TENDER REFERENCE: EED 05 – 2022/23

TENDER TO PROVIDE A SERVICE TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300 MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRE BASIS FOR A PERIOD OF THREE (3) YEARS

VOLUME 1

A Tender for Category 7EP or higher CIDB Registered Contractors

ISSUED BY:	PREPARED BY:
The Divisional Head **Supply Chain Management** **Tshwane House** **320 Madiba Street** **PRETORIA CBD** **0002**	**The Group Head** **Energy and Electricity Department** **4th Floor** **Middestad Building** **252 Thabo Sehume street** **Pretoria** **0002**

Registered Name of Tenderer:	
Trading Name of Tenderer:	
Registration No. of Entity:	
Contact Person:	CoT Vendor No (Where Applicable):
Tel. No:	E-Mail Address:
Cell No:	Fax No:

In compliance with the CIDB Standard for Uniformity

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PORTION 1: TENDER

PART T1: TENDER PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

EED 05-2022/23

CITY OF TSHWANE
ENERGY & ELECTRICTY DEPARTMENT
ENERGY BUSINESS DIVISION

TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS

Tenders are hereby invited for the above work.

Tenderers should have a CIDB contractor grading designation of Category 7EP or Higher

THE TENDER DOCUMENTS WILL BE AVAILABLE ON CITY OF TSHWANE OFFICIAL WEBSITE (WWW.TSHWANE.GOV.ZA) and E-portal (www.etenders.gov.za)

Tenders must remain valid for a period of **90 days** after the closing date for the submission of tenders, during which period a tender may not be amended or withdrawn and may be accepted at any time by the Municipality.

The closing time for receipt of tenders is **10H00am** on **Thursday, 15 December 2022** . Tenders will be received on the closing date and time shown, must be enclosed in sealed envelopes bearing the applicable tender heading and reference number, as well as the closing time and due date, and must be addressed to the Divisional Head, SUPPLY CHAIN MANAGEMENT, PRETORIA, 0002 and must be deposited in the tender box situated at **Tshwane House, 320 Madiba Street, Pretoria CBD.** Tenders will be opened at the latter address at the time indicated.

ENQUIRIES:

Employers Agent: **Fanie Venter**

Tel (Office): **012-358-0329**

E-Mail: **fanieve@Tshwane.gov.za**

Mr Johann Mettler
City Manager
Notice 8 of 2022/23

T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in **Annexure C** of **Standard for Uniformity in Construction Procurement (Board Notice Government Gazette No 42622 of 08 August 2019)**, bound into Section T1.3

The Standard Conditions of Tender makes several references to the Tender Data. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender to which it mainly applies.

CLAUSE NUMBER		TENDER DATA
C.1.1	Actions	The Employer is **City Of Tshwane Metropolitan Municipality**
C.1.2	Tender Documents	Volume 1: Tender Document **THE TENDER** **Part T1: Tendering Procedures** T1.1 – Tender notice and invitation to tender T1.2 – Tender data T1.3 – Standard Conditions of Tender **Part T2: Returnable documents** T2.1 – List of returnable documents T2.2 – Returnable schedules **THE CONTRACT** **Part C1: Agreements and contract data** C1.1 – Form of offer and acceptance C1.2 – Contract data C1.3 – Form of Guarantee C1.4 - Example form of Guarantee C1.5 – Health and safety agreement **Part C2: Pricing data** C2.1 – Pricing instruction C2.2 – Pricing schedule **Part C3: Scope of work** C3.1 – Description of works C3.2 – Health and safety **Part C4: Site information** C4.1 – Locality plans and drawings
C.1.3 *C.1.3.4*	Interpretation	**Add** the following new clause: *The tender documents have been drafted in English. The contract arising from the invitation to tender shall be interpreted and construed in English*
C.1.4	Communication and	Agent: **Fanie Venter** Tel: **012-358-0329**

CLAUSE NUMBER		TENDER DATA
	Employer's Agent	E-Mail: **fanieve@Tshwane.gov.za**
C.2.1	Eligibility	Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contract 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 7**EP** class of construction work, are eligible to submit tenders
		Joint Ventures are eligible to submit tenders provided that: 1. The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor designation in accordance with the sum tendered for a 6**EP** class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations. **CIDB JOINT VENTURE GRADING TABLE**

Designation	Deemed to satisfy joint venture arrangements
3	Three contractors registered in contractor grading designation 2
4	Three contractors registered in contractor grading designation 3
5	Two contractors registered in contractor grading designation 4 One contractor registered in contractor grading designation 4 and two registered in contractor grading designation 3
6	Two contractors registered in contractor grading designation 5 One contractor registered in contractor grading designation 5 and two registered in contractor grading designation 4
7	Two contractors registered in contractor grading designation 6 One contractor registered in contractor grading designation 6 and two registered in contractor grading designation 5
8	Three contractors registered in contractor grading designation 7
9	Three contractors registered in contractor grading designation 8

		STAGE 1: Administration Evaluation The bidder must submit the required returnable documents as required by the City of Tshwane's Supply Chain Management requirements. **STAGE 2: Local Contents** All goods and services rendered must comply to the (Department of Trade and Industry) DTI requirements and regulation. Minimum threshold for local production and content:

CLAUSE NUMBER	TENDER DATA

Description	%
Cable jointer	100%
Bonding lead	90%
Electrical Cable	90%
Transformers and Shunt Reactors:	
Class 0	90 %
Class 1	70 %
Class 2	70 %
Class 3	45 %
Class 4	10 %
Steel Products and Component for Construction	
Fabricated Structural Steel	100%
Joining/Connecting Components	100%
Frames	100%
Roof and Cladding	100%
Fasteners	100%
Wire Products	100%
Ducting and Structural pipework	100%
Gutters, downpipes & lauders	100%
Steel Value-added Products	
Plates	100%
Sheets	100%
Galvanised and Colour Coated Coils	100%
Wire Rod and Drawn Wire	100%
Sections	100%
Reinforcing bars	100%
Plastic Pipes	100%
Polyvinyl chloride (PVC) pipes	100%
High density polyethylene (HDPE) pipes	100%
Polypropylene (PP) pipes	100%
Glass reinforced plastic (GRP) pipes	100%
Industrial lead Acid Batteries	50%

Only locally produced or locally manufactured cables with a stipulated minimum threshold of 90% for local production and contents will be considered.
Failure to meet this requirement will lead to disqualification.

CLAUSE NUMBER	TENDER DATA

STAGE 1: Administration Evaluation

The bidder must submit the required returnable documents as required by the City of Tshwane's Supply Chain Management requirements.

STAGE 2: Local Contents

All goods and services rendered must comply to the (Department of Trade and Industry) DTI requirements and regulation.
Minimum threshold for local production and content:

Description	%
Cable jointer	100%
Bonding lead	90%
Electrical Cable	90%
Transformers and Shunt Reactors:	
Class 0	90 %
Class 1	70 %
Class 2	70 %
Class 3	45 %
Class 4	10 %
Steel Products and Component for Construction	
Fabricated Structural Steel	100%
Joining/Connecting Components	100%
Frames	100%
Roof and Cladding	100%
Fasteners	100%
Wire Products	100%
Ducting and Structural pipework	100%
Gutters, downpipes & lauders	100%
Steel Value-added Products	
Plates	100%
Sheets	100%
Galvanised and Colour Coated Coils	100%
Wire Rod and Drawn Wire	100%
Sections	100%
Reinforcing bars	100%
Plastic Pipes	100%
Polyvinyl chloride (PVC) pipes	100%
High density polyethylene (HDPE) pipes	100%
Polypropylene (PP) pipes	100%
Glass reinforced plastic (GRP) pipes	100%
Industrial lead Acid Batteries	50%

CLAUSE NUMBER	TENDER DATA
	Only locally produced or locally manufactured cables with a stipulated minimum threshold of 90% for local production and contents will be considered. Failure to meet this requirement will lead to disqualification. **STAGE 3: Mandatory Requirements** **The following mandatory must be submitted with the tender document and failure to comply and with these requirements will lead to the bidder being disqualified.** 3.1 Provide proof that a minimum of four (4) competent transmission Linemen, are trained in **tower climbing** (NQF Level 3 or Higher) or a minimum post qualification as transmission lineman. Provide certified copy of Certificates from relevant accredited institutions that provides training in tower climbing. Attach curriculum vitae with minimum 2 projects completed with references. 3.2 Provide proof that two (2) or more competent transmission Linesmen, are trained in tower fall and emergency **recovery by rope**. Attach certificates from a recognized institution, equal or better than (SAQA) South African Qualification Authority. 3.3 Attached a "test and **certified certificate**" for all the Safety Harness or submit proof that harness is still under guaranteed and safe to use 3.4 Key staff to submit proof of valid ORHVS (Operating Regulation for High Voltage System) certificate. 3.5 The tenderer must have in his employ a registered provisional Civil Engineer, who is in possession of a valid engineering council of South Africa (ECSA) certificate. 3.6 The tenderer must have in his employ a registered provisional Electrical Engineer, who is in possession of a valid engineering council of South Africa (ECSA) certificate. **The tenderers must complete Schedule of Particulars and guarantee Part C2. Pricing data – Schedule of particulars and guarantee** The tenderers must offer and guarantee the specified requirement in the Schedule of Particulars. **The tenderer must complete Part C2.1- Bill of Quantity:** **Item 1 to Item 41**

CLAUSE NUMBER	TENDER DATA

STAGE 4 FUNCTIONALITY SCORE CARD

The following criteria and weights will be applied when bids are assessed for **functionality.**

Local Contents

All goods and services rendered must comply to the (Department of Trade and Industry) DTI requirements and regulation.
Minimum threshold for local production and content:

Description	%
Cable jointer	100%
Bonding lead	90%
Electrical Cable	90%
Transformers and Shunt Reactors:	
Class 0	90 %
Class 1	70 %
Class 2	70 %
Class 3	45 %
Class 4	10 %
Steel Products and Component for Construction	
Fabricated Structural Steel	100%
Joining/Connecting Components	100%
Frames	100%
Roof and Cladding	100%
Fasteners	100%
Wire Products	100%
Ducting and Structural pipework	100%
Gutters, downpipes & lauders	100%
Steel Value-added Products	
Plates	100%
Sheets	100%
Galvanised and Colour Coated Coils	100%
Wire Rod and Drawn Wire	100%
Sections	100%
Reinforcing bars	100%
Plastic Pipes	100%
Polyvinyl chloride (PVC) pipes	100%
High density polyethylene (HDPE) pipes	100%
Polypropylene (PP) pipes	100%
Glass reinforced plastic (GRP) pipes	100%

CLAUSE NUMBER	TENDER DATA

Industrial lead Acid Batteries	50%

Only locally produced or locally manufactured cables with a stipulated minimum threshold of 90% for local production and contents will be considered.
Failure to meet this requirement will lead to disqualification.

4.3 STAGE 3: MANDATORY REQUIRMENTS

4.3.1 Provide proof that a minimum of four (4) competent transmission Linemen, are trained in **tower climbing** (NQF Level 3 or Higher) or a minimum post qualification as transmission lineman. Provide certified copy of Certificates from relevant accredited institutions that provides training in tower climbing. Attach curriculum vitae with minimum 2 projects completed with references.

4.3.2 Provide proof that two (2) or more competent transmission Linesmen, are trained in tower fall and emergency **recovery by rope**. Attach certificates from a recognized institution, equal or better than (SAQA) South African Qualification Authority.

4.3.3 Attached a "test and **certified certificate**" for all the Safety Harness or submit proof that harness is still under guaranteed and safe to use

4.3.4 Key staff to submit proof of valid ORHVS (Operating Regulation for High Voltage System) certificate.

4.3.5 The tenderer must have in his employ a registered provisional Civil Engineer, who is in possession of a valid engineering council of South Africa (ECSA) certificate.

4.3.6 The tenderer must have in his employ a registered provisional Electrical Engineer, who is in possession of a valid engineering council of South Africa (ECSA) certificate.

Failure to comply with these requirements will lead to the bidder being disqualified.

The tenderers must complete Schedule of Particulars and guarantee Part C2. Pricing data – Schedule of particulars and guarantee

The tenderers must offer and guarantee the specified requirement in the Schedule of Particulars.

The tenderer must complete Part C2.1- Bill of Quantity:

Item 1 to Item 41

CLAUSE NUMBER	TENDER DATA

4.4 STAGE 4: FUNCTIONALITY SCORE CARD

The following criteria and weights will be applied when bids are assessed for **functionality.**

NO	CRITERIA	SUB-CRITERIA	SCALE	WEIGHT	HIGHEST POSSIBLE SCORE
1	**TENDERER'S EXPERIENCE** Complete Form RD.D.2 and attach signed copies of contract appointment letters and project completion certificates for work successfully completed by the tenderer. Completed projects must be turnkey which includes (design, supply, delivery, installation, testing, and commissioning of electrical power lines and associated equipment). **Only completed projects on 132kV power lines or Higher will be considered.**	**Only projects with verifiable documentary proof in the form of both appointment letter(s) and completion certificate(s) will be considered and awarded points.**			
		Appointment letter and completion certificate for at least 1 to 2 projects	1	15	45
		Appointment letters and completion certificates for at least 3 to 4 projects	2		
		Appointment letters and completion certificates for at least 5 or more projects	3		
2	**KEY PERSONNEL**	**The tenderer must have in his employ, personnel with the following years' experience in maintenance and construction**			

CLAUSE NUMBER	TENDER DATA				
		EXPERIENCE The tenderer must have in his employment, the management and project engineer personnel with the necessary years' experience in the Electrical engineering field. **It is compulsory to complete Form RD.D.3 and attach <u>certified copies</u> of qualifications of key personnel.**	**of electrical 33KV / 132KV Towers** Years' experience 1-3 years: 2 Years' experience 4-6 years: 4 Years' experience 7 + years: 6	5	30
	3	**Quality Management System** **Complete Form RD.D.4** **(NOTE: Points will be allocated and added for each)**	Provide company's valid ISO 9001 compliance certificate **(see below table)**: 1 Provide company's valid ISO 14001 compliance certificate **(see below table)**: 1	5	10
	4	**LOCAL ECONOMIC PARTICIPATIO**	Outside Gauteng		

CLAUSE NUMBER	TENDER DATA

	N (Location of Business) **Complete Form RD.D.5** and Attach the copies of the rates and taxes in the name of the business.	(Within South African boarders)	1	5	15
		Gauteng	2		
		City of Tshwane	3		
	HIGHEST POSSIBLE SCORE				**100**

The maximum possible score that can be achieved for functionality is 100.
Bids that do not achieve a minimum score of 70 (out of 100) for functionality will not be evaluated further.

- ISO 9001 is defined as **the international standard that specifies requirements for a quality management system (QMS)**. Organizations use the standard to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements.
- ISO 14001 is **an internationally agreed standard that sets out the requirements for an environmental management system**. It helps organizations improve their environmental performance through more efficient use of resources and reduction of waste, gaining a competitive advantage and the trust of stakeholders.

