction site prior to disposal off site. The cement and concrete should be disposed of at a licenced waste disposal site.

12) Any spillage, which may occur, shall be investigated and immediate action must be taken. This must also be reported to the ECO and DEA, as well as local authorities if so required. Construction vehicles are to carry spill kits to deal with small spills.

13) Waste manifests to be obtained from the Municipality to prove legal disposal.

14) Wash water from cleaning implements should be stored and disposed of at a licensed WWTW.

15) Where possible, a service provided is to deliver concrete on site. Only small quantities of cement/concrete are to be mixed on site.

2.5.3 Drainage of construction camp

1) Run-off from the camp site must not discharge into neighbours' properties or into adjacent wetlands, rivers or streams.

2.5.4 End of construction

1) Once construction has been completed on site and all excess material has been removed, the storage area shall be rehabilitated. If the area was badly damaged, reseeding shall be done.

2) Such areas shall be rehabilitated to their natural state. Any spilled concrete shall be removed, and soil compacted during construction shall be ripped, levelled and revegetated.

2.6 Blasting

Where required, rock-breaking techniques must be employed to the satisfaction of the ECO (not expected for this development).

2.7 Conservation of environmentally sensitive areas

2.7.1 Animals

1) The site is within a rural area that has been extensively cultivated and it is therefore unlikely that any animal life would be present. However, should any animal life be encountered it must be carefully removed and none may be harmed or killed. Most animals will move away naturally except possibly snakes. Any problems must be reported to the ECO.

2) An expert who holds a Competence Certificate to handle Dangerous and Venomous reptiles should be contacted to remove any animals.

3) Necessary permits need to be obtained from the Provincial Department before the removal of any animals.

2.7.2 Avifauna

1) A detailed walk through of the tower positions to be undertaken once these tower positions have been finalised
2) Fitting anti-collision marking devices onto spans (these will be identified during the avifaunal specific walk through)
3) Minimise the impact of habitat destruction during the construction phase. Exact measures will be highlighted in the site specific EMP and will include measures such as using all existing roads, not clearing vegetation under the power lines as and when possible, etc.
4) During the avifaunal "walk through" prior to construction, any nesting sites of the mentioned species will be identified, and case specific recommendations provided. The Environmental Control Officer must also identify any breeding birds along the servitude. These breeding sites can then be managed appropriately.
5) The Martial Eagles, movement and domain on all property must not be restricted in any way whatsoever.

2.7.3 Agricultural potential

1) All centre pivot irrigation and important agricultural infrastructure must be avoided by the proposed power lines. Careful tower placement and consultation with the affected landowner will reduce the predicted impacts. It is strongly recommended that the EIA Team-preferred alignments for both corridors be used as these avoid sensitive areas from an agricultural perspective as far as possible. Growing crops must be disturbed as little as possible.
2) Interact with landowners to discuss where they would ideally like to see the power lines situated on their property to have the least impact on their farming practices, the negotiation phase forms part of the final survey/line route selection.
3) Employ a low impact routing to avoid / skirt high value agricultural land (centre pivot irrigation, chicken broiler farms, orchards) and important agricultural infrastructure. This is particularly important for the various agricultural hot spots identified in this study
4) Landowners who undertake crop cultivation must be consulted as to when harvesting of crops is expected. Construction activities through these areas must not interfere with harvesting activities and must ideally occur when fields are fallow.
5) Construction activities must take into account the presence of livestock that is kept within camps. In such areas access control must be strictly maintained, with only the necessary personnel accessing these areas in order to minimise the risk of stock moving into other camps and to ensure that no stock theft occurs.
6) All boreholes / wells must be recorded along the alignment prior to the construction of the lines. Any boreholes falling within the planned servitude must either be moved (i.e. another borehole drilled) or the alignment must be shifted, as boreholes located under power lines are unable to be serviced.
7) Attempt to place towers on the edge of existing agricultural areas and span active agricultural fields as far as possible.
8) Ensure adequate compensation is paid to landowners where necessary.
9) Keep vegetation and soil disturbance to a minimum.
10) Avoid placing towers on steep slopes.
11) Stabilise disturbed areas.
12) Retain vegetation sods for remediation efforts.
13) Roads and tacks must be dampened to avoid dust pollution on grazing areas

2.7.4 Access

1) The Supervisor shall, together with a representative of the Contractor, negotiate with each landowner the access to reach the servitude and each tower position. An access agreement must be drawn up by the supervisor, contractor and ECO and this agreement must be signed by the relevant parties, as well as the landowner. The Contractor will mark the proposed route and/or a competent representative will accompany the equipment when opening the access. Any deviation from the written agreement shall be closed and re-vegetated immediately.
2) The Contractor shall signpost the access roads to the tower positions, immediately after the access has been negotiated.
3) Access to the property will be pre-arranged at least 7 days prior to commencement of construction works.

2.7.5 Use of existing roads

1) Maximum use of both the existing servitudes and the existing roads shall be made. In circumstances where private roads must be used, the condition of the said roads must be recorded prior to use (e.g. photographed) and the condition thereof agreed by the landowner, the Supervisor and the Contractor.
2) All private roads used for access to the servitude shall be maintained by the Contractor and upon completion of the works, be left in at least the original condition.
3) Access shall not necessarily be continuous along the line, and the Contractor must therefore acquaint himself with the physical access restrictions such as rivers, railways, motorways, mountains, etc. along the line. As far as possible, access roads shall follow the contour in hilly areas, as opposed to winding down steep slopes.
4) Access is to be established by vehicles passing over the same track on natural ground, multiple tracks are not permitted. Access roads shall only be constructed where necessary at watercourses, on steep slopes or where boulders prohibit vehicular traffic.
5) The Contractor is to inform the Supervisor before entering any of the following areas:
    a. Naturally wet areas: wetlands, swamps, etc.
    b. Any area after rain.
    c. Any environmentally sensitive area.
6) If access is across running water, the Contractor shall take precautions not to impede the natural flow of water. If instructed, the Contractor is to stone pitch the crossing point. There shall be no pollution of water. Access across running water and the method of crossing shall be at the approval of the Supervisor and the landowner.
7) Where in the opinion of the Supervisor and/or Project Manager, inordinate and irreparable damage would result from the development of access roads; the Contractor shall use alternative construction methods compatible with the access and terrain, as agreed with the Project Manager.
8) Existing water diversion berms are to be maintained during construction and upon Completion be repaired as instructed by the Supervisor.
9) No access roads may be constructed across cultivated lands.

2.7.6 Archaeological and Paleontological Remains

1) Due to the presence of sub-surface Early Stone Age archaeological remains at the proposed Jubilee substation, it is recommended that archaeological monitoring be

conducted by a professional archaeologist during the construction phase of the development. This will minimize potential negative impact on sub-surface archaeological resources. Archaeological resources are protected by Section 35(4)(a) of the National Heritage Resources Act (Act 25 of 1999), which states that "no person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite".

2) It is suggested that a permit is obtained from ECPHR prior to the Construction Phase so that the archaeologist appointed for monitoring can map, plot and collect samples of archaeological remains during the construction phase.

3) Specialist monitoring for fossil heritage is not regarded as necessary, but the ECO should be alerted to the possibility of shelly fossil remains being exposed in new bedrock excavations during construction. Should fossil remains be exposed at any stage during the development, these should be safeguarded in situ and recorded by the ECO (photos, GPS readings). The South African Heritage Resources Agency (SAHRA) must be alerted as soon as possible so that appropriate mitigation measures may be considered.

2.8 Cement mixing/batching plant

1) A service provider should deliver concrete on site. Only small quantities of cement/concrete may be mixed on site.

2) The cement mixing or batching plant area(s) must be indicated on the Site Establishment Plan.

3) These areas must be properly contained as per 3.9 (2).

4) These areas must be kept clean at all times.

5) No mixing of concrete or cement directly on the ground is permitted and boards are to be provided to prevent spillage.

6) Used and unused cement bags must be stored in waterproof containers or areas so as not to be affected by rain or runoff.

7) Any mixed cement at the work area must be placed on boards or container to prevent spillage or contamination of the soil.

8) During cement delivery boards or other protection material must be used to prevent spilling on the ground.

2.9 Surface and groundwater pollution

1) The Contractor shall take all reasonable steps to prevent pollution of surface and groundwater as a result of his activities. Such pollution could result from release (accidental or otherwise) of chemicals, oils, fuels, paint, and sewage, water from excavations, construction water, water carrying soil particles or waste products(pollutants expected to be only from machinery) .

2) Cement or concrete mixing must take place in such a way as to prevent any cement water runoff. All pieces of cement or related material are to be stored and dumped at the approved Municipal site.

3) On completion, storm water or drainage catch pits must be closed with geotextile (biddim) or similar material to prevent sand or other contaminants from entering the system.

4) Ready-mix trucks are not permitted to clean chutes at the work site.

5) The Contractor shall provide water and chemical toilets at each pylon and substation site (1 for every 15 employees).
6) In the event of any pollution entering any water body, the Contractor shall inform the ECO immediately.
7) The contractor will be responsible for any clean-up costs involved should pollution, erosion or sedimentation have taken place.
8) Set cement and concrete are to be disposed of at a licensed disposal site.
9) Wash water from wash of implements should be stored and disposed of at a licensed WWTW.
10) Waste manifests should be obtained from the Municipality to prove legal disposal.

2.10 Noise control

1) Working hours will be restricted from 06:00 to 18:00 on workdays. 06:00 to 13:00 on Saturdays and no work may take place on Sundays and Public Holidays.
2) All noise and sounds generated by plant or machinery must adhere to SABS 0103 specifications for the maximum permissible noise levels for residential areas.
3) All plant and machinery are to be fitted with adequate silencers.
4) No sound amplification equipment such as sirens, loud hailers or hooters may be used on site, after normal working hours, except in emergencies.
5) If work is to be undertaken outside of normal work hours, permission must be obtained from the Landowner. Prior to commencing any such activity, the Contractor is also to advise the potentially affected neighbouring residents. Dates, times and the nature of the work to be undertaken are to be provided. Notification could include letter-drops.
6) The acceptable noise level according to SABS 10103 Code of Practice is 45dBA in rural district during the day and 35dBA at night. The applicant must comply/adhere to these requirements.

2.11 Erosion control

The Contractor shall take all reasonable precautions to prevent soil erosion resulting from a diversion, restriction or increase in the flow of stormwater or water resulting from its operations and activities, to the satisfaction of the ECO.