STAGE 5: **90/10 preferential points system**

- 90 points for price
- 10 points for B-BBEE status (service provider to submit the certified copy of the

CLAUSE NUMBER		TENDER DATA
		B-BBEE level rating certificate).
		i. The service provider must comply to the Occupational Health and Safety Act 85 of 1993 and its regulation. OHS plan must be submitted with tender documents
C.2.2	Cost of Tendering	The employer **will not** compensate the tenderer for any costs incurred in attending interviews or making any submissions in the office of the employer.
C.2.8	Seek clarification	*Request clarification of the tender documents, if necessary, by notifying the employer at least* ***5*** **(Five) working days** ***before the closing time stated in the tender data.***
C.2.9	Insurance	*Accept that the submission of a tender shall be construed as an acknowledgement by the tenderer that he is satisfied with, where applicable, the insurance cover the employer will affect under the contract.*
C.2.12	Alternative offers	Alternative offers will only be considered if tenderer(s) have submitted a fully completed main offer. For alternative offers a complete separate detailed activity, quantities and bill/price schedule must be submitted as a separate document.
C.2.12.3		Alternative tender offer will only be considered if the main offer is the winning tender.
C2.13. Submitting a tender offer		Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data described in the scope of work, unless stated otherwise in the tender data.
C2.13.1		Return all returnable documents to the employer after completing them in their entirety, by writing legibly in non- erasable ink.
C2.13.2		*Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated*
C2.13.3		*electronically in the same format as they were issued by the employer.*
C2.13.4		*Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.*
C2.13.5		*Seal the original tender offer and each of the tender offer as separate packages marking the packages as ORIGINAL and COPY. Each package shall state on the outside of the employer's address and identification details stated in the tender data, as well as the tenderers name and contact address.* The identification details are: Tender Reference: **EED 05-2022.23** Tender Description*:* **TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300 MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3)**

CLAUSE NUMBER	TENDER DATA
	YEARS *Closing Time:* ***10:00 AM*** *Closing Date:* ***15 December 2022*** *Each tender shall be enclosed in a sealed envelope, bearing the correct identification details and shall be placed in the tender box located at:* ***(TENDER BOX AT)*** ***Tshwane House*** ***320 Madiba Street*** ***PRETORIA CBD*** ***0002*** *This address is 24 hours available for delivery of tender offers.*
C2.13.6	*Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked —financial proposal|| and place the remaining returnable documents in an envelope marked —technical proposal||. Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.*
C2.13.7	*Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.*
C2.13.8	*Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated*
C2.13.9	*Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.* *Only authorised signatories may sign the original and all copies of the tender offer where required.* *In the case of a ONE-PERSON CONCERN submitting a tender, this shall be clearly stated.* *In the case of a* ***COMPANY*** *submitting a tender, include a copy of a* ***resolution by its board of directors*** *authorising a director or other official of the company to sign the documents on behalf of the company.* *In the case of a* ***CLOSE CORPORATION*** *submitting a tender, include a copy of a* ***resolution by its members*** *authorising a member or other official of the corporation to sign the documents on each member's behalf.* *In the case of a* ***PARTNERSHIP*** *submitting a tender,* ***all the partners*** *shall sign the documents, unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case* ***proof of such authorisation*** *shall be included in the Tender.*

CLAUSE NUMBER		TENDER DATA
		*In the case of a **JOINT VENTURE/CONSORTIUM** submitting a tender, include **a resolution of each company** of the joint venture together with a **resolution by its members** authorising a member of the joint venture to sign the documents on behalf of the joint venture.* ***Accept that failure to submit proof of authorisation to sign the tender shall result in the tender offer being regarded as non-responsive.***
C.2.14 Information and data to be completed in all respects		Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.
C.2.15	Closing time	The closing time for submission of tender offers is stated in the tender notice and invitation to tender.
C.2.16 *C.2.16.5*	Tender offer validity	The tender offer validity period is **90 days**. **Add** the following new clause *In the case of a Joint Venture/Consortium/Sub-contractors each party must submit a separate original Tax Clearance Certificate.*
C.2.18	Provide other material	The tenderer shall, when requested by the employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
C.2.19	Inspection, tests and analysis	The tenderer shall, when requested provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.
C2.20	Submit securities, bonds, policies, etc.	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 Section C1.3 of this procurement document.
C2.23	Certificates	Refer to part T2 of this procurement document for a list of the documents that are to be returned with the tender.
C2.24	Conditions Associated with the Granting of Preferences	**Add** the following new clause The Tenderer, undertakes to: a) Engage one or more Targeted Enterprises / Targeted Labour in accordance with the provisions of the SANS 1914 as varied in the Procurement Section of the Scope of Works. b) Deliver to the Employer, within 5 working days of being requested in writing to do so, a Targeted Enterprise Declaration Affidavit in respect of all Targeted Enterprises engaged at prime contract level to satisfy Contract Participation Goal requirements. c) Accept the sanctions set out in the Scope of Works should such conditions be

CLAUSE NUMBER		TENDER DATA
		breached.
C2.25	*Canvassing and obtaining of additional information by tenderers*	**Add** the following new clause *The Tenderer shall not make any attempt either directly or indirectly to canvass any of the Employer's officials or the Employer's agent in respect of his tender, after the opening of the tenders but prior to the Employer arriving at a decision thereon.* *The Tenderer shall not make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders.*
C2.26	*Prohibitions on awards to persons in service of the state*	**Add** the following new clause *The Employer is prohibited to award a tender to a person -* *a) who is in the service of the state; or* *b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state; or* *c) a person who is an advisor or consultant contracted with the municipality or municipal entity.* ***In the service of the state** means to be -* *a) a member of:-* *• any municipal council;* *• any provincial legislature; or* *• the National Assembly or the National Council of Provinces;* *b) a member of the board of directors of any municipal entity;* *c) an official of any municipality or municipal entity;* *d) an employee of any national or provincial department;* *e) provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);* *f) a member of the accounting authority of any national or provincial public entity; or* *g) an employee of Parliament or a provincial legislature.* In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed.
C2.27	*Awards to close family members of persons in the service of the state*	**Add** the following new clause *Accept that the notes to the Employer's annual financial statements must disclose particulars of any award of more than R2000 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause C2.25), or has been in the service of the state in the previous twelve months, including -* *a) the name of that person;* *b) the capacity in which that person is in the service of the state; and* *c) the amount of the award.* In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed.
		Add the following new clause

CLAUSE NUMBER		TENDER DATA
C2.28	*Vendor registration*	*The contractor will required registering as a supplier/ service provider on the City of Tshwane's vendor register before any payment can be done.* *If the tenderer is already registered as a vendor, it is required to record the vendor number in space provided on the cover page of this Tender document.* *Vendor registration documents and support is available from the Procurement Advice Centre or from https://vendorportal.tshwane.gov.za/ All parties of a joint venture or consortium submitting a tender shall comply with the requirements of this clause.*
C2.29	*Tax*	**Add** the following new clause *An original tax clearance certificate must be submitted with this tender document.* *In the case of a Joint Venture/Consortium the tax clearance certificates must be individual original tax clearance certificates for the members of the Joint Venture/Consortium are not acceptable.*
C.3.1 C.3.1.1	Respond to requests from the tenderer	The employer will respond to requests for clarification up to 5 **(seven) working days** before the tender closing time.
C.3.4	Opening of tender submissions	Tenders will be opened immediately after the closing time for tenders
C3.11.3	Scoring	The following criteria and weights will be applied when bids are assessed for functionality Quality shall be scored by not less than three evaluators in accordance with the following schedules contained in T2.2 Returnable Schedules: RD.D.2 Evaluation Schedule: Schedule of tenderer's experience RD.D.3 Evaluation Schedule: Key personnel experience RD.D.4 Evaluation Schedule: Quality Management System RD.D.5 Evaluation Schedule: Local Economic Participation RD.D.6 Evaluation Schedule: Construction Health and Safety Officer (SACPCMP)

CLAUSE NUMBER		TENDER DATA
C.3.13	Acceptance of Tender Offer	Tender offers will only be accepted if: a.) the tenderer has complied in full with the all eligibility criteria b.) the tenderer is able to produce an original Tax Clearance Certificate issued by the South African Revenue Service; c.) the tenderer submits a letter of intent from an approved insurer undertaking to provide to provide the Performance Bond to the format included in Section C1.3 of this procurement document; d.) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation. e.) the tenderer is not in arrears for more than 3 months with municipal rates and taxes and municipal service charges; f.) the tenderer or any of its directors 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; g.) 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. h.) 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; i.) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; j.) the employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2003, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely.
C.3.17	Copies of Contract	**One** signed copy of contract shall be provided by the Employer to the successful Tenderer.

T1.3 STANDARD CONDITIONS OF TENDER

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C.1 General

C.1.1 Actions

C.1.1.1 The Employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

C.1.1.2 The Employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the Employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: *1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.*

2) *Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.*

C.1.1.3 The Employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

C.1.2 Tender Documents

The documents issued by the Employer for the purpose of a tender offer are listed in the tender data.

C.1.3 Interpretation

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

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

C.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

a) **conflict of interest** means any situation which:

i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;

ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or

iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.

b) **comparative price** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;

c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the Employer or his staff or agents in the tender process;

d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the Employer, including collusive practices intended to establish prices at artificial levels;

e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body;

f) **functionality** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

C.1.4 Communication and Employer's agent

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

C.1.5 Cancellation and re-invitation of tenders

C.1.5.1 An organ of state may, prior to the award of the tender, cancel the tender if-

(a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or

(b) funds are no longer available to cover the total envisaged expenditure; or

(c) no acceptable tenders are received.

C.1.5.2 The decision to cancel the tender must be published in the CIDB website and in the Tender Bulletin for the media in which the original tender invitation as advertised.

C.1.6 Procurement procedures

C.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the Employer shall announce only the names of the tenderers who make a submission. The requirements of C.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of C.2.17, the Employer may request that tenders be clarified, specified, and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the Employer to make a fresh tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.

C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The Employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

C.1.6.3.2 Option 2

C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The Employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

C.1.6.3.2.2 The Employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data and award the contract in terms of these conditions of tender.

C.2 Tenderer's obligations

C.2.1 Eligibility

C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with Employer.

C.2.1.2 Notify the Employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the Employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the Employer's written approval to do so prior to the closing time for tenders.

C.2.2 Cost of tendering

C.2.2.1 Accept that, unless otherwise stated in the tender data, the Employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

C.2.2.2 The cost of the tender documents charged by the Employer shall be limited to the actual cost incurred by the Employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

Check the tender documents on receipt for completeness and notify the Employer of any discrepancy or omission.

C.2.4 Confidentiality and copyright of documents

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

C.2.5 Reference documents

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

C.2.6 Acknowledge addenda

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

C.2.7 Clarification meeting

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

C.2.8 Seek clarification

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

C.2.9 Insurance

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

C.2.10 Pricing the tender offer

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

C.2.10.2 Show VAT payable by the Employer separately as an addition to the tendered total of the prices.

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

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

C.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the Employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

C.2.12 Alternative tender offers

C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

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

C.2.12.3 An alternative tender offer may only be considered if the main tender is the winning tender.

C.2.13 Submitting a tender offer

C.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

C.2.13.2 Return all returnable documents to the Employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

C.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the Employer.

C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The Employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the Employer shall hold liable for the purpose of the tender offer.

C.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the Employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

C.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked “financial proposal” and place the remaining returnable documents in an envelope marked “technical proposal”. Each envelope shall state on the outside the Employer’s address and identification details stated in the tender data, as well as the tenderer's name and contact address.

C.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the Employer's address and identification details as stated in the tender data.

C.2.13.8 Accept that the Employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the Employer, unless stated otherwise in the tender data.

C.2.14 Information and data to be completed in all respects

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

C.2.15 Closing time

C.2.15.1 Ensure that the Employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

C.2.15.2 Accept that, if the Employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

C.2.16 Tender offer validity

C.2.16.1 Hold the tender offer(s) valid for acceptance by the Employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

C.2.16.2 If requested by the Employer, consider extending the validity period stated in the tender data for an agreed additional period, but no longer than 12 weeks.

C.2.16.3 Accept that a tender submission that has been submitted to the Employer may only be withdrawn or substituted by giving the Employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

C.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

C.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the Employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

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

C.2.18 Provide other material

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

C.2.18.2 Dispose of samples of materials provided for evaluation by the Employer, where required.

C.2.19 Inspections, test and analysis

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

C.2.20 Submit securities, bonds and policies

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

C.2.21 Check final draft

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

C.2.22 Return of other tender documents

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

C.2.23 Certificates

Include in the tender submission or provide the Employer with any certificates as stated in the tender data.

C.3 The Employer's undertakings

C.3.1 Respond to requests from the tenderer

C.3.1.1 Unless otherwise stated in the tender data respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements.

b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or

c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

C.3.2 Issue addenda

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

C.3.3 Return late tender offers

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

C.3.4 Opening of tender submissions

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

C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices.

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

C.3.5 Two-envelope system

C.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

C.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality

C.3.6 Non-disclosure

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

C.3.7 Grounds for rejection and disqualification

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

C.3.8 Test for responsiveness

C.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

a) complies with the requirements of these Conditions of Tender,

b) has been properly and fully completed and signed, and

c) is responsive to the other requirements of the tender documents.

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

a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or

c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

C.3.9 Arithmetical errors, omissions and discrepancies

C.3.9.1 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for:

a) the gross misplacement of the decimal point in any unit rate;

b) omissions made in completing the pricing schedule or bills of quantities; or

c) arithmetic errors in:

i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or

ii) the summation of the prices.

C.3.9.2 The Employer must correct the arithmetical errors in the following manner:

a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.

b) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

C.3.10 Clarification of a tender offer

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

C.3.11 Evaluation of tender offers

C.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

C.3.11.2 Method 1: Price and Preference

In the case of a price and preference:

1) Score tender evaluation points for price
2) Score points for BBBEE contribution
3) Add the points score for price and BBBEE

C.3.11.3 Method 2: Functionality, Price and Preference

In the case of a functionality, price and preference:

1) Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data.
2) No tender must be regarded as an acceptable tender if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.
3) Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in paragraphs 4 and 4 and 5 below.

4) **The 80/20 preference point system for acquisition of services, works or goods up to Rand value of R1 million:**

(a) The following formula must be used to calculate the points for price in respect of tenders (including price quotation) with a Rand value equal to, or above R 30 000 and up to Rand value of R 1 000 000 (all applicable taxes included):

(i) $P_s = 80 \times \left[1 - \left(\frac{P_t - P_{min}}{P_{min}}\right)\right]$

Where

P_s = Points scored for comparative price of tender or offer under consideration;
P_t = Comparative price of tender of offer under consideration; and

P_{min} = Comparative price of lowest acceptable tender or offer.

(ii) An Employer of state may apply the formula in paragraph (i) for price quotations with a value less than R 30 000, if and when appropriate.

(b) Subject to subparagraph 4)(c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

B-BBEE Status Level of Contributor	Number of Points
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-compliant Contributor	0

(c) A maximum of 20 points may be allocated in accordance with subparagraph 4)(b)

(d) The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph 4)(b) must be added to the points scored for price a calculated in accordance with subparagraph 4)(a).

(e) Subject to paragraph C.4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

5) **The 90/10 preference points system for acquisition of services, works or goods with a Rand value above R1 million:**

(a) The following formula must be used to calculate the points for price in respect of tenders with a Rand value above R 1 000 000 (all applicable taxes included):

$$P_s = 90 \times \left[1 - \left(\frac{P_t - P_{min}}{P_{min}}\right)\right]$$

Where

P_s = Points scored for comparative price of tender or offer under consideration;
P_t = Comparative price of tender of offer under consideration; and
P_{min} = Comparative price of lowest acceptable tender or offer.

(b) Subject to subparagraph (5)(c), points must be awarded to a tender for attaining the B- BBEE status level of contributor in accordance with the table below:

B-BBEE Status Level of Contributor	Number of Points
1	10
2	9
3	8
4	5
5	4
6	3
7	2
8	1
Non-compliant Contributor	0

(c) A maximum of 20 points may be allocated in accordance with subparagraph (5)(b)

(d) The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph (5)(b) must be added to the points scored for price a calculated in accordance with subparagraph (5)(a).

(e) Subject to paragraph C.4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

C.3.11.6 Decimal places

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

C.3.11.7 Scoring financial offers

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

$$N_{FO} = W_1 \times A$$

Where N_{FO} is the number of tender evaluation points awarded for the financial offer

W_1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the tender data.

A is a number calculated using the formula and option described in Table C.1 as stated in the tender data.

Table C.1: Formulae for calculating the value of A

Formula	Comparison aimed at achieving	Option 1[a]	Option 2[a]
1	Highest price or discount	$A = \left(1 + \frac{(P - P_m)}{P_m}\right)$	$A = P/P_m$
2	Lowest price or percentage commission / fee	$A = \left(1 - \frac{(P - P_m)}{P_m}\right)$	$A = P_m/P$
a	P_m is the comparative offer of the most favourable comparative offer. P is the comparative offer of the tender offer under consideration.		

C.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

C.3.11.9 Scoring functionality

Score each of the criteria and sub criteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$N_Q = W_2 \times S_O/M_S$$

Where S_O is the score for quality allocated to the submission under consideration;

M_S is the maximum possible score for quality in respect of a submission; and

W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data.

C.3.12 Insurance provided by the Employer

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

C.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the Employer, it does not present any unacceptable commercial risk and only if the tenderer:

a) is not under restrictions, or has principals who are under restrictions, preventing participating in the Employer's procurement,

b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial

resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

c) has the legal capacity to enter into the contract,

d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,

e) complies with the legal requirements, if any, stated in the tender data, and

f) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

C.3.14 Prepare contract documents

C.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the Employer as part of the tender documents to take account of:

a) addenda issued during the tender period,

b) inclusion of some of the returnable documents, and

c) other revisions agreed between the Employer and the successful tenderer.

C.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

C.3.15 Complete adjudicator's contract

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

C.3.16 Notice to unsuccessful tenderers

C.3.16.1 Notify the successful tenderer of the Employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

C.3.16.2 After the successful tenderer has been notified of the Employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

C.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the tender data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

C.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

C.3.19 Transparency in the procurement process

C.3.19.1 The CIDB prescripts require that tenders must be advertised and be registered on the CIDB i.Tender system.

C.3.19.2 The Employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

C.3.19.3 The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.

C.3.19.4 The client must publish the information on a quarterly basis which contains the following information:

- Procurement planning process
- Procurement method and evaluation process
- Contract type
- Contract status
- Number of firms tendering
- Cost estimate
- Contract title
- Contract firm(s)
- Contract price
- Contract scope of work
- Contract start date and duration
- Contract evaluation reports

C.3.19.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

C.3.19.6 Consultative Forum must be an independent structure from the bid committees.

C.3.19.7 The information must be published on the employer's website.

C.3.19.8 Records of such disclosed information must be retained for audit purposes.