2.12 Dust control

DUST - generated by works

1) Speeds are to be limited to 30km/h on roads.
2) Sand stockpiles are to be covered with hessian, shade cloth or DPC plastic.
3) Stockpiles are to be located in sheltered areas and the usable/cut face orientated away from the direction of the prevailing wind for that season.
4) Excavating, handling or transporting erodible materials in high wind or when dust plumes visible shall be avoided.
5) If high winds prevail the Engineer shall decide whether water dampening measures or cessation of activities is required, and if necessary, they shall have the authority to temporarily stop certain of the works until wind conditions become more favourable.

Dust – generated by roads and vehicle movement

1) Vehicle speeds shall not exceed 30km/h along gravel roads or 20km/h on unconsolidated or non-vegetated areas. Dust plumes created by vehicle movement are to be monitored.
2) If access roads are generating dust beyond acceptable levels dust suppression measures must be initiated. These include, but are not limited to the following:
3) Reduction of travelling speeds along the road.
4) Restriction of vehicle or plant usage.
5) Application of chemical soil binders.
6) Application of a suitable sacrificial road surfacing.
7) All water abstraction points must be licensed by the Department of Water and Sanitation.
8) If water is to be used for dust suppression, then only the critical areas should be watered. The use of water carts or hand watering is preferable. Overhead sprayers shall not be permitted in windy conditions, as the evaporation loss is too high. Watering is to be supervised to prevent unnecessary water wastage, and runoff into potentially sensitive areas. Preferable watering times are early morning and late afternoon/ evening. Water restrictions are to be observed if in place.
9) Portable water may not be used for dust control
10) Cease driving on gravel roads in high winds
11) Areas near grazing should be dampened when needed to avoid dust pollution.

2.13 Fires

1) Although there is a low risk of fire on this site the Contractor shall take all reasonable and active steps to avoid increasing this risk.
2) No open fires or naked flames for heating or cooking shall be allowed on Site. Stoves and other electrical equipment shall only be permitted in the Contractor's camp and never be left unattended.
3) The Contractor shall ensure that all personnel are aware of any fire risk and the need to extinguish cigarettes before disposal.
4) The Contractor shall have fire-fighting equipment on site and ensure that all personnel are taught how to use it.
5) The Contractor shall identify the authorities responsible for fighting fires in the area and shall liaise with them regarding procedures should a fire start.
6) The contractor should liaise with the local FPA.
7) The Contractor shall ensure that his staff are aware of the fire danger at all times and are aware of the procedure to be followed in the event of a fire.
8) The Contractor shall also ensure that all the necessary telephone numbers etc. are posted at conspicuous and relevant locations in the event of an emergency.
9) The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it.
10) Should a contractor be found responsible for the outbreak of a fire, he shall be liable for any associated costs.
11) Smoking should not be allowed on site without the presence of a fire extinguisher.

2.14 Water management

1) The Contractor shall provide water for drinking and construction purposes.
2) Taps are to be attached to secure supports and leaking taps and hosepipes are to be repaired immediately.

3) Watering as dust suppression must be undertaken as a last resort. It is preferable that sand stockpiles be covered rather than watered.

4) Preferable no water may be abstracted from natural sources and should be obtained from local municipalities.

5) Any abstraction from natural water sources such as a stream or groundwater will require a Method Statement for approval by the ECO.

2.15 Waste management

1) A waste minimisation approach must be followed. This requires recycling wherever possible. All waste from construction will be used as fill in the dam wall.

2) Refuse refers to all solid waste, including construction debris (cement bags, wrapping materials), waste and surplus food, food packaging, organic waste etc.

3) The Contractor shall be responsible for the establishment of a refuse control and removal system that prevents the spread of refuse within and beyond the construction sites.

4) The Contractor shall ensure that all refuse is deposited in refuse bins, which he shall supply and arrange to be emptied on a weekly basis. Refuse bins shall be of such a design that the refuse cannot be blown out and that animals or birds are not attracted to the waste and spread it around. Refuse bins shall be watertight, wind-proof and scavenger-proof and shall be appropriately placed throughout the site. Refuse must also be protected from rain, which may cause pollutants to leach out. Refuse bins shall be appropriately placed throughout the Site and shall be conspicuous (e.g. painted bright yellow).

5) Refuse shall be disposed of at an approved waste site. Refuse shall not be burnt or buried on or near the Site.

6) Waste manifests are to be obtained from the Municipality to prove legal disposal.

7) The Contractor shall provide labourers to clean up the Contractor's camp and Site on a weekly basis or when seen necessary to avoid the pollution of grazing areas.

8) The Contractor shall also clean the Contractor's camp and Site of all structures, equipment, residual litter and building materials at the end of the contract.

2.16 Toilets

1) The Contractor shall be responsible for providing all sanitary arrangements for construction and supervisory staff on the site. A minimum of one chemical toilet shall be provided per 15 persons.

2) Toilets provided by the Contractor must be easily accessible and within a practical distance from the workers.

3) Toilets shall be located within areas of low environmental importance and should not be closer than 100m from any watercourse.

4) The toilets shall be of a neat construction and shall be provided with doors and locks and shall be secured to prevent them blowing over.

5) Toilets shall be placed outside areas susceptible to flooding.

6) The Contractor shall keep the toilets in a clean, neat and hygienic condition. The Contractor shall supply toilet paper at all toilets.