PART T2: RETURNABLE DOCUMENTS

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T2.1 LIST OF RETURNABLE DOCUMENTS

RD.A RETURNABLE DOCUMENTS FOR TENDER EVALUATION PURPOSES

Note: Failure to submit the applicable documents will result in the tender offer being disqualified from further consideration

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Form of offer and acceptance	**Section C1.1**	
MBD 4: Declaration of interest	Form RD.A.1	
MBD 5: Declaration for procurement above R10 million (all applicable taxes included)	Form RD.A.2	
MBD 8: Declaration of tenderer's past supply chain management practises	Form RD.A.3	
MBD 6.2 Declaration certificate for local production and content for designated sectors	Form RD.A.4	
MBD 9: Certificate of independent tender determination	Form RD.A.5	

RD.B RETURNABLE DOCUMENTS REQUIRED FOR PREFERENTIAL PROCUREMENT EVALUATION PURPOSES

Note: Failure to submit the applicable documents will result in the tender offer being awarded 0 (zero) preference points

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Valid B-BBEE Status Level of Contributor Certificate	Form RD.B.1	
MBD 6.1: Preference points claim form in terms of the Preferential Procurement Regulations, 2017	Form RD.B.2	
B-BBEE Exempted Micro Enterprise – Sworn Affidavit	Form RD.B.3	

RD.C ADDITIONAL RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

Note: ***Failure to submit the applicable document will result in the Tenderer having to submit same upon request within 7 days and if not complied with, will result to the tender offer being disqualified from further consideration [See also clause 2.18 of the Standard Conditions of Tender]***

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
MBD 2: Tax clearance certificate requirements	RD.C.1	
Proof of registration with the CIDB	RD.C.2	
Compliance with OHSA (Act 85 of 1993	RD.C.3	
Record of services provided to organs of state	RD.C.4	
Schedule of plant and equipment	RD.C.5	
EPWP Staff for labour intensive construction works	RD.C.6	
Status of concern submitting tender	RD.C.7	
Classification of business	RD.C.8	
Certificate of authority of signatory	RD.C.9	
Certificate of authority of signatory for joint ventures and consortia	RD.C.10	
Letter of intent to provide a performance bond	RD.C.11	

RD.D RETURNABLE DOCUMENTS REQUIRED FOR QUALITY EVALUATION PURPOSES

Note: ***Failure to submit the applicable documents will result in the Tenderer receiving a 0 (zero) score for the applicable evaluation schedule.***

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Terms of reference for Quality Evaluation:		
Evaluation Schedule: Tenderer's experience	RD.D.2	
Evaluation Schedule: Key personnel	RD.D.3	
Evaluation Schedule: Quality Management System	RD.D.4	
Evaluation Schedule: Local Economic Participation (location of business)	RD.D.5	
Evaluation Schedule: Construction health and safety officer	RD.D.6 Attach SACPCMP certificate	

RD.E OTHER DOCUMENTS THAT WILL FORM PART OF THE CONTRACT

Note: ***Failure to submit or fully complete the applicable documents will result in the tender offer being disqualified from further consideration***

Document Name	Reference	**Confirmation of Document Included** (Tenders may use this column to confirm documents have been completed and included in the tender)
Test certificates for electrical equipment	RD.D. 1	
Form of offer and acceptance	Section C1.1	
Data provided by the contractor	Section C1.2	
Record of addenda to tender documents	RD.E.1	
Proposed amendments	RD.E.2	
Cost price adjustment (CPA) Local contents (SEIFSA)	RD.E.3	
Cost price adjustment (CPA) imported content (FOREX)	RD.E.4	
Verification on schedule of particulars & guarantees	RD.E. 6P	

T2.2 RETURNABLE SCHEDULES

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FORM RD.A.1 MBD 4: DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state.

2. Any person, having kinship with persons in the service of the state[1], including blood relationship, may make an offer in terms of this invitation to tender. 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.

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

3.1	Full name of tenderer or his/her representative:		
3.2	Identity number:		
3.3	Position occupied in the tendering company: (e.g. director, trustee, shareholder[2])		
3.4	Company registration number:		
3.5	Tax reference number:		
3.6	VAT Registration number:		
3.7	The names of all directors / trustees / shareholder / members, their individual identity numbers and state employee numbers must be indicates in paragraph 4 below		
3.8	Are you presently in the service of the state?	**YES**	**NO**
	If YES, furnish particulars		
3.9	Have you been in the service of the state for the past twelve months?	**YES**	**NO**
	If YES, furnish particulars		
3.10	Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this tender?	**YES**	**NO**
	If YES, furnish particulars		

[1] MSCM Regulations: "in the service of the state" means to be -
(a) a member of –
  i) any municpal council;
  ii) any provincial legislature; or
  iii) the national assembly of the national council of provinces;
(b) a member of the board of directors of any municipal entity;
(c) an official of any municipality of municipal entity;
(d) an employee of any national or provicial department, national or provicial 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 provicial public entity; or
(f) an employee of parliament or provicial legislature.

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

3.11	Are you aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?	**YES**	**NO**
	If YES, furnish particulars		
3.12	Are any of the company's directors, trustees, managers, principal shareholders or stakeholders in service of the state?	**YES**	**NO**
	If YES, furnish particulars		
3.13	Is any spouse, child or parent of the company's director's trustees, managers, principal shareholders or stakeholders in service of the state?	**YES**	**NO**
	If YES, furnish particulars		
3.14	Do you or any of the directors, trustees, managers, principal shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are tendering for this contract?	**YES**	**NO**
	If YES, furnish particulars		

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

FULL NAME	IDENTITY NUMBER	STATE EMPLOYEE NUMBER

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date:

FORM RD.A.2 MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

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

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

1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

……

……

2 Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days? ***YES / NO**

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

2.2 If yes, provide particulars.

……

……

……

……

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

3.1 If yes, furnish particulars

……

……

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

transferred out of the Republic?

4.1 If yes, furnish particulars

……..

……..

CERTIFICATION

I, THE UNDERSIGNED (NAME) ……
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT. I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

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

FORM RD.A.3 MBD 8: DECLARATION OF TENDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTISES

1. This municipal tender document must form part of all tenders invited.
2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The tender of any tenderer may be rejected if that tenderer, or any of it's directors have:

   a. abused the municipality's/municipal entity's supply management system or committed any improper conduct I n relation to such system;
   b. been convicted for fraud or corruption during the past five years;
   c. wilfully 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, 2004 (Act 12 of 2004).

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

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

Item	Question	Response	
	If so, furnish particulars:		
4.5	Was any contract between the tenderer and the municipality/municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	**YES**	**NO**
	If so, furnish particulars:		

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.A.4 **MBD 6.2**

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

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

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

1.1. Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.

1.2. Regulation 8.(2) prescribes that in the case of designated sectors, organs of state must advertise such tenders with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.

1.3. Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.

1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.

1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on http:/www.thedti.gov.za/industrial development/ip.jsp at no cost.

1.6. A bid may be disqualified if this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

2. All goods and services rendered must comply to the (Department of Trade and Industry) DTI requirements and regulation.

3. Does any portion of the goods or services offered have any imported content?
(*Tick applicable box*)

YES		NO	

3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on www.reservebank.co.za

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

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

IN RESPECT OF BID NO. EED 05.2022.23

ISSUED BY: CITY OF TSHWANE MUNICIPALITY
NB

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

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thdti.gov.za/industrial development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ... (full names),
do hereby declare, in my capacity as ....
of .....(name of bidder entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that:
(i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and

(c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	

Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.
The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____ DATE: _____

WITNESS No. 1 _____ DATE: _____

WITNESS No. 2 _____ DATE: _____

SATS 1286.2011

Annex C

Local Content Declaration - Summary Schedule

(C1)	**Tender No.**	**EED 05-2022.23**
(C2)	**Tender description:**	TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS
(C3)	**Designated product(s):**	
(C4)	**Tender Authority:**	
(C5)	**Tendering Entity name:**	
(C6)	**Tender Exchange Rate:**	Pula [ ] EU [ ] GBP [ ]
(C7)	**Specified local content %**	

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

Calculation of local content								Tender summary				
Tender item no's	**List of items**	**Tender price - each (excl VAT)**	**Exempted imported value**	**Tender value net of exempted imported content**	**Imported value**	**Local value**	**Local content % (per item)**	**Tender Qty**	**Total tender value**	**Total exempted imported content**	**Total Imported content**	
(C8)	*(C9)*	*(C10)*	*(C11)*	*(C12)*	*(C13)*	*(C14)*	*(C15)*	*(C16)*	*(C17)*	*(C18)*	*(C19)*	

(C20) **Total tender value**	**R**		
Signature of tenderer from Annex B	***(C21)*** **Total Exempt imported content**	**R**	
	(C22) Total **Tender value net of exempt imported content**	**R**	
	(C23) **Total Imported content**		**R**
	(C24) **Total local content**		**R**
Date:	***(C25)*** **Average local content % of tender**		

Annex D

Imported Content Declaration - Supporting Schedule to Annex C

(D1)	**Tender No.**	**EED 05-2022/23**						
(D2)	**Tender description:**	TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS						
(D3)	**Designated Products:**							
(D4)	**Tender Authority:**							
(D5)	**Tendering Entity name:**							
(D6)	**Tender Exchange Rate:**	Pula		EU		GBP		

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

A. Exempted imported content

				Calculation of imported content						Summary	
Tender item no's	**Description of imported content**	**Local supplier**	**Overseas Supplier**	**Foreign currency value as per Commercial Invoice**	**Tender Exchange Rate**	**Local value of imports**	**Freight costs to port of entry**	**All locally incurred landing costs & duties**	**Total landed cost excl VAT**	**Tender Qty**	**Exempted imported value**
(D7)	*(D8)*	*(D9)*	*(D10)*	*(D11)*	*(D12)*	*(D13)*	*(D14)*	*(D15)*	*(D16)*	*(D17)*	*(D18)*

(D19) **Total exempt imported value**	R 0

This total must correspond with Annex C - C 21

B. Imported directly by the Tenderer				**Calculation of imported content**						**Summary**	
Tender item no's	**Description of imported content**	**Unit of measure**	**Overseas Supplier**	**Foreign currency value as per Commercial Invoice**	**Tender Rate of Exchange**	**Local value of imports**	**Freight costs to port of entry**	**All locally incurred landing costs & duties**	**Total landed cost excl VAT**	**Tender Qty**	**Total imported value**
(D20)	*(D21)*	*(D22)*	*(D23)*	*(D24)*	*(D25)*	*(D26)*	*(D27)*	*(D28)*	*(D29)*	*(D30)*	*(D31)*

									***(D32)*Total imported value by tenderer**		R 0
C. Imported by a 3rd party and supplied to the Tenderer				**Calculation of imported content**						**Summary**	
Description of imported content	**Unit of measure**	**Local supplier**	**Overseas Supplier**	**Foreign currency value as per Commercial Invoice**	**Tender Rate of Exchange**	**Local value of imports**	**Freight costs to port of entry**	**All locally incurred landing costs & duties**	**Total landed cost excl VAT**	**Quantity imported**	**Total imported value**
(D33)	*(D34)*	*(D35)*	*(D36)*	*(D37)*	*(D38)*	*(D39)*	*(D40)*	*(D41)*	*(D42)*	*(D43)*	*(D44)*
									***(D45)* Total imported value by 3rd party**		R

D. Other foreign currency payments			**Calculation of foreign currency payments**		Summary of payments
Type of payment	**Local supplier making**	**Overseas beneficiary**	**Foreign currency value paid**	**Tender Rate of Exchange**	**Local value of payments**

	the payment				
(D46)	*(D47)*	*(D48)*	*(D49)*	*(D50)*	*(D51)*

(D52) **Total of foreign currency payments declared by tenderer and/or 3rd party**

Signature of tenderer from Annex B

(D53) **Total of imported content & foreign currency payments -** ***(D32), (D45) & (D52)*** **above** R

This total must correspond with Annex C - C 23

Date:

Annex E

Local Content Declaration - Supporting Schedule to Annex C

(E1)	**Tender No.**	**EED 05-2022/23**	**NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS**
(E2)	**Tender description:**	TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS	
(E3)	**Designated products:**		
(E4)	**Tender Authority:**		
(E5)	**Tendering Entity name:**		

Local Products (Goods, Services and Works)	**Description of items purchased**	**Local suppliers**	**Value**
	(E6)	*(E7)*	*(E8)*

***(E9)* Total local products (Goods, Services and Works)** | R

(E10) **Manpower costs** (Tenderer's manpower cost) | R

(E11) **Factory overheads** (Rental, depreciation & amortisation, utility costs, consumables etc.) | R

(E12) **Administration overheads and mark-up** (Marketing, insurance, financing, interest etc.) | R

***(E13)* Total local content** | R

This total must correspond with Annex C - C24

Signature of tenderer from Annex B

Date: _____

The exemption process that **the dtic** follows is that if there is a particular designated product and the minimum threshold for local content cannot be met for various reasons, bidders must apply for exemption (when the tender is still open, before closing date). After checking with the industry, **the dtic** will then decide whether or not to grant an exemption. This is per tender.

The exemption request must be on the bidding company's singed letter-head and cover the following:

- The procuring entity/government department/state owned company,
- Tender/bid number,
- Closing date,
- Item(s) for which the exemption is being requested for
- Description of the goods, services or works for which the requested exemption item will be used for and the local content that can be met,
- Reason(s) for the request.
- Attach specification issued by the procuring entity
- Supporting letters from local manufacturers/sub-suppliers (if applicable)

Please note that it takes 3-5 working days for **the dtic** to process exemption letters and no requests for exemptions will be considered after the tender has closed.

The request should be addressed to the attention of:

Dr. Tebogo Makube

Chief Director: Industrial Procurement Unit

The Department of Trade and Industry

Private Bag X84,

Pretoria,

Gauteng,

0001

The request should be forwarded through email to Dr Makube on TMakube@thedtic.gov.za and copy Ms Matidza (CMatidza@thedtic.gov.za)

FORM RD.A.5 MBD 9: CERTIFICATION OF INDEPENDENT TENDER DETERMINATION

1. This Municipal Bidding Document (MBD) must form part of all tenders[3] invited.

2. Section 4 (1) (b) (iii) of the Competition Act Nol. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms if it is between parties in a horizontal relationship and if it involves collusive tendering (or tender rigging)[4]. Collusive tendering is a *per se* prohibition meaning that it cannot be justified under any grounds.

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

   a. Take all reasonable steps to prevent such abuse;
   b. Reject the tender of any tenderer if that tenderer or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
   c. Cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the tendering process or the execution of the contract.

4. This will serve as a certificate of declaration that would be used by institutions to ensure that, when tenders are considered, reasonable steps are taken to prevent any form of tender-rigging.

5. In order to give effect to the above, the attached Certificate of Tender Determination must be completed and submitted with the tender.

[3] Includes price quotations, advertised competitive tenders, limited tenders and proposals.

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

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying tender:

Contract: EED 05.2022.23 TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275 KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS

in response to the invitation for the tender made by

City of Tshwane Metropolitan Municipality

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

I certify, on behalf of _____ that:
(Name of tenderer)

1. I have read and understand the contents of this certificate;

2. I understand that the accompanying tender will be disqualified if this certificate is found not to be true and complete in every aspect;

3. I am authorised by the tenderer to sign this certificate, and to submit the accompanying tender, on behalf of the tenderer;

4. Each person whose signature appears on the accompanying tender has been authorised by the tenderer to determine the terms of, and to sign, the tender, on behalf of the tenderer;

5. For the purposes of this Certificate and the accompanying tender, I understand that the word “competitor”” shall include any individual or organization, other that the tenderer, whether or not affiliated with the tenderer who:

    a. Has been requested to submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
    b. Could potentially submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer.

6. The tenderer has arrived at the accompanying tender independently form, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium[35] will not be construed as collusive tendering.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement of arrangement with any competitor regarding:

    a. Prices;
    b. Geographical area where product of services will be rendered (market allocation);
    c. Methods, factors of formulas used to calculate prices;
    d. The intention or decision to submit or not to submit, a tender;
    e. The submission of a tender which does not meet the specifications and conditions of the tender; or

[5] 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.

f. Tendering with the intention not to win the tender.

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

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

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practises related to tenders and contracts, tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted form conduction 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.

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.
Person authorized to sign the tender:
Full name (in BLOCK letters): _____
Signature: _____
Date:

FORM RD.B.2 MBD 6.1: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all tenders 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 B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all tenders:
- The 80/20 system for requirements with a Rand value of up to R50 000 000.00 (**all applicable taxes included**); and
- The 90/10 system for requirements with a Rand value above R50 000 000.00 (**all applicable taxes included**).

1.2 The value of this tender is estimated to **exceed** R50 000 000.00 and therefore the **90/10** system shall be applicable.

1.3 Preference points for this tender shall be awarded for:
(a) Price; and
(b) B-BBEE Status Level of Contribution

1.3.1 The points for this tender are allocated as follows:

		POINTS
1.3.1.1	**PRICE**	90
1.3.1.2	**B-BBEE STATUS LEVEL OF CONTRIBUTION**	10
	Total points for Price, B-BBEE must not exceed	**100**

1.4 Failure on the part of a tenderer to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the tender, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.5 Blank or incomplete particulars or insufficient documentary proof thereof, or failure to sign the declaration, will be construed to mean that the tenderer is not claiming preference points, in which case no points will be awarded for HDI.

2. DEFINITIONS

2.1 **all applicable taxes** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

2.2 **B-BBEE** means broad-based black economic empowerment as defined in Section 1 of the Broad-Based Black Economic Empowerment Act.

2.3 **B-BBEE Status Level of Contributor** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of Section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003).

2.4 **Broad-Based Black Economic Empowerment Act** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003).

2.5 **Comparative price** means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration.

2.6 **Consortium or joint venture** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skills and knowledge in an activity for the execution of a contract.

2.7 **Contract** means the agreement that results from the acceptance of a tender by an organ of state.

2.8 **EME** means any enterprise with an annual total revenue of R5 million or less.

2.9 **Firm price** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract.

2.10 **Functionality** means the measurement according to predetermined norms, as set out in the tender documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder.

2.11 **Non-firm prices** means all prices other than **firm** prices.

2.12 **Person** includes a juristic person.

2.13 **Rand value** means that total estimated value of a contract in South African currency, calculated at the time of tender invitations and includes all applicable taxes and excise duties.

2.14 **Sub-contract** means the primary contractor's assigning or leasing or making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

2.15 **Tender** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods, works or services works or goods, through price quotations, advertised competitive bidding processes or proposals.

2.16 **Total revenue** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the Government Gazette on 9 February 2007.

2.17 **Trust** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person.

2.18 **Trustee** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

3.1 The tenderer obtaining the highest number of total points will be awarded the contract.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.

3.3 Points scored will be rounded off to 2 (two) decimal places.

3.4 In the event that two or more tenders have scored equal total points, the successful tender must be the one scoring the highest number of preference points for B-BBEE.

3.5 However, when functionality is part of the evaluation process and two or more tenders have scored equal points including equal preference points for B-BBEE, the successful tender must be the one scoring the highest score for functionality.

3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

THE 80/20 OR 90/10 PREFERENCE POINT SYSTEM

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

80/20

$$P_S = 80\left(1 - \frac{P_T - P_{MIN}}{P_{MIN}}\right)$$

90/10

$$P_S = 90\left(1 - \frac{P_T - P_{MIN}}{P_{MIN}}\right)$$

Where

P_S = Points scored for price of tender under consideration

P_T = Rand value of tender under consideration

P_{MIN} = Rand value of lowest acceptable tender

5. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

5.1 In terms of Regulation 5 (2) and 6 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	8	16
4	5	12

5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5.2 Tenderers who qualify as EMEs in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EMEs with B-BBEE Status Level Certificates.

5.3 Tenderers other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.

5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.

5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate tender.

5.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

5.7 A person will not be awarded points for B-BBEE status level if it is indicated in the tender documents that such a tenderer intends sub-contracting more than 30% of the value of the contract to any other enterprise that does not qualify for at least the points that such a tenderer qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.

5.8 A person awarded a contract may not sub-contract more than 30% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

6. TENDER DECLARATION

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

7. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1

7.1 B-BBEE Status of Contribution: | 1 | = | 20 | (maximum of 10 or 20 points)

(Points claimed in respect of paragraph &.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the CCA.

8. SUB-CONTRACTING

8.1 Will any portion of the contract be sub-contracted?
(delete which is not applicable)

YES	NO

8.1.1 If YES, indicate:

Name of subcontractor	% to be subcontracted	B-BBEE status level of sub-contractor	Is the sub-contractor an EME *(delete which is not applicable)*	
			YES	NO
			YES	NO
			YES	NO

9. DECLARATION WITH REGARD TO COMPANY/FIRM

9.1 Name of FIRM: _____

9.2 VAT Registration number: _____

9.3 Company registration number: _____

9.4 Type of firm:

Partnership	
One person business/sole trade	
Close corporation	
Company	
(Pty) Limited	
Small Medium Micro Enterprises	

(Tick applicable box)

9.5 Describe principal business activities

_____

_____

_____

_____

9.6 Company classification

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

(Tick applicable box)

9.7 Municipal information

Municipality where business is situated: _____

Registered account number: _____

Stand number: _____

9.8 Total number of years the firm has been in business _____

9.9 I/we, the undersigned, who warrants that he/she is duly authorized to do so on behalf of the company/firm certify that points claimed, based on the B-BBEE status level of contribution, indicated in paragraph 7 of the foregoing certificate, qualifies the company/firm for the preference(s) shown and I/we acknowledge that:

i) The information furnished is true and correct.
ii) The preference claimed is 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 paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct.
iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have-

a) disqualify the person. from the tender process;
b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct; and
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) restrict the tenderer or contractor, its shareholders and directors, or only the shareholders and directors WHO acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteran partem (hear the other side) rule have been applied; and
e) forward the matter for criminal prosecution.

NAME:
(in BLOCK letters) _____

CAPACITY:
(of authorized agent) _____

SIGNATURE:
(of authorized agent) _____

_____ _____ _____

SIGNED at _____ on this _____ day of _____

WITNESSES:
(Full name in BLOCK letters and signature)

1. _____ _____

2. _____ _____

FORM RD.B.3 B-BBEE EXEMPTED MICRO ENTERPRISE – SWORN AFFIDAVIT

I, the undersigned

Full Name & Surname																
Identity Number							-					-			-	

Hereby declare under oath as follow:

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 authorised to act on its behalf.

Enterprise Name	
Trading Name	
Registration Number	
Enterprise Address	

3. I hereby declare under oath that:

- The enterprise is _____ % black owned;
- The enterprise is _____ % black woman owned;
- Based on the audited management accounts and other information available on the _____ financial year, the income did not exceed R 10,000,000 (ten million rands);
- Please confirm on the below the B-BBEE level contributor, by ticking the applicable box.

100% Black owned	**Level One** (135% B-BBEE procurement recognition)	
More than 51% Black owned	**Level Two** (125% B-BBEE procurement recognition)	
Less than 51% Black owned	**Level Four** (100% B-BBEE procurement recognition)	

4. The entity is an empowering supplier in terms of the DTI Codes of Good Practice
5. I know and understand the contents of 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.
6. The sworn affidavit will be valid for a period of 12 (twelve) month from the date signed by the commissioner.

Deponent Signature:	Date:
Commissioner of oaths (Signature and stamp)	

FORM RD.C.1 MBD 2: TAX CLEARANCE CERTIFICATE REQUIREMENTS

It is a condition of bid that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the bidder's tax obligations.

1. In order to meet this requirement bidders are required to complete in full the form TCC 001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.

2. SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.

3. The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.

4. In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Clearance Certificate.

5. Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website www.sars.gov.za.

6. Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za

Attach Tax Certificate/s to this page

FORM RD.C.2 PROOF OF REGISTRATION WITH THE CIDB

1. Attach original or certified copy of CIDB registration certificate to this page.

2. In the case of a joint venture / consortium (excluding consulting engineering partners) parties must each attach original or certified copy of their CIDB registration certificate.

Firm	**CRS Number**	**CIDB Grading**	**Lead Partner** (Indicate with X)
Combined CIDB Grading for Joint Venture / Consortium:			

(Calculator is available at https://registers.cidb.org.za/common/jvcalc.asp)

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.3 COMPLIANCE WITH OHSA (ACT 85 OF 1993)

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

(Tick applicable box)

1. Are your company familiar with the OHSA (ACT 85 of 1993) and its Regulations?	**YES**	**NO**
2. Who will prepare your company's Health and Safety Plan? Provide a copy of the person/s curriculum vitae/s or company profile.		
3. Do your company have a health and safety policy? If **YES** provide a copy.	**YES**	**NO**
4. How is this policy communicated to your employees? Provide supporting documentation.	**YES**	**NO**
5. Do your company keep record of safety aspects of each site where work is performed? If **YES** what records are kept?	**YES**	**NO**
6. Do your company conduct monthly safety meetings? If **YES**, who is the chairperson of the meeting, and attend these meetings?	**YES**	**NO**
7. Do your company have a safety officer in its employment, responsible for overall safety of your company? If **YES**, explain his duties and provide a copy of his CV	**YES**	**NO**
8. Do your company have trained first aid employees? If **YES**, indicate who.	**YES**	**NO**
9. Do your company have a safety induction training programme in place? If **YES**, provide a copy.	**YES**	**NO**
10. Do your company conduct medical surveillance for its employees?	**YES**	**NO**

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.4 RECORD OF SERVICES PROVIDED TO ORGANS OF STATE

Tenderers are required to complete this record in terms of the Supply Chain Management Regulations issued in terms of the Municipal Finance Management Act of 2003.

Include only those contracts where the tenderer identified in the signature block below was directly contracted by the employer. Tenderers must not include services provided in terms of a sub-contract agreement.

Where contracts were awarded in the name of a joint venture and the tenderer formed part of that joint venture, indicate in the column entitled "Title of the contract for the service" that was in joint venture and provide the name of the joint venture that contracted with the employer. In the column for the value of the contract for the service, record the value of the portion of the contract performed (or to be performed) by the tender.

Complete the record or attach the required information in the prescribed tabulation

	ALL SERVICES COMMENCED OR COMPLETED TO AN ORGAN OF STATE IN THE LAST FIVE YEARS			
	Organ of state, i.e. national or provincial department, public entity, municipality or municipal entity.	**Title of contract for the service**	**Value of contract for service incl. VAT (Rand)**	**Date completed (State current if not yet completed)**
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

(Attach additional pages if more space is required.)

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.5 SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of the major items of relevant equipment that I/we presently own/lease and will have available for this contract or will hire/acquire for this contract as proof of the requirements for Clause F.3.13 b) of the Conditions of Tender

Major equipment owned/leased that is immediately available for the execution of the works	
Quantity	**Description, size, capacity etc.**

(Attach additional pages if more space is required)

Major equipment that will be hired or acquired for the execution of the works	
Quantity	**Description, size, capacity etc.**

FORM RD.C.6 STAFF FOR LABOUR INTENSIVE CONSTRUCTION WORKS

The tenderer shall, submit the names of all management, design and supervisory staff that will be employed to design and supervise the labour intensive portion of the works together with satisfactory documentary evidence that such staff members satisfy the eligibility requirements.

CATEGORY OF EMPLOYEE	NAME OF EMPLOYEE	NQF LEVEL	LABOUR INTENSIVE SKILLS PROGRAM UNIT STANDARD TITLES	DATE COMPLETED	YEARS EXPERIENCE
Designer					
NQF 7 Unit Standard Required: Develop and Promote Labour Intensive Construction Strategies					
Administrator/ Site supervisor					
NQF 5 Unit Standard Required: Manage Labour Intensive Construction Projects					

(Attach documentary proof to this page)

FORM RD.C.7 STATUS OF CONCERN SUBMITTING TENDER

1. General

State whether the tenderer is a company, a closed corporation, a partnership, a sole practitioner, a joint venture/consortium or a co-operative

Public Company	
Private Company	
Closed Corporation	
Partnership	
Sole Proprietary	
Joint Venture / Consortium	
Co-operative	

(Mark the appropriate option)

2. Information to be provided

If the Tendering Entity is a:		**Documentation to be submitted with the tender**
1	Closed Corporation, incorporated under the Close Corporation Act,1984, Act 69 of 1984	CIPRO CK1 or CK2 (Certified copies of the founding statement) and list of members
2	Private Company incorporated with share capital, under the companies Act, 1973, Act 61of 1973 (Including Companies incorporated under Art 53 (b))	Certified copies of: a) CIPRO CM 1 - Certificate of Incorporation b) CIPRO CM 29 – Contents of Register of Directors, Auditors and Officers c) Shareholders Certificates of all Members of the Company, plus a signed statement of the Company's Auditor, certifying each Member's ownership/shareholding percentage relative to the total.
3	Private Company incorporated with share capital, under the companies Act, 1973, Act 61of 1973 in which any, or all, shares are held by another Closed Corporation or company with, or without, share capital.	Certified copies of documents referred to in 1 and/or 2 above in respect of all such Closed Corporations and/or Companies
4	Public Company incorporated with share capital, under the companies Act, 1973, Act 61of 1973 (Including Companies incorporated under Art 21)	A signed statement of the Company's Secretary confirming that the Company is a public Company.
5	Sole Proprietary or a Partnership	Certified copy of the Identity Document of: a) such Sole Proprietary, or b) Each of the Partners in the Partnership

If the Tendering Entity is a:		**Documentation to be submitted with the tender**
		Certified copy of the Partnership agreement.
6	Co-operative	CIPRO CR2 - Certified copies of Company registration document.
7	Joint Venture / Consortium	All the documents (as described above) as applicable to each partner in the joint venture / consortium as well as a certified copy of the joint venture / consortium agreement.

Note:

1. If the shares are held in trust provide a copy of the Deed of Trust (only the front page and pages listing the trustees and beneficiaries are required) as well as the Letter of Authority as issued by the Master of the Supreme Court wherein trustees have been duly appointed and authorised
2. Include a certified copy of the Certificate of Change of Name (CM9) if applicable.

3. Registered for VAT proposes in terms of the Value-Added Tax Act (89 of 1991)

Yes ☐

No ☐

(Make an X in the appropriate space)

REGISTRATION NO: _____

FORM RD.C.8 CLASSIFICATION OF BUSINESS

1. The Small Businesses are defined in the National Small Business Act, 1996 (Act 102 of 1996).

2. Information furnished with regard to the classification of Small businesses

   (a.) Indicate whether the company/entity is defined as a small, medium or micro enterprise by the National Small Business Act.

YES	NO

   (Tick appropriate box)

   (b.) If the response to 2.(a.) is **YES**, the following must be completed:

   i. Sector/sub-sector in accordance with the Standard Industrial classification:

   _____

   ii. Size or class:

   _____

   iii. Total full-time equivalent of paid employees:

   _____

   iv. Total annual turnover:

   _____

   v. Total gross asset value (fixed property excluded):

   _____

   (A schedule indicating the different sectors is attached to this form.)

   (c.) The tenderer should substantiate the information provided by submitting the following documentation:

   i. A letter from the tenderer's auditor or an affidavit from the South African Police Services confirming the correctness of the abovementioned information,

   ii. Company profile indicating the tenderer's staff compliment, and

   iii. 3 year financial statement or since their establishment if established during the past 3 years.

SCHEDULE OF SECTORS

SIZE OF CLASS	THE TOTAL FULL-TIME EQUIVALENT OF PAID EMPLOYEES	TOTAL TURNOVER	TOTAL GROSS ASSET VALUE (FIXED PROPERTY EXCLUDED)
AGRICULTURE			
Medium	100	R 5 mil	R 5 mil
Small	50	R 3 mil	R 3 mil
Very Small	10	R 500 000	R 500 000
Micro	5	R 200 000	R 100 000
MINING AND QUARRYING			
Medium	200	R 39 mil	R 23 mil
Small	50	R 10 mil	R 6 mil
Very Small	20	R 4 mil	R 2 mil
Micro	5	R 200 000	R 100 000
MANUFACTURING			
Medium	200	R 51 mil	R 19 mil
Small	50	R 13 mil	R 5 mil
Very Small	20	R 5 mil	R 2 mil
Micro	5	R 200 000	R 100 000
ELECTRICITY, GAS & WATER			
Medium	200	R 51 mil	R 19 mil
Small	50	R 13 mil	R 5 mil
Very Small	20	R 5.1 mil	R 1.9 mil
Micro	5	R 200 000	R 100 000
CONSTRUCTION			
Medium	200	R 26 mil	R 5 mil
Small	50	R 6 mil	R 1 mil
Very Small	20	R 3	R 500 000
Micro	5	R 200 000	R 100 000
RETAIL AND MOTOR TRADE & REPAIR SERVICES			
Medium	200	R 39 mil	R 6 mil
Small	50	R 19 mil	R 3 mil
Very Small	20	R 4 mil	R 600 000
Micro	5	R 200 000	R 100 000
WHOLESALE TRADE, COMMERCIAL AGENTS AND ALLIED SERVICES			
Medium	200	R 64 mil	R 10 mil
Small	50	R 32 mil	R 5 mil
Very Small	20	R 6 mil	R 600 000
Micro	5	R 200 000	R 100 000
CATERING, ACCOMMODATION AND OTHER TRADE			
Medium	200	R 13 mil	R 3 mil
Small	50	R 6 mil	R 1 mil
Very Small	20	R 5.1 mil	R 1.9 mil
Micro	5	R 200 000	R 100 000
TRANSPORT, STORAGE & COMMUNICATIONS			
Medium	200	R 26 mil	R 6 mil
Small	50	R 13 mil	R 3 mil
Very Small	20	R 3 mil	R 600 000
Micro	5	R 200 000	R 100 000
FINANCE & BUSINESS SERVICES			
Medium	200	R 26 mil	R 5 mil
Small	50	R 13 mil	R 3 mil
Very Small	20	R 3 mil	R 500 000
Micro	5	R 200 000	R 100 000
COMMUNITY, SOCIAL AND PERSONAL SERVICES			
Medium	200	R 13 mil	R 6 mil
Small	50	R 6 mil	R 3 mil

Very Small	20	R 1mil	R 600 000
Micro	5	R 200 000	R 100 000

FORM RD.C.9 CERTIFICATE OF AUTHORITY OF SIGNATORY

RESOLUTION of the a meeting of the *Board of Directors/Members/Partners of

_____

_____
(Legally correct full name and registration number, if applicable, of the enterprise)

Held at: _____ (place)

On: _____ (date)

RESOLVED that:

1. The enterprise submits a tender to the Tshwane Metro Municipality in respect of the following project:

Tender Number:	**EED 05-2022/23**
Tender Description:	TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS

2. *Mr/Ms: _____

in *his/her capacity as _____

and who will sign as follow:

Proof signature	Proof signature

be, and is hereby authorised to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender for the enterprise mentioned above

NAME	CAPACITY	SIGNATURE

Note:	Enterprise stamp
1. *Delete which is not applicable. 2. IMPORTANT: This resolution must be signed by all the directors/members/ partners of the tendering enterprise. 3. Should the number of directors/members/partners exceed the space available above, additional names and signatures must be supplied on a separate page.	

FORM RD.C.10 CERTIFICATE OF AUTHORITY OF SIGNATORY FOR JOINT VENTURES AND CONSORTIA

*Joint venture/consortium name: _____

We, the undersigned, are submitting this tender in a *joint venture/consortium and hereby authorise *Mr/Ms _____ authorised signatory of the enterprise _____ acting in the capacity of lead partner to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender for the *joint venture/consortium mentioned above.

Registered name of enterprise	Registration number	% of contract value	Address	Duly authorised signatory	Mark with (x) for lead partner

Note:

1. *Delete which is not applicable.
2. IMPORTANT: This resolution must be signed by all the parties of the joint venture/consortium and every duly authorised signatory for each party to the joint venture/consortium must complete a Form RD.C.15.
3. Should the number of directors/members/partners exceed the space available above, additional names and signatures must be supplied on a separate page.