7) The Contractor shall be responsible for the cleaning, maintenance, servicing and emptying of the toilets on a regular basis (by chemical contractor). No waste to be dumped in the bush or stream. The Contractor shall ensure that the toilets are emptied before the builders' or other holidays and the waste be stored and disposed of at an

appropriate place off site. The Contractor shall ensure that no spillage occurs when chemical toilets are cleaned and emptied. The Contractor shall supply a contingency plan for spills from toilets.

8) Performing ablutions in any other area is strictly prohibited.

2.17 Fuel and chemical management

1) Fuel should be delivered to pylons and substation sites in a bowser.
2) The Contractor shall ensure that fuels and chemicals (e.g. drums of fuel, grease, paint, oil, brake fluid, hydraulic fluid) are stored and handled so as to minimise the risk of spillage and that appropriate steps are taken to prevent the pollution in the event of a spill.
3) Refuel vehicles and plants should be placed over drip trays to avoid spills.
4) All fuel, oil, chemicals etc. shall be confined to specific and secured areas within areas of low environmental importance within the construction sites, and in a way that does not pose danger of pollution. These materials must be stored in a bunded area with adequate containment (at least 1, 5 times the volume of fuel) for potential spills or leaks. The fuel dispenser shall be hung within the bunded area while not in use. Gas and fuel shall not be stored in the same storage area.
5) The Contractor shall stand any equipment that may leak, and does not have to be transported regularly, on watertight drip trays to catch any pollutants. The drip trays shall be of a size that the equipment can be placed inside it. Drip trays shall be cleaned regularly and shall not be allowed to overflow.
6) The Contractor shall also ensure that rainwater does not run off areas containing cement, oil, diesel etc. and thus result in a pollution threat.
7) Any hazardous waste materials are to be taken to an approved hazardous waste disposal site.
8) The contractor will be responsible for the cleaning up of any spill and associated costs.

2.18 Vehicles and access roads

1) Site vehicles shall only be permitted within the demarcated construction site or on existing roads to the site, as required to complete their specific tasks.
2) Vehicular traffic shall be limited so as not to cause unnecessary damage to the natural environment.
3) The safety of other road users must be ensured at all times. The Contractor shall prevent public access to the construction site.

2.18.1 Construction traffic

1) Construction routes must be clearly defined.
2) Access of all construction and material delivery vehicles should be strictly controlled, especially during wet weather to avoid compaction and damage to the topsoil structure.
3) Wheel washing and damping down of un-surfaced roads must be implemented to reduce dust as required.
4) Vehicles and equipment shall be serviced regularly to avoid the contamination of soil from oil and hydraulic fluid leaks etc.
5) Servicing must be done off-site at a service provider.
6) Oil changes must take place on a concrete platform or on a drip tray off site.

7) Soils compacted by construction shall be deep ripped to loosen compacted layers and re-graded to even running levels.

2.18.2 Access

1) Temporary access roads that might be required must be rehabilitated prior to the Contractor leaving the site.
2) Strategic positioning of entry and exit points to ensure as little impact/ effect as possible on the traffic flow.
3) The main routes to the site must be clearly signposted.

2.18.3 Road maintenance

1) Contractors should ensure that access roads are maintained in good condition by attending to potholes, corrugations and stormwater damage as soon as these develop.
2) If necessary, staff must be employed to clean surfaced roads adjacent to construction sites where materials have spilt.

2.19 Stockpiling of materials

1) The Contractor shall temporarily stockpile topsoil materials in such a way that the spread of materials is minimised, and thus the impact on the natural vegetation.
2) The stockpiles must be placed within areas demarcated for this purpose. The ECO shall approve stockpile areas.
3) Stockpiles may not be higher than 1,5m.
4) Stockpiles should be managed to prevent the growth of alien invasion species and erosion.

2.20 Heritage remains

1) Should any heritage remains be exposed during excavations, these must immediately be reported to the Eastern Cape Heritage Resource Agency. Heritage remains uncovered or disturbed during earthworks must not be disturbed further until the necessary approval has been obtained.

2.21 Environmental Control Officer or Resident Engineer

An Environmental Control Officer (ECO) or resident engineer will implement environmental control of the development. The ECO duties will be as follows:

- Ensure implementation and monitoring of the EMP.
- Make changes to the EMP as required.
- Visit the site monthly.
- Maintain a photographic record of the work and environmental issues.

2.22 Documentation control

The ECO will maintain a file containing the following:

1) Copy of the EMP
2) Methodology statement(s) by the contractor(s)
3) Site establishment plan

4) Letter from contractor(s) indicating that he has familiarised himself with the contents of the EMP.
5) Letter from contractor(s) on environmental awareness training
6) Tracking table (see Appendix B)