FORM RD.D.1 EVALUATION SCHEDULE: TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT

Equipment	Submitted Type Test Certificate. State YES/NO	Test Laboratory / Institution	Date of Testing
11kV Switchgear			

FORM RD.D.2: SCHEDULE OF TENDERER'S EXPERIENCE

The following is a statement of similar work successfully executed by myself/ourselves.

Employer, contact person and telephone number	Description of contract	Value of work	*Date of appointment	**Date of completion

* Attach signed copies of contract appointment letters
** Attach signed copies of contract completion certificates

(Attach additional pages if more space is required)

FORM RD.D.2 EVALUATION SCHEDULE: SCHEDULE OF TENDERER'S EXPERIENCE

TENDERER'S EXPERIENCE Complete Form RD.D.2 and attach signed copies of contract appointment letters and project completion certificates for work successfully completed by the tenderer. Completed projects must be turnkey which includes (design, supply, delivery, installation, testing, and commissioning of electrical power lines and associated equipment). **Only completed projects on 132kV power lines or Higher will be considered.**	**Only projects with verifiable documentary proof in the form of both appointment letter(s) and completion certificate(s) will be considered and awarded points.**			
	Appointment letter and completion certificate for at least 1 to 2 projects	1	15	45
	Appointment letters and completion certificates for at least 3 to 4 projects	2		
	Appointment letters and completion certificates for at least 5 or more projects	3		

FORM RD.D.3: KEY PERSONNEL EXPERIENCE - MANAGEMENT AND SUPERVISORY STAFF

The tenderer shall list in the table below the key personnel to be engaged for this project.

Note: Form RD.D.3 must be complete for each person listed below.

	NAME	CATEGORY [6]	LOCAL / NON LOCAL
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

(Attach additional pages if more space is required)

[6] The Contractor shall fill in the various categories, e.g. Site, Agent, Foreman, Trainers, Plant Operators, Clerks, Technicians, Laboratory Assistants, etc. as required.

FORM RD.D.3: CURRICULUM VITAE OF KEY PERSONNEL

Note: This form should be completed for each key person listed in Form RD.D.3

Name:	**Date of birth:**
Profession:	**Nationality:**
Qualifications:	
Professional membership:	
Name of employer (firm):	
Current position:	**Years with firm:**
Employment record: (list in chronological order starting with earliest work experience)	
Experience record pertinent to required service:	
Certification: **I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.** _____ _____ *(Signature of person named in schedule)* Date:	

RD.D. 3 Evaluation Schedule: Key personnel experience and health and safety officer – Management, Supervisory staff, and Safety Officer

<table>
<tr>
<td>KEY PERSONNEL EXPERIENCE
The tenderer must have in his employment, the management and project engineer personnel with the necessary years' experience in the Electrical engineering field.

It is compulsory to complete Form RD.D.3 and attach <u>certified copies</u> of qualifications of key personnel.</td>
<td>The tenderer must have in his employ, personnel with the following years' experience in maintenance and construction of electrical 33KV / 132KV Towers
<table>
<tr><td>Years' experience 1-3 years</td><td>2</td><td rowspan="3">5</td><td rowspan="3">30</td></tr>
<tr><td>Years' experience 4-6 years</td><td>4</td></tr>
<tr><td>Years' experience 7 + years</td><td>6</td></tr>
</table>
</td>
</tr>
</table>

FORM RD.D.4 QUALITY MANAGEMENT SYSTEM

Briefly describe the construction quality system incorporated by the tenderer in his organisation and which will be applicable to this Contract.

	Internal	External	Name of responsible Company /or Person (In case of Person give years' experience and qualification)
Survey: Setting out of the works and control			
Testing Laboratory			
Additional quality systems			

RD.D. 4 Evaluation Schedule: Quality Management System

CRITERIA	SUB-CRITERIA	SCALE	WEIGHT	HIGH POSSIBLE SCORE
Quality Management System **(NOTE: Points will be allocated and added for each)**	Provide company's valid ISO 9001 compliance certificate	1	5	10
	Provide company's valid ISO 14001 compliance certificate	1		

FORM RD.D.5 LOCAL ECONOMIC PARTICIPATION (LOCATION OF BUSINESS)

MBD 6.11

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2001
PROMOTION OF ENTERPRISES LOCATED IN A SPECIFIC MUNICIPAL AREA

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES SPECIFIED IN CLAIM FORM MBD 6.1 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2001.

1. Regulation 17(3) (g) of the Preferential Procurement Regulations makes provision for the promotion of enterprises located in a specific municipal area for work to be done or services to be rendered in that municipal area.

2. The promotion of this goal can be achieved by acquiring goods and services from enterprises located within the City of Tshwane. This includes an enterprise whose head office may be situated in elsewhere, but has established a fully-fledged branch within this municipal area. Enterprises located outside the borders of this Municipality and who only appoint agents and/or commission warehouses in this municipal area are expressly excluded from claiming points for this goal.

SPECIFIC GOAL	POINTS ALLOCATED
The stimulation of the local economy by procuring from enterprises located within the borders of The City of Tshwane	1

3. Preference points may only be claimed by enterprises located within the City of Tshwane (See paragraph 2 above).

4. BID DECLARATION

Bidders who wish to claim points in respect of this specific goal must complete the declaration part of this form.
Complete proof of the above claim must be attached. If the claim cannot be substantiated from the attached information the municipality reserves the right, in its sole discretion, not to allocate the points.

5. POINTS CLAIMED

Bidder to indicate whether the point(s) allocated for enterprises situated within the City of Tshwane is/are claimed.	Yes / No

6. DECLARATION WITH REGARD TO LOCALITY

State full particulars of locality of enterprise as well as that of Head Office:

Address of local enterprise: Physical: ……

Postal:……

……

……

Telephone: …… Fax: ……

Municipal Account Number :……(Account attached)

Municipal Account No: …… Area:……

Stand No: ……..

Address of Head Office: Physical……..

Postal: ……

……

……

Telephone: …… Fax: ……

I/we, the undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise certify that the enterprise is entitled to the points allocated in paragraph 2 of this form and I / we acknowledge that:

(i) The information furnished is true and correct.
(ii) In the event of a contract being awarded as a result of points claimed, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claim is correct.
(iii) If the claim is found to be incorrect, the purchaser may, in addition to any other remedy it may have-
  (a) recover all costs, losses or damages it has incurred or suffered as a result of wrong information furnished; and

  (b) 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.

WITNESSES:

1. ……

2. ……

……..
SIGNATURE (S) OF BIDDER (S)

DATE: ……

RD.D. 5 Evaluation Schedule: Local Economic Participation (Location of Business)

CRITERIA	SUB-CRITERIA	SCALE	WEIGHT	HIGH POSSIBLE SCORE
Local Economic Participation (Location of Business) Bidders should submit Rate and Taxes in the name of the business.	Outside Gauteng (With in South African boarders)	1	5	15
	Gauteng	2		
	City of Tshwane	3		

FORM RD.E.1 RECORD OF ADDENDA TO TENDER DOCUMENTS

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

	DATE	REFERENCE	TITLE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.E. 2
PROPOSED AMENDMENTS

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

The Tenderer's attention is drawn to clause 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

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender: .....

FULL NAME (BLOCK LETTERS): .....

SIGNATURE: .....

DATE:

FORM RD.E. 3

COST PRICE ADJUSTMENT (CPA) LOCAL CONTENT (SEIFSA)

Is/Are the tender price/s firm until the end of contract period? ***(YES/NO)***
If not: .....

.....

.....

LOCAL CONTENT:

Submit the cost factors which will be taken into account in the event of price increase/decrease, as well as the compilation of the tender price/s, i.e. cost price, transport cost, margin of profit, etc.

		INDEX FIGURE AND BASE DATE (E.G., SEIFSA TABLE E1)
Fixed	a= 0.1	
Material	b=	
Labour	c=	
Transport	d=	
Profit	e=	
Other		
Total	1	

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender: .....
FULL NAME (BLOCK LETTERS): .....
SIGNATURE: .....
DATE:

FORM RD.E. 4

COST PRICE ADJUSTMENT (CPA) IMPORTED CONTENT (FOREX)

Is/Are the tender price/s firm until the end of contract period? ***YES/NO):***
If not:

IMPORTED CONTENT:

When the price/s is/are subject to the rate of exchange, submit the price basis on which the exchange rate will be based (e.g. F.O.B. value, fixed value in respect of foreign exchange, etc.)

(i) exchange rate upon which the bid price is based

.....

.....

.....

.....

(ii) What portion of the bid price (percentage or amount) will be affected by variations in the exchange rate?

.....

.....

.....

.....

NB: ***Tenderers are also required to submit a bank statement or an auditor's report regarding the actual exchange rate in respect of the transaction value paid to the overseas supplier.***

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender: .....

FULL NAME (BLOCK LETTERS): .....

SIGNATURE: .....

DATE:

FORM RDE 6P VERIFICATION ON SCHEDULE OF PARTICULARS & GUARANTEES

All bidders must complete the form in full. Failure to provide the required detailed information called for in the schedules will result in the bidders to be disqualified.
CONTENTS

PART	DESCRIPTION	Verify if the requirements that are specified in the following schedules of particulars and guarantees 1. Are the schedules completed in full? State YES or NO 2. Do all items comply fully to the specifications required? State YES or NO 3. Do you comply with IEC and SABS specifications? State YES or NO		
		1.	2.	3.
1	General Requirements:			
2	132kV Circuit Breakers:			
3	Disconnectors (Isolators) and Earthing Switches:			
4	Surge Diverters and Insulating Bases:			
5	Instrument Transformer:			
6	Busbars, Connections and Connection Clamps:			
7	Insulators:			
8	11kV Cable, Connection, Termination and Accessories:			
9	Earthing			
10	Transformer, NER and NEC			
11	11 kV Switchgear:			
12	Protection and Control:			
13	Auxiliary Equipment:			
14	Building and Civil Works:			
15	Electrical Installation of Substation Building, Yard Lighting and Lightning Protection:			
16	Steel Lattice Construction Portal Type Gantries for Overhead Busbars:			
17	Communications:			
18	SCADA:			
19	Power Lines/Cables:			

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person Authorized to sign Tender:

FULL NAME (BLOCK LETTERS): .....

SIGNATURE: .....

DATE: .....

PORTION 2: CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

TABLE OF CONTENTS

C1.1 FORM OF OFFER AND ACCEPTANCE

STAMP

OFFER

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

EED 05 – 2022/23: TENDER TO PROVIDE A SERVICE TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRE BASIS FOR A PERIOD OF THREE (3) YEARS

The tenderer, identified in the offer signature block below, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the condition 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 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.

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.

Acceptance of this offer will not guarantee that the tenderer will be invited to submit a price for any task order or be allocated any task order during the duration of the appointment. Invitation and allocation of task orders will be done solely at the discretion of the employer.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX FOR THE 3 YEARS

R……(in figures)……

……

……(in words)

FOR AND ON BEHALF OF THE TENDERER:

NAME:
(in BLOCK letters) _____

CAPACITY:
(of authorized agent) _____

SIGNATURE:
(of authorized agent) _____

_____ _____ _____

SIGNED at _____ on this _____ day of _____

WITNESSES:
(Full name in BLOCK letters and signature)

1. _____ _____

2. _____ _____

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
Part C2 Pricing Schedule
Part C3 Scope of Work

And any drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C3 above Note: Not applicable to this scope of work).

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.

The tenderer shall within two weeks after receiving a letter of acceptance, contact the employer's agent (whose details are given in the contract data) to arrange the delivery of guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to 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 AND ON BEHALF OF THE EMPLOYER:

NAME:
(in BLOCK letters) _____

CAPACITY:
(of authorized agent) _____

SIGNATURE:
(of authorized agent) _____

SIGNED at _____ on this _____ day of _____

WITNESSES:
(Full name in BLOCK letters and signature)

1. _____ _____

2. _____ _____

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.

4.1 Subject: _____

Details: _____

4.2 Subject: _____

Details: _____

4.3 Subject: _____

Details: _____

4.4 Subject: _____

Details: _____

4.5 Subject: _____

Details: _____

By the duly authorised representatives signing this agreement, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from the 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, 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 AND ON BEHALF OF THE TENDERER:

NAME:
(in BLOCK letters) _____

CAPACITY:
(of authorized agent) _____

SIGNATURE:
(of authorized agent) _____

SIGNED at _____ on this _____ day of _____

WITNESSES:
(Full name in BLOCK letters and signature)

1. _____ _____

2. _____ _____

FOR AND ON BEHALF OF THE EMPLOYER:

NAME:
(in BLOCK letters) _____

CAPACITY:
(of authorized agent) _____

SIGNATURE:
(of authorized agent) _____

SIGNED at _____ on this _____ day of _____

WITNESSES:
(Full name in BLOCK letters and signature)

1. _____ _____

2. _____ _____

C1.2 CONTRACT DATA

C1.2.1 GENERAL CONDITIONS OF CONTRACT

The general conditions of contract applicable to this contract shall be **GCC – GENERAL CONDITION OF CONTRACT, 2015** as well as the Data provided by Employer.

Tenderers, contractors and subcontractors shall obtain their own copies of the document **GCC – GENERAL CONDITION OF CONTRACT, 2015** for tendering purposes and for use for the duration of the contract and shall bear all expenses in this regard:

Engineering Contracting Strategies (ECS)
Telephone: 011 803 3008
E-Mail: admin@ecs.co.za
Web: www.ecs.co.za

OR

Consulting Engineers South Africa (CESA)
Telephone: 011 463 2022
E-Mail: general@cesa.co.za
Web: www.cesa.co.za

OR

South African Institution of Civil Engineering (SAICE)
Telephone: 011 80505947 / 48 / 53
E-Mail: civilinfo@saice.org.za
Web: www.saice.org.za

C1.2 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The *conditions of contract* are the core clauses and the clauses for Main Option	
		B: Priced contract with schedule of rates
	dispute resolution Option	**W1: Dispute resolution procedure**
	and secondary Options	
		X1: Price adjustment for inflation
		X2: Changes in the law
		X5: Sectional Completion
		X7: Delay damages
		X13: Performance Bond
		X16: Retention
	GCC - General Contract Condition	**Z: *Additional conditions of contract***
10.1	The *Employer* is (Name):	**City of Tshwane** **P.O Box 423** **Pretoria** **0001** **Represented by:** **Divisional Head (DH)** **Energy and Electricity Division**

Clause	Statement	Data
	Address	**4th Floor** **Middestad Building** **252 Thabo Sehume street** **Pretoria** **0002**
	Tel No.	**012 358 1217**
	Fax No.	**086 433 1362**
10.1	The *Project Manager* is:	**Deputy Director of Energy and Electricity Department Sub Transmission**
	Address	**1st Floor** **C de Wet Building** **1 Francis Baard street** **Pretoria** **0002**
	Tel	**012 358 0303**
	Fax	
10.1	The *Supervisor* is: (Name)	**A person to be appointed by the *Employer*. Municipal inspectors from the Tshwane Energy and Electricity Division will assist the *Supervisor* as may be necessary.**
	Address	**Of person appointed as supervisor for the specific project.**
	Tel No.	**N/A**
	Fax No.	**N/A**
	e-mail	**N/A**
11.2(13)	The *works* are	**The *works* are**: TENDER TO PROVIDE A SERVICE TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRE BASIS FOR A PERIOD OF THREE (3) YEARS
11.2(14)	The following matters will be included in the Risk Register	**As prescribed per specific project/work.**
11.2(15)	The *boundaries of the site* are	**Boundaries of the specific CoT supply area.**
11.2(16)	The Site Information is in	**The Scope of Works in the Document.**
11.2(19)	The Works Information is in	**The Scope of Work in Part C3 of the Document**

Clause	Statement	Data
12.2	The *law of the contract* is the law of	**The Republic of South Africa subject to the jurisdiction of the Courts of South Africa.**
13.1	The *language of this contract* is	**English**
13.3	The *period for reply* is	**The period of reply, if not stated in the letter of appointment, shall be 14 days.**
2	The Contractor's main responsibilities	**The *Contractor's* liability, for Defects due to his design that are not listed on the Defects Certificate, is unlimited.**
3	Time	
11.2(3)	The *completion date* for the whole of the *works* and sections.	**The completion date for the whole of the works is 36 months subject to specific projects requirements, whichever is shorter. During this period the projects will be allocated to the contractor. The completion period for the specific project shall be specified by the deputy director.**
30.1	The *access date is*	
31.1	The *Contractor* is to submit a first programme for acceptance within	**When required to do so per specific project and the deadline for submission is no longer than *period of reply*.**
31.2	The *starting date* is.	
32.2	The *Contractor* submits revised programmes at intervals no longer than	**4 weeks.**
35.1	The *Employer* is willing to take over each project allocated on completion.	
4	Testing and Defects	
42.2	The *defects date* is	**Construction work: <u>12 weeks</u> after the Completion date of the whole *works per specific purchase order*.**
43.2	The *defect correction period* is	**1 week for project specific work, unless stated otherwise in the appointment letter.**

Clause	Statement	Data
5	Payment	
50.1	The *assessment interval* is	**Minimum 2 weeks (for project schedule of a period of a month and more) or at the completion of each project.**
51.1	The *currency of this contract* is the	**South African Rand (R)**
51.2	The period within which payment is made is	**30 days from date of invoice, subject to the payment process and policy of the CoT Finance Department.**
51.4	The *interest rate* is	**Prime Bank Rate**
6	Compensation events	
60.1(13)	The *weather measurements* to be recorded for each calendar month are:	**the cumulative rainfall (mm)**
		the number of days with rainfall more than 10 mm & date
		the number of days with minimum air temperature less than 0 degrees Celsius
		the number of days with snow lying at 08:00 hours South African Time
		and these measurements:
	The place where weather is to be recorded (on the Site) is:	**Site Office or point of supply for the specific site**
	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	**De Wildt**
	and which are available from:	**Weather SA**
60.1(13)	Assumed values for the ten-year return *weather data* for each *weather measurement* for each calendar month are:	**See attached schedule in Works Information paragraph 2.**

Clause	Statement	Data
7	Title	**No data is required for this section of the *conditions of contract.***
8	Risks and insurance	
84.2	The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the *works*, Plant, Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract for any one event is	**R10 million.**
	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract for any one event is	**As set out in COIDA (WCA) as well as a group life insurance for at least three times the employee's total annual earnings.**
84.1	The *Employer* provides these insurances from the Insurance Table	
	1 Insurance against:	**Loss of or damage to the *works*, Plant and Materials.**

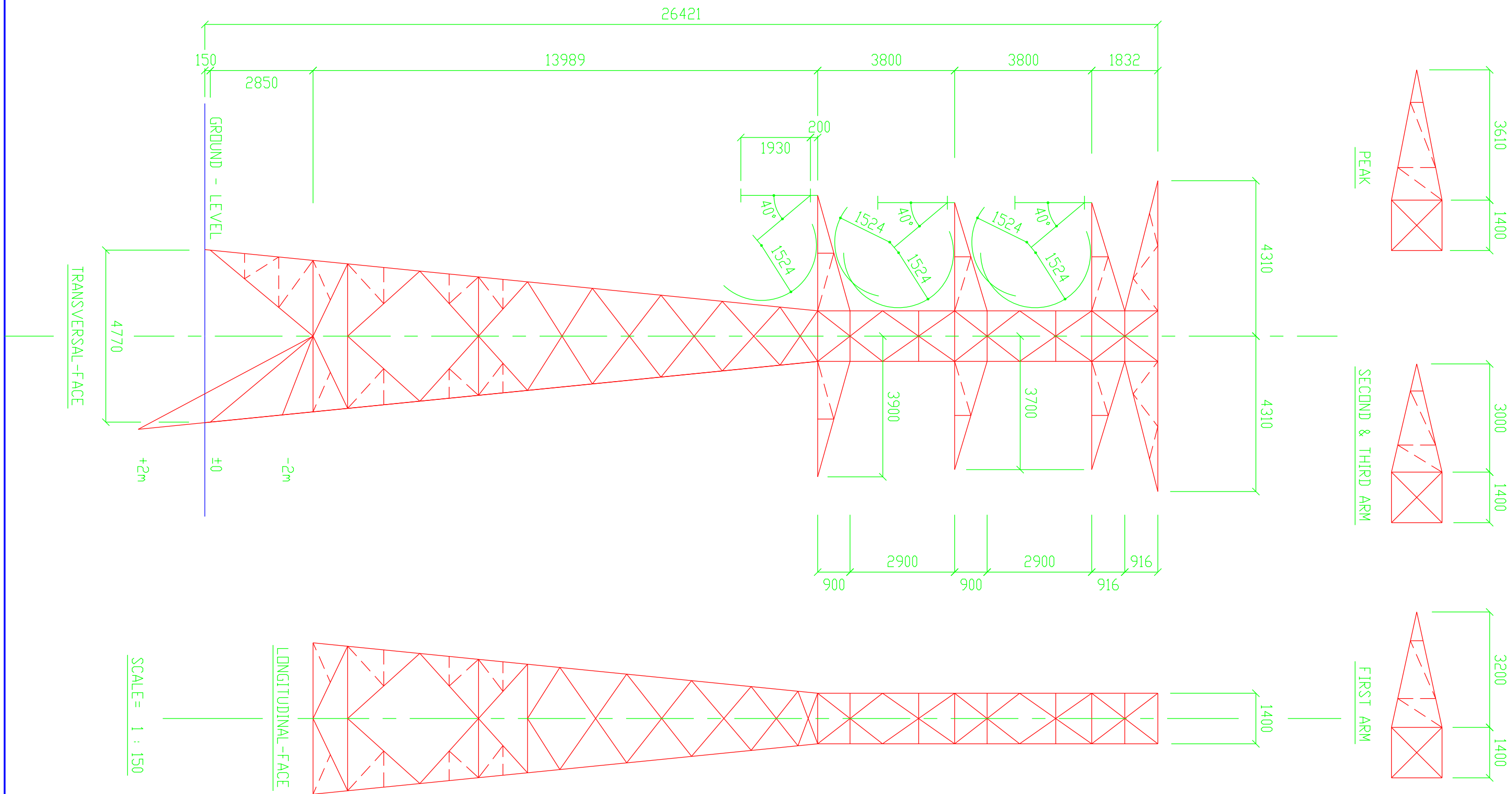
Clause	Statement	Data
	Cover / indemnity:	**R10 million**
	The deductibles are:	**According to the Declaration Form from Insurance and Risk Management of CoT.**
	2 Insurance against:	**Liability for loss of or damage to property (except the *works*, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract.**
	Cover / indemnity	**R10 million.**
	The deductibles are	**According to the Declaration Form from Insurance and Risk Management of CoT**
9	Termination	**Contract Data required for this section, the general *conditions of contract*.**
10	Data for main Option clause	
A	**Priced contract with bill of**	
60.6	*The method of measurement is*	**As indicated in the schedule of rates/quantities.**
11	Data for Option W1	
W1.1	The *Adjudicator* is (Name)	**In the event that a first dispute is referred to adjudication, the referring Party at the same time applies to the South African Institution of Electrical Engineering or any other relevant representative body to appoint an *Adjudicator*. All disputes are handled without transgressing stipulations from the MFMA and other relevant legislation for Local Government.**
	Address	
	Tel No.	
	Fax No.	
	e-mail	

Clause	Statement	Data
W1.2(3)	The *Adjudicator nominating body* is:	
	If no *Adjudicator nominating body* is entered, it is	**The South African Institution of Electrical Engineering or any other relevant representative body.**
W1.4(2)	The *tribunal* is:	**Arbitration**
W1.4(5)	The *arbitration procedure* is	**The Rules of the Association of Arbitrators**
	The place where arbitration is to be	**Pretoria**
	The person or organisation who will choose an arbitrator - if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is	**Arbitrator to be mutually agreed by the Parties** **The Association of Arbitrators**
12	Data for secondary Option clauses	
X1	**Price adjustment for inflation**	
X1.1(a)	Tenderers are required to register with SEIFSA (Steel and Engineering Industries Federation of South Africa) and obtain periodic SEIFSA rates for various categories applicable to this contract. Contractors and Subcontractors shall obtain their own copies (at their own cost) of the SEIFSA rates documents for contract management purposes and for use for the duration of the Contract. City of Tshwane or its representative may request	
	Prices/Rates tendered shall remain fixed for every 12 months of the contract. The first 12 months is the rates as they are tendered while the second and third 12 months are calculated using SEIFSA index stated below.	
	Thereafter the proportions used to calculate the Price Adjustment Factor are:	
X1.1(c)	**For Material price calculation:**	
	1.00 linked to the index in	Table C-3(a) of the SEIFSA Index
	0.00	Table O of the SEIFSA Index
	0.00	Table L-1 of the SEIFSA Index
X1.1(c)	**For Unit Rates and hourly tariff calculation;**	

Clause	Statement	Data
	0.70 linked to the index in	Table C-3(a) [field force] of the SEIFSA Index
	0.20 linked to the index in	Table P of the SEIFSA Index (Plant and Machinery before installation)
	0.10	Table L-1 (freight cost) of the SEIFSA Index
	The indices are those prepared by Steel and Engineering Association of South Africa.	
X2	**Changes in the law**	**No data is required for this Option**
X7	**Delay damages**	
X7.1	Delay damages for Completion of the *works* are	**Projects with planned execution period shorter or equal to one month and not capital projects: R500.00 per day.** **Projects with planned execution period between one and three months and not capital projects: R1000.00 per day.** **Capital projects and any other projects with planned execution longer than three months: R2500.00 per day.** **The reimbursement to the employer is in a form of credit note against the invoice of the specific project.**
X13	**Performance bond**	
X13.1	The amount of the performance bond	**Retention (See also clause Z3)**
X16	**Retention**	
X16.1	The *retention free amount* is	**R0.00.**
	The *retention percentage* is	**10%.** **Claimable at the expiry of defects certificate per specific project**
Z	***Additional conditions of contract***	
	The *additional conditions of contract*	

Clause	Statement	Data
Z1	Compensation Events	**The provisions of 60.1(5) do not apply to this contract.**
Z2	Insurance policies	**Replace Clause 85.2 with the following: "Insurance policies arranged by the Contractor/Sub-contractor to include a waiver by the Insurers of their subrogation rights against the Employer except where there is fraud."**
Z3	**X13 Performance Bond (Secondary option X13)**	Add: X13.2 Should the contractor not comply with the terms and conditions of this contract and/or appointment under this contract, he shall be warned in writing by the employer or the representative of his failure to perform. As a result of three warning letters being provided under the same contract, the employer shall have the sole right to take one or more of the steps against the contractor: a. Terminate the contract between the contractor and the employer for the remainder of the contract period. b. Suspend the contractor for the remaining period of the contract. The contractor shall qualify to bid for the same contract with the same scope of works but only after the contract for which he was suspended has expired. c. If the performance bond clause is applied, outstanding payments for work done and the retention amount for the specific project for which the clause is applied or the total retention amount already withheld by CoT for other projects, whichever is higher, shall be forfeited.

Clause	Statement	Data
		ALL decisions made shall be recommended and implemented by the Project Manager. The Group Head: Utility Services Department shall approve such recommendation prior to implementation. The recommendation(s) will be processed through supply chain management process.
Z4	**91 Reasons for Termination**	*Add the following to clause 91.2:* • The contractor may not refuse any work allocated to them other than for the following reasons: a. the works are not according to the works information and there is no rate tendered for in the contract data or the new rate (provided by CoT) is not market related, b. the contractor does not have capacity to provide the works using the new scope which is not part of the contract. • If the contractor refuses work for any other reason, such refusal is noted and can be used as a reason for non-performance and ultimately termination of this contract.”
Add		