2.23 Tower sites and rehabilitation

1) Disturbance of topsoil on tower sites with severe slopes shall be minimised at all costs.
2) At any tower sites where conventional foundations are installed, the Contractor shall remove the topsoil separately and store it for later use during rehabilitation of such tower sites. The location and method for stockpiling of any material must be in consultation with the ECO to ensure material is not stockpiled in drainage lines, the quality and make up of stockpiled material is not compromised, etc.
3) During backfilling operations, the Contractor shall take care not to dump the topsoil in the bottom of the foundation and then put spoil on top.
4) Re-seeding shall be done on disturbed areas as directed by the ECO. In accordance with the Conservation of Agricultural Resources Act, No. 43 of 1983, slopes in excess of 2% must be contoured and slopes in excess of 12% must be terraced.
5) Other methods of rehabilitation of tower sites may also be used at the discretion of the ECO, e.g. stone pitching, logging, etc.
6) Contour banks shall be spaced according to the slope on tower sites. The type of soil shall also be taken into consideration.
7) To get the best results in a specific area, it is a good idea to consult with a specialist or the local extension officer of the Dept of Agriculture or as agreed with the ECO...
8) Seed distributors can also give valuable advice as to the mixtures and amount of seed necessary to seed a certain area.
9) Re-seeding, as well as fencing in of badly damaged areas, will always be at the discretion of the ECO, unless specifically requested by a landowner.

2.24 Construction and the National road

1) No tower pole or stay shall be erected within a distance of sixty (60) meters, measured from the national road reserve boundary.
2) A vertical clearance of not less than 7, 5 meters, measured from the crown of the national road to the lowest wire shall be observed.
3) All other structures shall not be erected closer that twenty metres measured from the national road reserve boundary.
4) All services parallel to or crossing the national road, (over, above or underneath and adjacent) have to approved by SANRAL prior to the commencement of the work.

2.25 Construction and Provincial roads

1) An application form must be completed and submitted to the Department of Roads, Eastern Cape before any work affecting provincial roads may commence
2) All conditions as set out by the Department must be adhered to as in Appendix A.

2.26 Levelling at tower sites

1) No levelling at tower sites shall be permitted unless approved by the ECO/Resident Engineer.
2) The steep slopes formed by the cutbanks and respective fillings when building the tower platforms are to be trimmed back to angle that ensures stability of the slope. When ground is loose, berms are to be built top of the slope, 2m long logs spaced evenly must be pegged across the downslope, re-vegetated with appropriate local grass seeds together with organic fertiliser.

2.27 Closure of roads

1) Upon completion, only roads as indicated by the ECO/Resident Engineer may be closed.
2) In areas where no cut or fill has been made, barriers of earth, rocks or other suitable material shall affect closure.
3) Replacement of earth shall be at slopes less than the normal angle of repose for the soil type involved.

2.28 Installation of gates

1) Care shall be taken that the gates shall be so erected that a gap of no more than 100mm to the ground is left below the gate.
2) Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill as shown on the drawing shall be provided beneath the gate.
3) The original tension is to be maintained in the fence wires.
4) Where required, the Contractor shall replace rusted or damaged wire strands on either side of the gate with similar new wiring to prevent the movement of animals. The extent of the replacement shall be on the Supervisor's instruction.

2.29 Securing of gates

1) The Contractor shall ensure that all servitude gates used by him are kept closed and locked at all times.
2) The Contractor shall provide locks for all servitude gates, and when the line is taken over, these locks shall be removed by the Contractor and replaced by locks supplied by the Employer. The Contractor shall provide the Supervisor with keys for the above locks. No keys shall be provided to the landowners, to avoid conflict situations between neighbouring landowners.

2.30 General

1) Attention is drawn to the Fencing Act No. 31 of 1963 as amended in particular with regard to leaving open of gates and the dropping of fences for crossing purposes, climbing, and wilful damage or removal of fences.
2) At points where the line crosses any fence in which there is no suitable gate within the extent of the line servitude the Contractor is to, on the ECO Resident Engineer instruction, provide and install a servitude gate. The Contractor will mark these crossing points when the tower positions are being pegged. This may only be done in consultation with and with the landowner's permission
3) Where applicable game gates are to be installed in accordance.

4) All vehicles shall pass through gates when crossing fences and the Contractor shall not be allowed to drop fences temporarily for the purpose of driving over them. No construction work shall be allowed to commence on any section of line, unless all gates in that section have been installed. Installation of gates in fences on major road reserves shall comply with the ordinances of the relevant Provisional Authority. No gates may be installed in National Road and Railway fences.

3 Management Programme – Operational

3.1 Transmission Line Towers and Line Construction

3.1.1 Road maintenance

1) The ECO must establish and agree maintenance responsibilities with the landowner.
2) All existing private access roads used for construction purposes, shall be maintained at all times to ensure that the local people have free access to and from their properties
3) Where necessary suitable measures shall be taken to rehabilitate damaged areas.
4) Contractors must ensure that access roads are maintained in good condition by attending to potholes, corrugations and stormwater damages as soon as these develop.
5) If necessary, staff must be employed to clean surfaced roads adjacent to construction sites where materials have spilt.

3.1.2 General

1) The contractor shall meet safety requirements under all circumstances. All equipment transported shall be clearly labelled as to their potential hazards according to specifications. All the required safety labelling on the containers and trucks used shall be in place.
2) The Contractor shall ensure that all the necessary precautions against damage to the environment and injury to persons are taken.
3) Care for the safety and security of community members crossing access roads must receive priority at all times
4) Attention is drawn to the Fencing Act No. 31 of 1963 as amended in particular with regard to leaving open of gates and the dropping of fences for crossing purposes, climbing, and wilful damage or removal of fences.
5) A notice period of at least seven days should be given to the property owners before the operational period of the lines.

3.1.3 Securing of gates

1) The Contractor shall ensure that all servitude gates used by him are kept closed and locked at all times.
2) All vehicles shall pass through gates when crossing fences and the Contractor shall not be allowed to drop fences temporarily for the purpose of driving over them. No construction work shall be allowed to commence on any section of line, unless all gates in that section have been installed. Installation of gates in fences on major road reserves shall comply with the ordinances of the relevant Provisional Authority. No gates may be installed in National Road and Railway fences.
3) The Contractor shall provide locks for all servitude gates, and when the line is taken over, these locks shall be removed by the Contractor and replaced by locks supplied by the Employer. The Contractor shall provide the Supervisor with keys for the above locks. No keys shall be provided to the landowners, to avoid conflict situations between neighbouring landowners.

Appendix A: Environmental Authorisation

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA
Private Bag X 447· PRETORIA· 0001· Environment House· 473 Steve Biko Road, Arcadia, PRETORIA, 0083
Tel (+ 27 12) 399 9372

DEA Reference: 14/12/16/3/3/1/1479
Enquiries: Mr Jay-Jay Mpelane
Telephone: 012-399-9404 **E-mail:** jmpelane@environment.gov.za

Mr Edward Charles Oosthuizen
Kouga Local Municipality
P.O Box 21
JEFFREYS BAY
6330

Tel number: (042) 200 2200
Email address: eddieo@kouga.gov.za

PER EMAIL / MAIL

Dear Mr Oosthuizen

ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R.983 FOR THE CONSTRUCTION OF A 66kV OVERHEAD POWER LINE AND SUBSTATIONS, JEFFREYS BAY WITHIN THE KOUGA LOCAL MUNICIPALITY IN THE EASTERN CAPE PROVINCE

With reference to the above application, please be advised that the Department has decided to grant environmental authorisation. The environmental authorisation (EA) and reasons for the decision are attached herewith.

In terms of regulation 4(2) of the Environmental Impact Assessment Regulations, 2014 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the EA, of the Department's decision in respect of your application as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 2 of Government Notice No. R.993, which prescribes the appeal procedure to be followed. An appellant must submit an appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party and any organ of state with interest in the matter within 20 days from the date that the notification of the decision for an application for an environmental authorisation was sent to the registered interested and affected parties by the applicant.

By post: Private Bag X447,
Pretoria,
0001; or

By hand: Environment House,
473 Steve Biko Road,
Arcadia
Pretoria

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If the applicant wishes to lodge an appeal, it must also serve a copy of the notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where, and for what period, the appeal submission will be available for inspection, should you intend to submit an appeal.

Appeals must be submitted in writing to:

Mr Z Hassam, Director: Appeals and Legal Review, of this Department at the above mentioned addresses. Mr Hassam can also be contacted at:

Tel number: (012) 399 9356
Email address: Appealsdirectorate@environment.gov.za

Please note that in terms of section 43(7) of the National Environmental Management Act, 1998, an appeal under section 43 of that Act will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

For guidance on appeals submitted to the Minister in terms of NEMA and the SEMAs, please find a copy of the guideline on the administration of appeals on the Department's website:
(https://www.environment.gov.za/documents/forms#legal_authorisations).
Kindly include a copy of this document with the letter of notification to interested and affected parties.

Yours faithfully

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 23/05/2016

CC	Pieter Badenhorst	PBPS cc.	Cell: 0827763422	pbps@iafrica.com
	Mr A. Struwing	EC: DEDEAT	Tel: (041) 508 5815	Andries.struwig@deaet.ecape.gov.za

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environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of Regulation 25 of the Environmental Impact Assessment Regulations, 2014

CONSTRUCTION OF A 66kV OVERHEAD POWER LINE AND SUBSTATIONS, JEFFREYS BAY WITHIN THE KOUGA LOCAL MUNICIPALITY IN THE EASTERN CAPE PROVINCE

SARAH BAARTMAN DISTRICT MUNICIPALITY

Authorisation register number:	*14/12/16/3/3/1/1479*
Last amended:	*First issue*
Holder of authorisation:	*Kouga Local Municipality*
Location of activity:	*EASTERN CAPE PROVINCE: within the Kouga Local Municipality*

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

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Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 the Department hereby authorises–

KOUGA LOCAL MUNICIPALITY

with the following contact details –

Mr Edward Charles Oosthuizen
Kouga Local Municipality
P.O Box 21
JEFFREYS BAY
6330

Tel number: (042) 200 2200
Email address: eddieo@kouga.gov.za

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Environmental Authorisation Reg. No. 14/12/16/3/3/1/1479

- to undertake the following activity (hereafter referred to as "the activity") indicated in Listing Notices 1, GN R. 983.