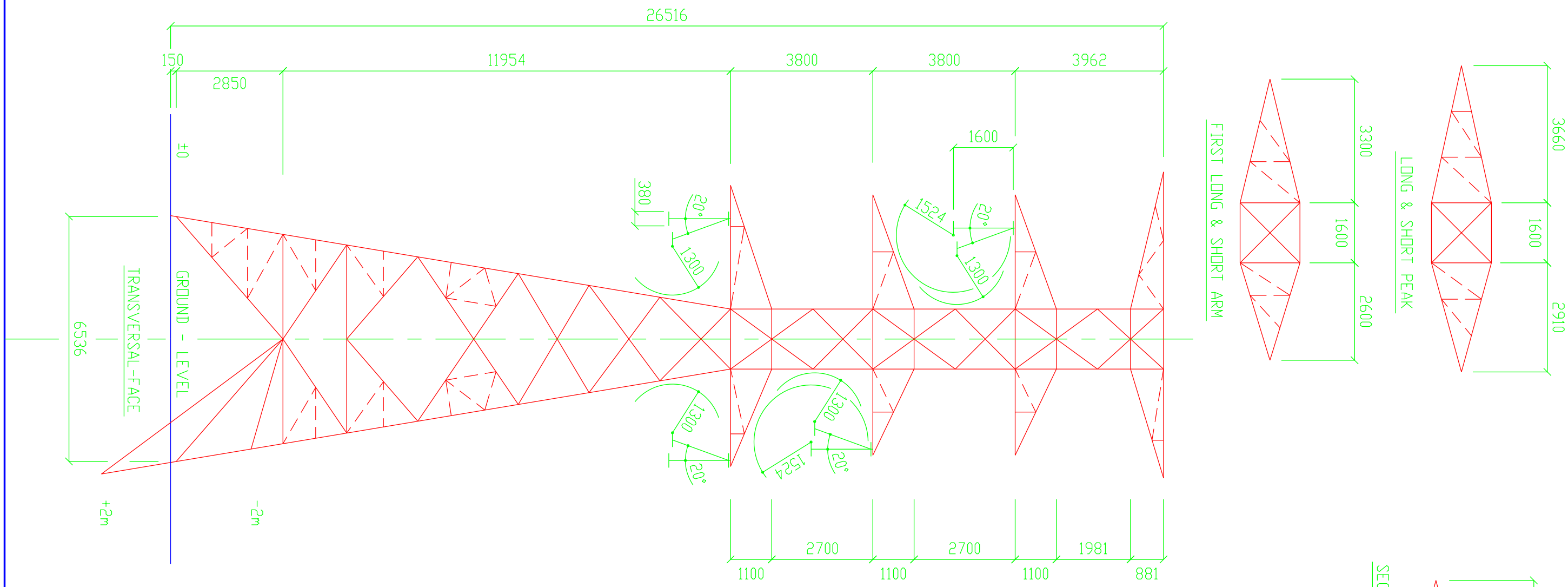
Babcock Ntuthuko Powerlines

PROJECT: *132 KV. TRANSMISSION LINE*

TITLE: *0°–2° SUSPENSION TOWER TYPE "213A"*

DATE: *29/08/2006*

DWG. No *1421*



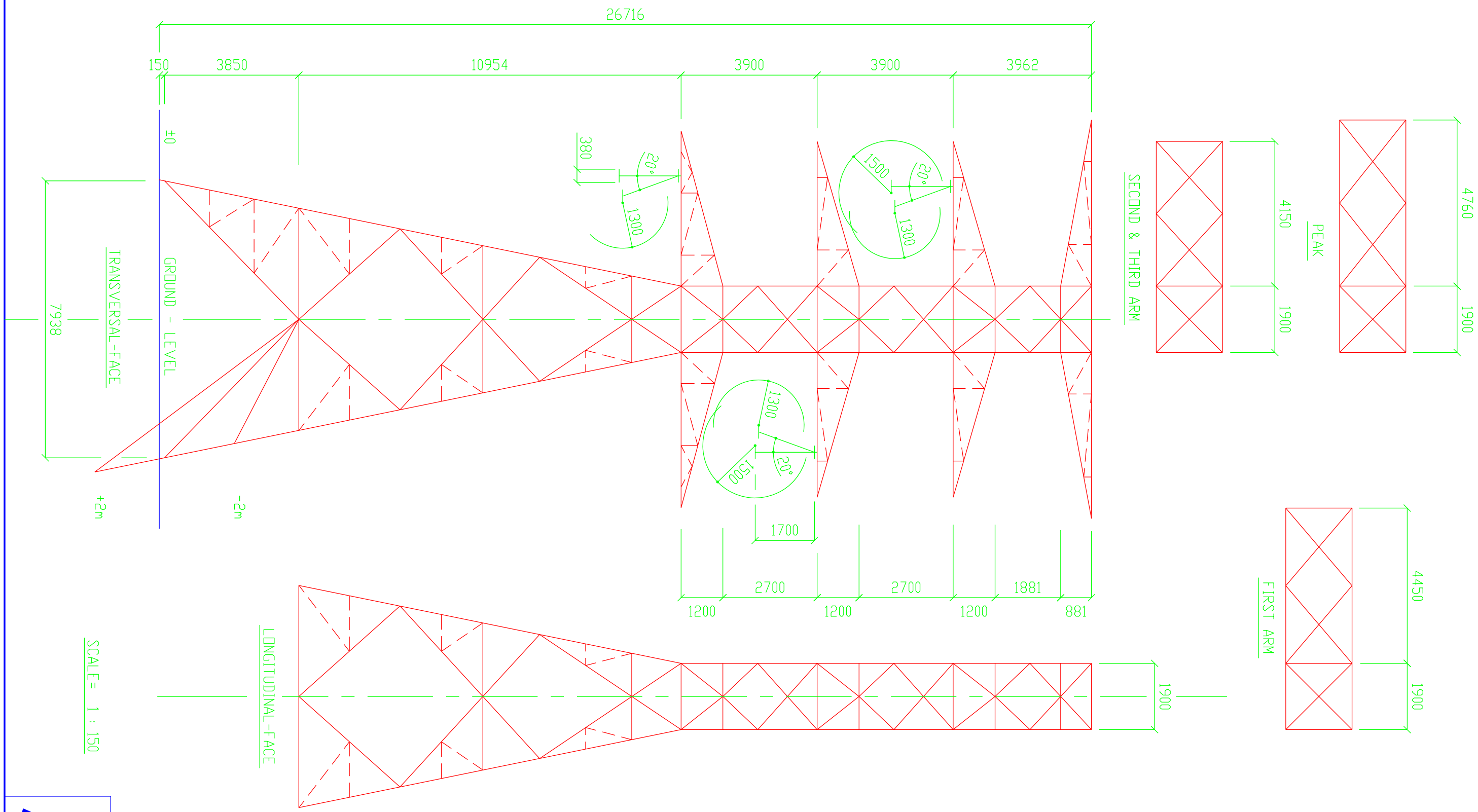
Babcock Ntuthuko Powerlines

PROJECT: *132 kV. LINE*

TITLE: *10–30 deg. ANGLE STRAIN TOWER TYPE "213B"*

DATE: *29/08/2006*

DWG. No *1422*



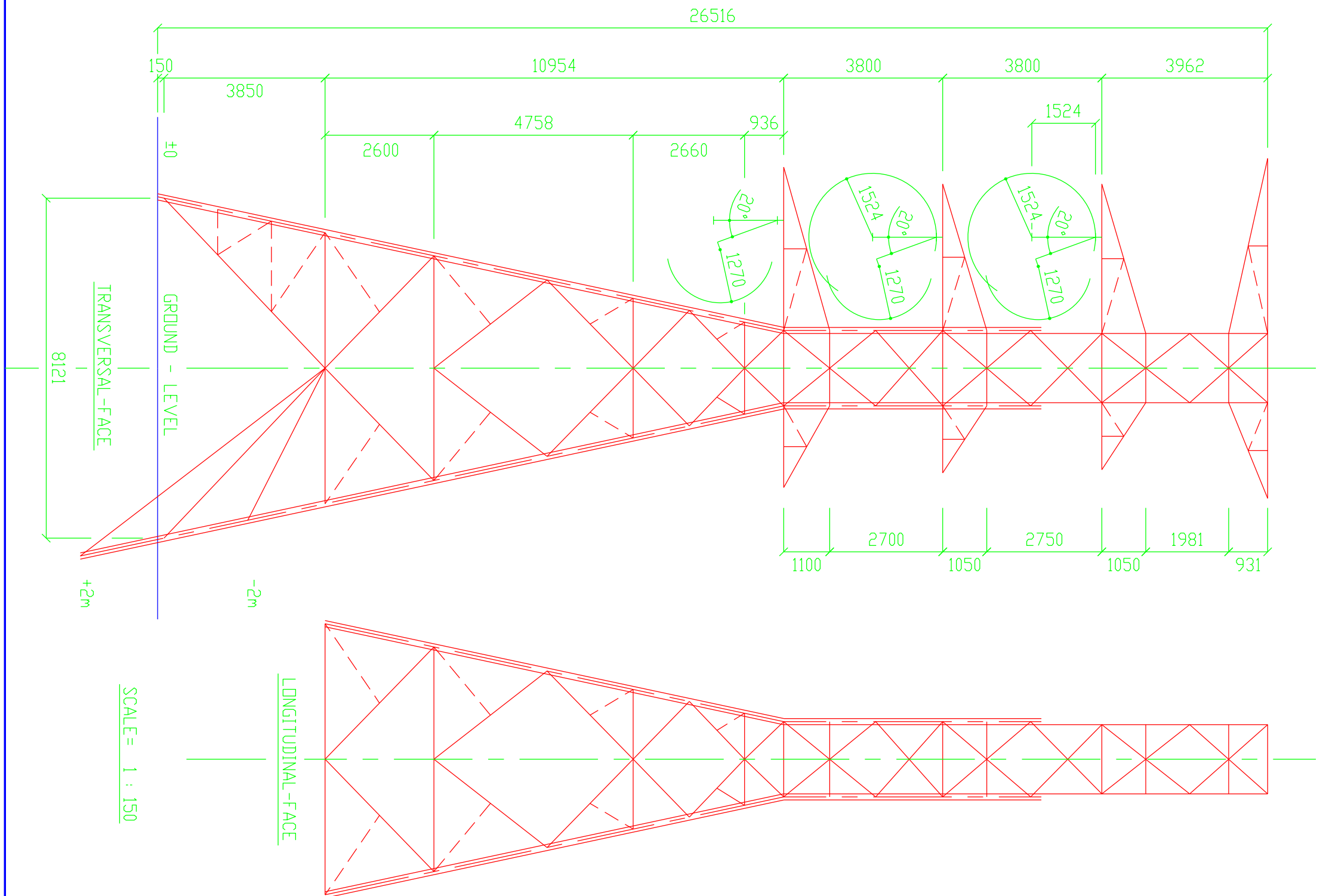
Babcock Ntuthuko Powerlines

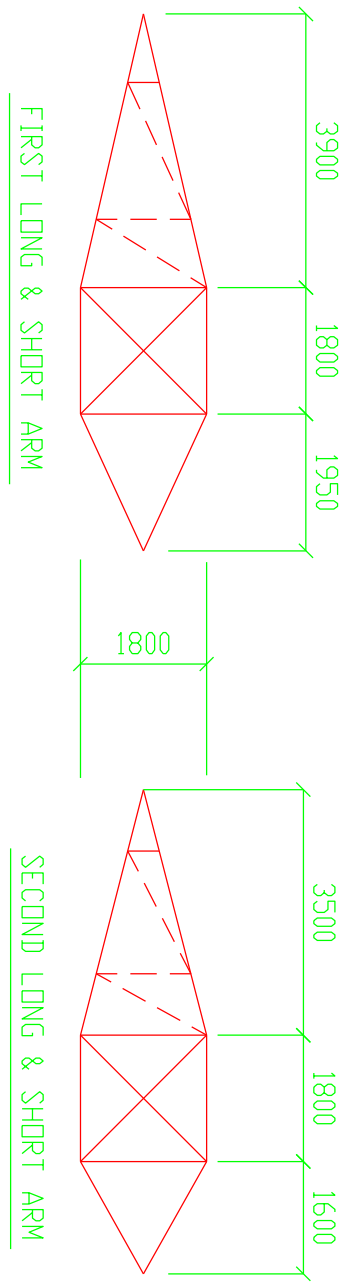
PROJECT: *132 KV. TRANSMISSION LINE*

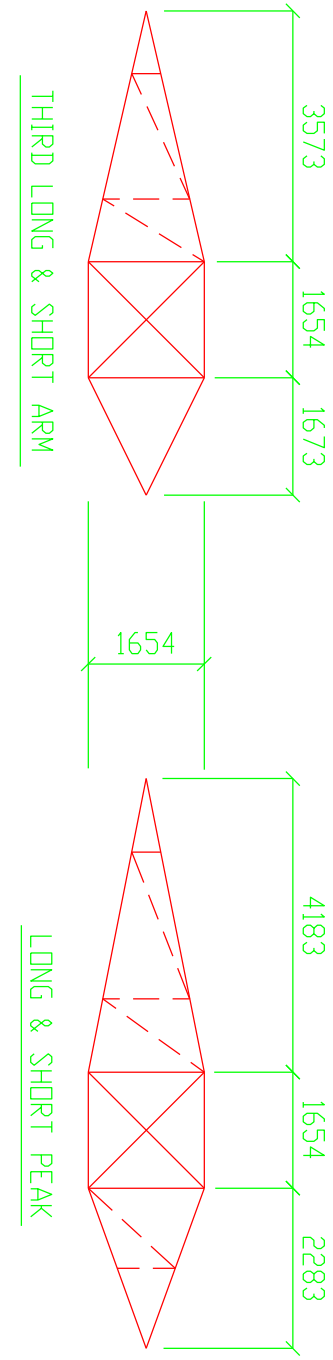
TITLE: *60°-90° A/S & 0°-45° TERM. TOWER TYPE "213C"*

DATE: *29/08/2006*

DWG. No *1385*







babcock

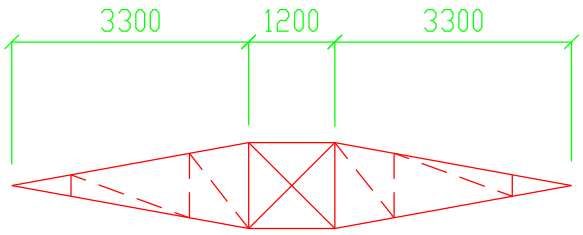
Babcock Ntuthuko Powerlines

PROJECT: 132 KV. TRANSMISSION LINE

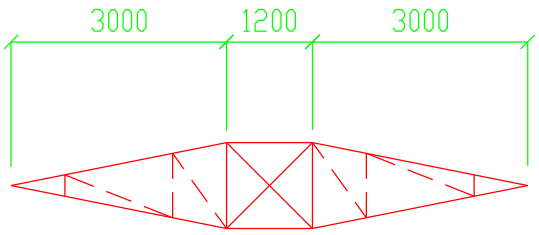
TITLE: 30°–60° ANGLE STRAIN TOWER TYPE "213D"

DATE: 29/08/2006

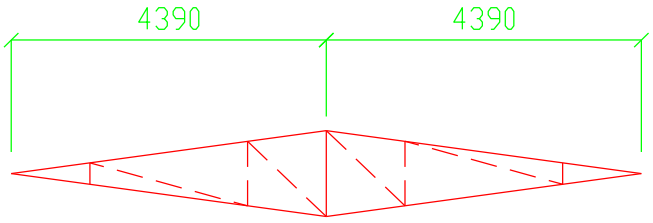
DWG. No 1384



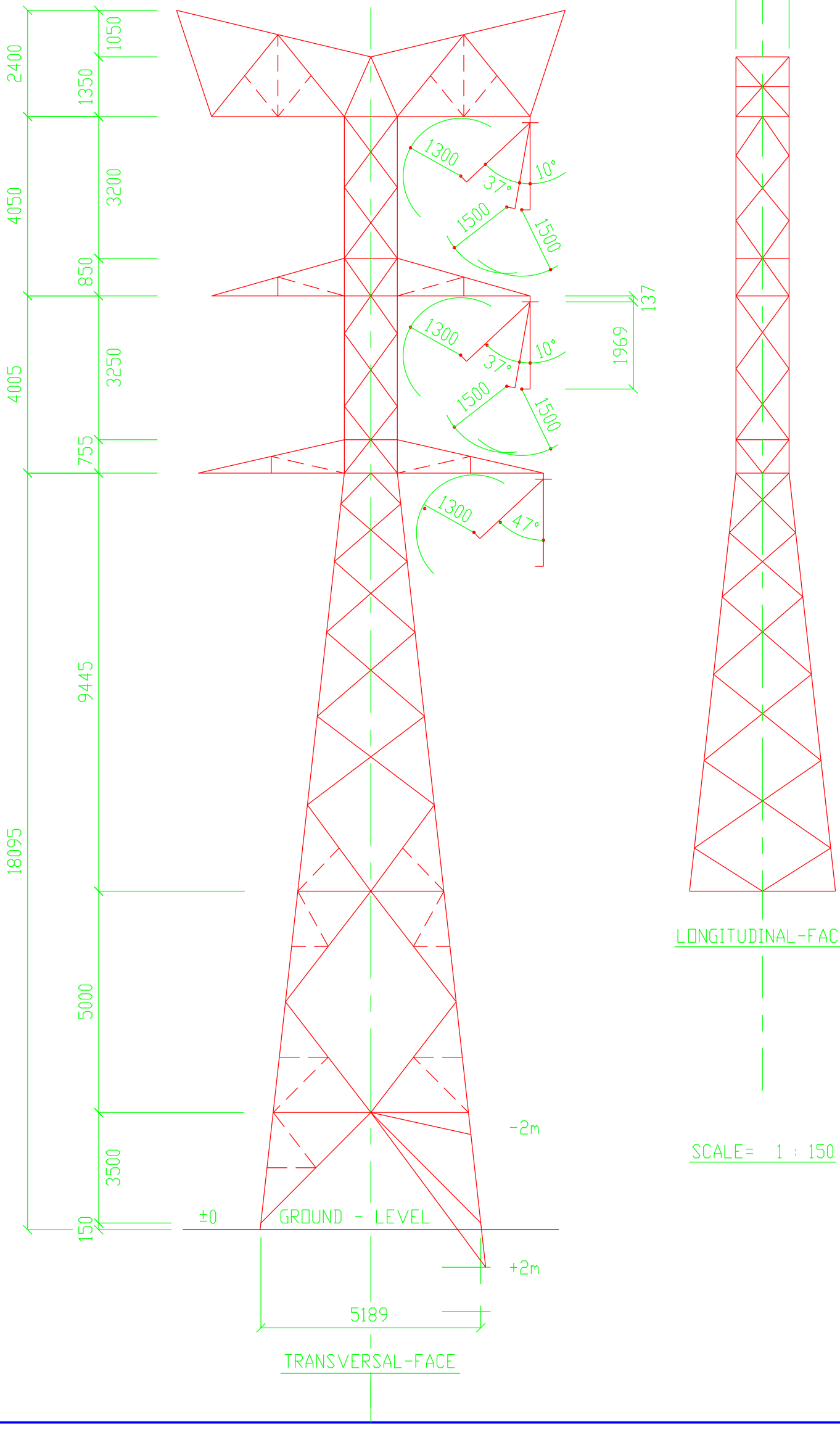
FIRST ARMS



SECOND & THIRD ARMS



PEAKS



TRANSVERSAL-FACE

LONGITUDINAL-FACE

SCALE= 1 : 150

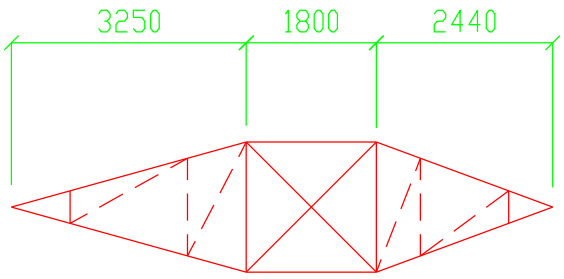
DATE:

DWG. No 1773

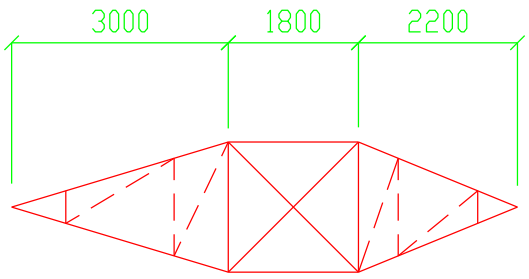
PROJECT: 132 KV. TRANSMISSION LINE

TITLE: 0° SUSPENSION TOWER TYPE ''2D''