Listed activities	Activity/Project description
GN R. 983 Item 11: The development of facilities or infrastructure for the transmission and distribution of electricity- (i) Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or more. (ii) Inside urban area or industrial complexes with a capacity of 275 kilovolts or more.	Overhead 66kV power line and substations, partially inside and outside of urban areas, will be upgraded and installed. Two new substations (Boplaas and Wavecrest) are planned and the Main S/S will be extended.
GN R. 983 Item 27 The clearance of an area of 1 hectares or more, but less than 20hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for: (i) the undertaking of a linear activity, or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Clearance of vegetation for the building of two new substations and expansion of the Main Substation will be required. The total area for substation clearing is 18.7 hectares.
GN R. 985 12 (a) (ii) The clearance of an area of 300 square metres or more of indigenous vegetation, except where such clearance indigenous vegetation is required for: (ii) maintenance purposes undertaken in accordance with a maintenance management plan. (a) **In the Eastern cape**: (iv). On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.	Clearance of vegetation for the building of two new substations and expansion of the Main Substation will be required. The total area for substation clearing is 18.7 hectares. This listed activity is triggered because the one area is zoned Public Open Space. All other areas are not situated in a critically endangered or endangered ecosystem, within CBAs, littoral active zones or within 100m inland from the high water mark. None of the properties are zoned as open space, except for the Main substation, conservation or an equivalent zoning.
GN R. 985 14	

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Listed activities	Activity/Project description
The development of: (x) buildings exceeding 10 square metres in size; (xii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; (a) **In Eastern Cape:** iii. In urban areas: (aa). Areas zoned for use as public open	The proposed project will include the construction of overhead 66kV line servitudes and substations, partially inside and outside of urban areas that will be upgraded and installed. Two new substations (Boplaas and Wavecrest) are planned and the Main S/S will be enlarged. This activity is triggered because the area at Main Substation which will be enlarged is inside the urban area and is zoned Public Open Space.

-as described in the Basic Assessment Report (BAR) dated 16 February 2016 and Addendum to the final BAR dated 6 April 2016 at:

21 DIGIT CODE PROPERTY DESCRIPTION:

No.	PROPERTY DESCRIPTION	SG 21 DIGIT CODE
1	ERF 1268 HUMANSDORP	C034 0005 00001268 00000
2	ERF 499 HUMANSDORP	C034 0005 00000499 00000
3	Portion 4 of Rheeboksfontein No 346	C034 0000 00000346 00004
4	Portion 28 of Rheeboksfontein No 346	C034 0000 00000346 00028
5	Portion 6 of Melkhoutbosch No 345	C034 0000 00000345 00006
6	Portion 5 of Melkhoutbosch No 345	C034 0000 00000345 00005
7	Remainder of Melkhoutbosch No 345	C034 0000 00000345 00000
8	Portion 4 of Melkhoutbosch No 345	C034 0000 00000345 00004
9	Farm No. 895	C034 0000 00000895 00000
10	Portion 77 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00077
11	Portion 1 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00001
12	Portion 119 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00119
13	Portion 10 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00010
14	Portion 3 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00003
15	Portion 123 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00123
16	Portion 63 of Estate Klein Zeekoe River No.335	C034 0000 00000335 00063
17	ERF 8798 JEFFREYS BAY	C034 0006 00008798 00000
18	ERF 8786 JEFFREYS BAY	C034 0006 00008786 00000
19	ERF 8787 JEFFREYS BAY	C034 0006 00008787 00000
20	ERF 8790 JEFFREYS BAY	C034 0006 00008790 00000

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21	ERF 8788 JEFFREYS BAY	C034 0006 00008788 00000
22	ERF 9208 JEFFREYS BAY	C034 0006 00009208 00000
23	ERF 10041 JEFFREYS BAY	C034 0006 00010041 00000
24	ERF 8789 JEFFREYS BAY	C034 0006 00008789 00000
25	ERF 10043 JEFFREYS BAY	C034 0006 00010043 00000

Substation Corners coordinates		
Boplaas Substation	**Latitude**	**Longitude**
A	34° 2'11.83"S	24°53'22.22"E
B	34° 2'11.95"S	24°53'25.34"E
C	34° 2'13.90"S	24°53'25.23"E
D	34° 2'13.76"S	24°53'22.12"E

Wavecrest Substation	**Latitude**	**Longitude**
A	34° 1'6.57"S	24°54'18.85"E
B	34° 1'8.19"S	24°54'20.15"E
C	34° 1'9.27"S	24°54'18.17"E
D	34° 1'7.60"S	24°54'16.90"E

Expansion of Main Substation	**Latitude**	**Longitude**
A	34° 2'28.40"S	24°54'29.76"E
B	34° 2'29.97"S	24°54'32.24"E
C	34° 2'31.29"S	24°54'31.09"E
D	34° 2'30.80"S	24°54'30.34"E
E	34° 2'29.86"S	24°54'29.66"E

Power line Alternative A (from Melkhout to Wavecrest SS)		
	Latitude (S)	**Longitude (E)**
Starting point	34° 0'5.31"S	24°47'2.68"E
Middle point	33°59'52.66"S	24°50'50.85"E
End point	34° 1'8.45"S	24°54'17.51"E
Power line Alternative C (from Main SS to Jubilee extension, pass Boplaas SS to meet the power line from Melkhout SS to the Wavecrest SS).		
	Latitude (S)	**Longitude (E)**
Starting point	34° 2'28.36"S	24°54'29.75"E
Middle point	34° 3'18.69"S	24°53'25.62"E
End point	34° 1'20.01"S	24°53'25.44"E

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- for the proposed 66kV overhead line servitudes and substations, Jeffreys Bay within the Kouga Local Municipality in the Eastern Cape Province, hereafter referred to as "the property".

Conditions of this Environmental Authorisation

Scope of authorisation

1. Two (2) substations (Boplaas and Wavecrest Substations), including the expansion of the existing Main Substation to the south with a building line and Power Line Alternative A (from Melkhout Substation to Wavecrest Substation), Power Line Alternative C (from Main Substation, passing the Jubilee extension, and Boplaas Substation to meet the power line from Melkhout Substation to the Wavecrest Substation) for the proposed project are approved.
2. Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
4. The activities authorised must only be carried out at the property as described above.
5. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
6. This activity must commence within a period of five (5) years from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.
8. The holder of an environmental authorisation must apply for an amendment of environmental authorisation with the competent authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.

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Notification of authorisation and right to appeal

9. The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
10. The notification referred to must –
    10.1. specify the date on which the authorisation was issued;
    10.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;
    10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
    10.4. give the reasons of the competent authority for the decision.
11. The holder of the authorisation must publish a notice –
    11.1. informing interested and affected parties of the decision;
    11.2. informing interested and affected parties where the decision can be accessed; and
    11.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in terms of the National Appeal Regulations, 2014.

Commencement of the activity

12. The authorised activity must not commence within twenty (20) days of the date of signature of the authorisation.
13. In terms of section 43(7) of the National Environmental Management Act, 1998, an appeal under section 43 of that Act will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

Management of the activity

14. The Environmental Management Programme (EMPr) that complies with GN R.982 of Appendix 4(1) was integrated as part of the BAR. The EMPr is approved and it must be implemented and adhered to.

Monitoring

15. The holder of the authorisation must appoint an experienced independent Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr.
    15.1. The ECO must be appointed before commencement of any authorised activities.
    15.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
    15.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
    15.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

Recording and reporting to the Department

16. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this environmental authorisation, must be submitted to the *Director: Compliance Monitoring* of the Department.
17. The holder of the environmental authorisation must, for the period during which the environmental authorisation and EMPr remain valid, ensure that project compliance with the conditions of the environmental authorisation and the EMPr are audited, and that the audit reports are submitted to the *Director: Compliance Monitoring* of the Department.
18. The frequency of auditing and of submission of the environmental audit reports must be as per the frequency indicated in the EMPr, taking into account the processes for such auditing as prescribed in Regulation 34 of GN R. 982.
19. The holder of the authorisation must, in addition, submit an environmental audit reports to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and a final environmental audit report within 30 days of completion of rehabilitation activities.
20. The environmental audit reports must be compiled in accordance with appendix 7 of the EIA Regulations, 2014 and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the approved EMPr.

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21. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

Notification to authorities

22. A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number.

Operation of the activity

23. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.

Site closure and decommissioning

24. Should the activity ever cease or become redundant, the holder of the authorisation must undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

Specific conditions

25. The applicant must ensure that the pylons are erected 60 metres away from the Provincial Road (R389). Precautionary measures must be put in place to ensure that all existing services are not damaged when work commences.
26. Vegetation clearing must be limited to the required footprint. Mitigation measures must be implemented to reduce the risk of erosion and the invasion of alien species.
27. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, re-use and disposal.
28. Any solid waste must be disposed of at a landfill licensed in terms of section 20 (b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).
29. Should any other historical, cultural, paleontological resources and graves be discovered, which were not anticipated to be found in the course of development of the proposed power line, all construction activities

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must be suspended and SAHRA must be contacted immediately so that the finds can be investigated and mitigation measures proposed. Furthermore, all heritage features must be demarcated and regarded as No-Go areas before construction commences.

30. Anti-collision devices such as bird flappers must be installed where the power line crosses avifaunal corridors and watercourses.

General

31. A copy of this environmental authorisation, the audit and compliance monitoring reports, and the approved EMPr, must be made available for inspection and copying-
    31.1. at the site of the authorised activity;
    31.2. to anyone on request; and
    31.3. where the holder of the environmental authorisation has a website, on such publicly accessible website.
32. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the holder of the authorisation or his/her successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the holder of the authorisation with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 23/05/2016

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs

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Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

a) The information contained in the BAR dated February 2016 and Addendum to the BAR dated April 2016.
b) Mitigation measures as proposed in the BAR dated February 2016, Addendum to the BAR dated April 2016 and the EMPr dated February 2016 contained in Appendix G.
c) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No.107 of 1998).

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

a) The findings of the specialist study conducted for this project and their recommended mitigation measures.
b) The proposed project is intended to increased reliability of electricity supply within the area.
c) The BAR dated February 2016 identified all legislation and guidelines that have been considered in the preparation of the BAR.
d) The methodology used in assessing the potential impacts identified in the BAR dated February 2016.
e) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2014 for public involvement.

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3. Findings

After consideration of the information and factors listed above, the Department made the following findings –

a) The identification and assessment of impacts are detailed in the Addendum to the BAR dated April 2016 as well as sufficient assessment of the key identified issues and impacts have been completed.

b) The procedure followed for impact assessment is adequate for the decision-making process.

c) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.

d) The information contained in the BAR dated February 2016 and Addendum to the BAR dated April 2016 is accurate and credible.

e) EMPr measures for the construction, Tower sites and rehabilitation phases of the development were proposed and included in the BAR and Addendum to the BAR dated April 2016 will be implemented to manage the identified environmental impacts during the construction process.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.

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Appendix B: Tracking Table

Requirement	Received		Date	Comment
	Yes	No		
Methodology statement				
Site establishment plan				
Letter re contents of EMP				
Letter re awareness training				