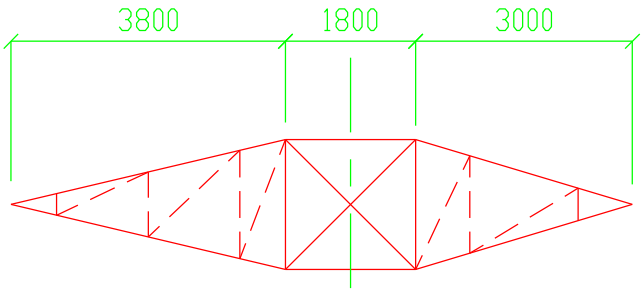
Babcock Ntuthuko Powerlines



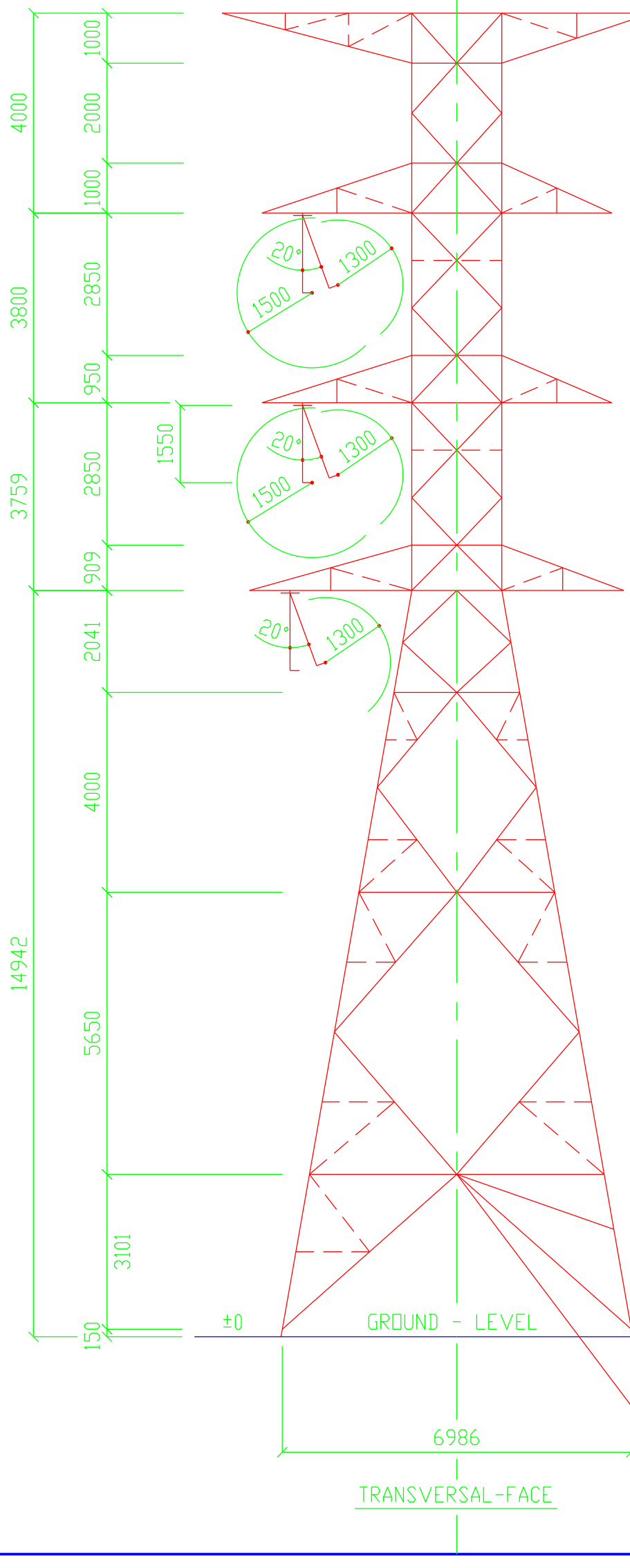
FIRST ARMS



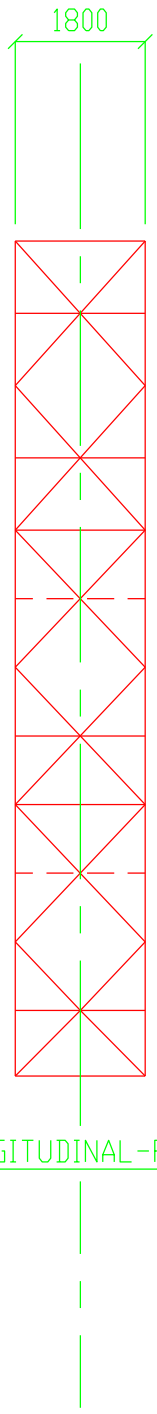
SECOND & THIRD ARMS



PEAKS



TRANSVERSAL-FACE



LONGITUDINAL-FACE

SCALE= 1 : 150

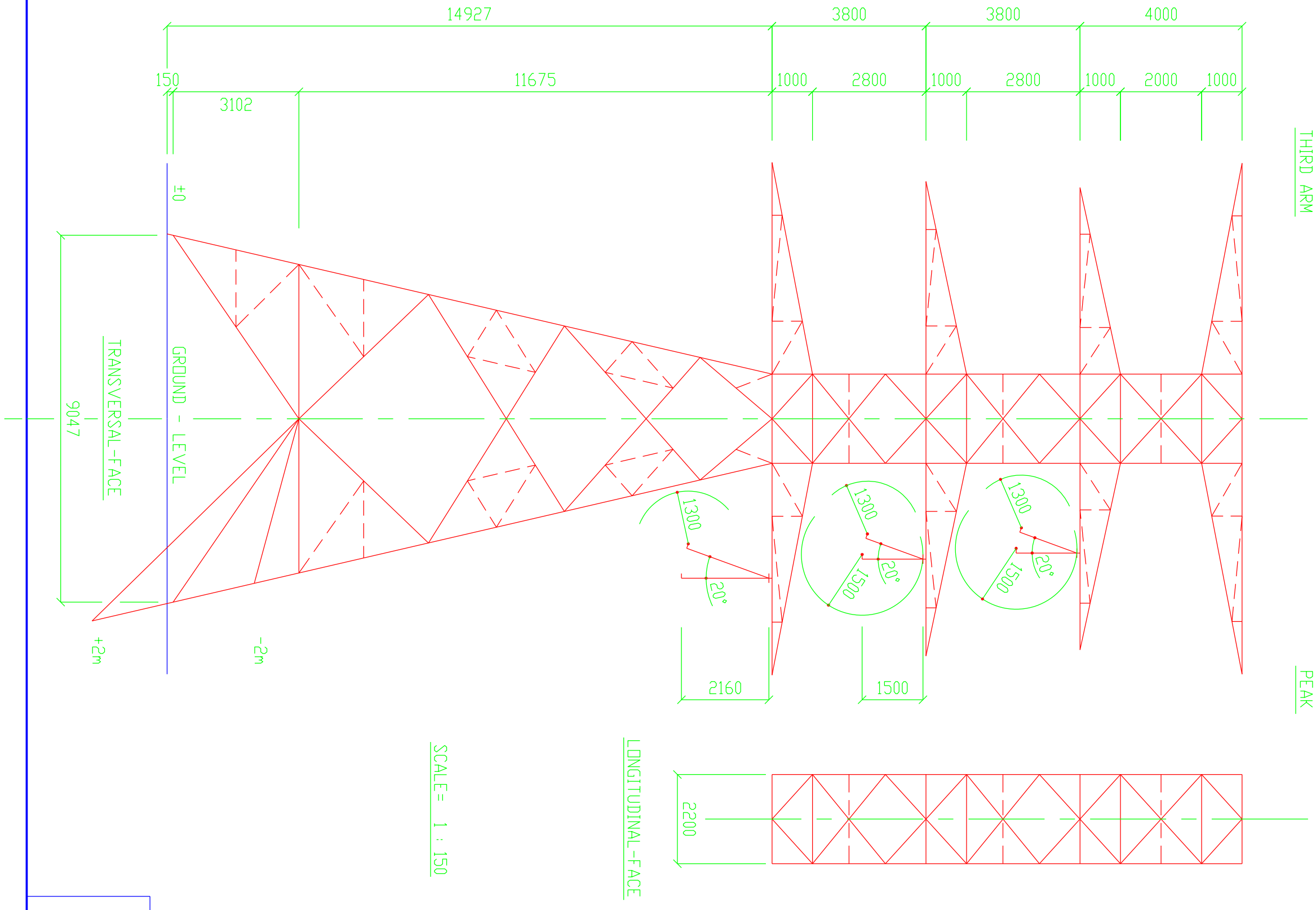
DATE:

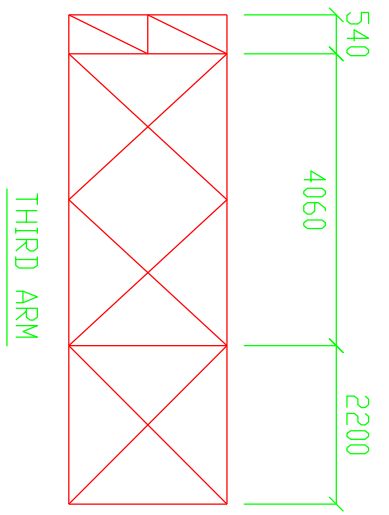
DWG. No 1774

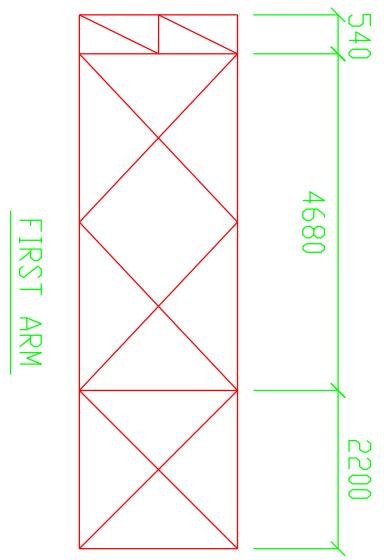
PROJECT: 132 KV. TRANSMISSION LINE

TITLE: 0°-30° ANGLE STRAIN TOWER TYPE "2D30"

Babcock Ntuthuko Powerlines







Babcock Ntuthuko Powerlines

PROJECT: *132 KV. TRANSMISSION LINE*		DATE:
TITLE: *60°-90° A/S & 0°-45° TERM. TOWER TYPE "2D90-2DT"*		DWG. No *1775*

C.2 PRICE SCHEDULE

Item	Description / Task	Unit	Unit Price Excl. VAT (a)	Estimated quantities (b)	Sub - Total Excl. VAT (a) X (b)
1.0	Stringing of single conductor, per phase, including insulators and terminating to tower (150MVA), Apply the correct tension and sagging	sum		1000	
1.1	Supply BEAR ACSR (Aluminium Conductor Steel Reinforced)	p/m		1000	
1.1. a	Installation of BEAR ACSR	p/m		1000	
1.2	Supply Bull AAC (All aluminium conductor)	p/m		1000	
1.2. a	Installation of Bull AAC	p/m		1000	
1.3	Supply Centipede AAC (All Aluminium conductor)	p/m		1000	
1.4	Installation of single conductor, per phase, including termination and jointing with insulators	sum		1000	
1.5	Sagging of single conductor, per phase, (150MVA)	Per bay		500	
2	Stringing of twin "BEAR" conductor, per phase, including insulators and terminating to tower (300MVA) Apply the correct tension and sagging	sum		1000	
2.1	Installation of twin conductor, per phase, including termination and jointing with insulators	p/m		1000	
2.2	Sagging of twin conductor, per phase, (300MVA)	Per bay		500	
3	Remove and replace anti-climbing device on towers	p/Tower		100	
4	Supply and installation of rubbing poles for service crossings (all material to be included)	sum		10	
5	Supply and install of netting for live service crossings (material to be included)	sum		10	

6	Stringing of earth wire conductor including jointing with earth clamp	sum		1000	
7	Sagging of earth wire conductor.	Per bay		500	
8	Foundation Excavation (all terrain)	m^3		100	
9	Design, supply and installation of cement foundation	m^3		100	
10	Supply and installation foundation steel reinforcing for Pylon or mono pole	kg		1000	
11	Supply, installation and Stringing of new fiber optics wire conductor including jointing with insulator, complete with Fiber box.	sum		1000	
12	Supply and installation, 48 F SM, 12.6mm^2 7kA, 65kN R lt Lay	P/m		3000	
13	Supply and installation **strain** fitting complete for OPGW 12.6mm^2, rh Lay	ea.		100	
14	Supply and installation , **suspension** fitting complete for OPGW 12.6mm^2, rh lay	ea.		100	
15	Supply and installation SVD dampers for OPGW	ea.		100	
16	Supply and installation, OPGW joint box and dawn lead clamps for OPGW (including 48 fiber Splicing)	ea.		50	
17	Testing of fiber from substation to substation	ea.		20	
18	Sagging of fiber optics wire conductor.	Per bay		500	
19	Supply and install new Lattice/steel tower (Tension) specification inclusive galvanized protection	P/Ton		20	
19.a	Supply and install new Lattice/steel tower (Suspension) specification inclusive galvanized protection	P/Ton		20	
20	Supply power crane for tower installation with basket	per day		100	
20.1	20 ton crane 60m outreached per day	per day		100	
20.2	40 ton crane 80m outreached per day	per day		100	

21	Supply Cherry picker for tower installation	per day		100	
22.1	Dismantle tower/pylon	ea.		10	
22.2	Repair and reassemble tower/pylon	ea.		10	
23.1	Repair of tower cross arm (Suspension)	ea.		10	
23.2	Repair of tower cross arm (Tension)	ea.		10	
23.3	Dismantle tower cross arm (Suspension)	ea.		10	
23.4	Dismantle tower cross arm (Tension)	ea.		10	
24	Drill hole for earth resistance compound	p/m		100	
25	Earth resistance enhancement compound	kg		10	
26	Earth resistance test	sum		10	
27	Supply and installation of Earth rod copper plated (14.2mm² x 3m)	sum		100	
28	Supply and installation Exothermic termination (moulds for joints, earth rod 15mm and powder to joint to earth conductor	sum		10	
	132KV Mono Pole (29 – 32)				
29	Supply and installation of 30m – Mono-Pole suspension for single circuit conductor	Per/Pole		20	
30	Supply and installation 30m – Mono- Pole strain (0°-2°) for single circuit conductor	Per/Pole		10	
31	Supply and installation of 30m – Mono-Pole strain (0°-90°) for single circuit conductor	Per/Pole		10	
32	Supply and installation of 30m – Mono-Pole Termination /end for single circuit conductor	Per/Pole		10	
33	Supply Inspection aid to detect conductor/equipment defects from ground level (see scope of work C3.1 – 3.9)	each		4	
34	Safety signs UV resistance	each		150	
35	Name plate UV resistance	each		150	

36	Civil Engineer design of tower and reinforced cement base	per hour		500	
37	Supply and installation Strain Line Insulator - composite 120kN.16mm²	each		100	
38	Suspension Line Insulator - Composite 120kN. 16mm²	each		60	
39.0	**Compliance with the Occupational Health and Safety Act and applicable regulations and to scope of work.**				
39.1	Provision of a Health and Safety Plan (See C3.1 – scope of work 3.4.5)	Per Site		10	
39.2	Provision of a Health and Safety File (See C3.1 – scope of work 3.4.5)	Per Site		10	
39.3	Provision of a safety officer (See C3.1 – scope of work 3.4.5)	per hour		500	
39.4	Provision of PPE (personal protective clothing and equipment) (See C3.1 – scope of work 3.4.5)	per set		15	
39.5	Occupational Health and Safety training working on heights (See C3.1 – scope of work 3.4.5)	per/ person		20	
40	Safety nets (See C3.A – health & safety / Annexure A 15.1)	P/m		1000	
41	Safety earths (See C3.A – health & safety / Annexure A 15.1) (to be placed on both sides of working area)	Per Line (each line consists of three phases)		60	
42	Safety signs (See C3.A – health & safety / Annexure A 15.1)	Per site		100	

43	Site establishment (Site establishment is only applicable on projects that run for a period of 7 days and longer)	Per site		10	
Sub Total. Item 1-41 Excl. 15% VAT					
15% VAT					
Total Incl. 15% VAT					

1. AWARD

This tender will be awarded to one bidder

2. MARKET ANALYSIS

The City of Tshwane reserves the right to conduct market analysis. Should the city exercise this option, Where a tenderer offers a price that is deemed not to be viable to supply goods or services as required, written confirmation will be made with the tenderer if they will be able to deliver on the price, if a tenderer confirm that they cannot, The tenderer will be disqualified on the basis of being non-responsive. If they confirm that they can deliver, a tight contract to mitigate the risk of non-performance will be entered into with the service provider. Further action on failures by the supplier to deliver will be handled in terms of the contract including performance warnings and listing on the database of restricted suppliers.

The City of Tshwane further reserves the right to negotiate a market related price with a tenderer scoring the highest points. If the tenderer does not agree to a market-related price, the city reserves the right to negotiate a market-related price with the tenderer scoring the second highest points, if the tenderer scoring the second highest points does not agree to a market-related price, negotiate a market-related price with the tenderer scoring the third highest points. If a market-related price is not agreed, the city reserves the right to cancel the tender.

PART C2.1 – PRICING INSTRUCTION

SCHEDULE OF PARTICULARS & GUARANTEES

All Tenderers must complete the following schedules in full. Failure to provide the required detailed information called for in the schedules will result in the tender to be disqualified.

CONTENTS

8	**<u>11kV Cable, Connection, Termination and Accessories</u>:**	
8.1	**11kV Cable Connections between 132kV Transformers & 11kV Switchgear**	**Yes**
8.2	**Underground PVC-Insulated Multi-Core Control Cable**	**Yes**
8.3	**Termination and Connecting up of Cables & Cable Accessories**	**Yes**
8.4	**Trenching, Layout and the Installation of Multicore Cables**	**Yes**
8.5	**Medium Voltage Cable Sealing Ends, Terminations and Cables**	**Yes**
9	**<u>Earthing</u>:**	
9.1	**Earthing Grid**	**Yes**
10	**<u>Transformer, NER and NEC</u>:**	
10.1	**20 MVA Transformer**	**No**
10.2	**Neutral Earthing Compensators (NEC's) Combined with Neutral Earthing Resistors (NER's) and Auxiliary Power Transformers**	**No**
10.3	**35 MVA Transformer**	**No**
10.4	**Neutral Earthing Resistor (NER)**	**No**
10.5	**40 MVA Transformer**	**No**
10.6	**Repair and Refurbishment of Transformers and NEC**	**No**
11	**<u>11 kV Switchgear</u>:**	
11.1	**11kV Metal-Clad Switchgear**	**No**
11.2	**11kV Metal Enclosed Outdoor Switchgear**	**Yes**
12	**<u>Protection and Control</u>:**	
12.1	**Protection and Control Equipment**	**Yes**
12.2	**Addendum to Control and Protection**	**Yes**
13	**<u>Auxiliary Equipment</u>:**	
13.1	**Low Voltage AC Change-over and Distribution Panel**	**Yes**
13.2	**110 V Battery Charger**	**Yes**
13.3	**110 V Batteries and Battery Stands**	**Yes**
13.4	**Pilot Cable Termination Panel**	**Yes**

14	**<u>Building and Civil Works</u>:**	
14.1	**Building and Civil Works**	**Yes**
15	**<u>Electrical Installation of Substation Building, Yard Lighting and Lightning Protection</u>:**	
15.1	**Electrical Installation of Substation Building, Yard Lighting and Lightning Protection**	**Yes**
16	**<u>Steel Lattice Construction Portal Type Gantries for Overhead Busbars</u>:**	
16.1	**Steel Lattice Construction Portal Type Gantries for 132 kV Overhead Busbars**	**No**
17	**<u>Communications</u>:**	
17.1	**Optical Fibre Based Teleprotection- and Communications Equipment**	**Yes**
18	**<u>SCADA</u>:**	
18.1	**SCADA Interface**	**Yes**
19	**<u>Power Lines/Cables</u>:**	
19.1	**132kV Overhead Power Lines**	**No**
19.2	**33kV Power Lines - General Quality Specification**	**No**
19.3	**132kV Underground Cables/Lines**	**Yes**

SECTION 4 : TECHNICAL SPECIFICATION

PART 9.1 : Earthing Grid

SPECIFICATION NUMBER : EG.01/0-04

0 CONTENTS

1. SCOPE

This specification shall include the design, supply, installation, connection and testing of the substation earthing system and ancillary works described below.

This specification includes the supply of copper conductor, lightning masts, earth spikes, earth mats etc. and the necessary excavation and civil works to install the earthing system and the replacement of stolen earth trails in substations.

The required general layout of the substation yard is shown on the drawings attached to this specification.

This specification describes all major components, but the Contractor shall supply and install all minor items and labour as may be necessary to complete the installation.

2. QUALITY OF WORK AND STANDARDS

All work shall be carried out strictly in accordance with the Code of Practice for earthing. (CP 1013)

The following SABS standards must be adhered to:

1. Earth rods, couplers and clamps shall be supplied and installed in accordance with SABS 1063-1985 and SABS 0199.
2. The two pack zinc-rich epoxy primer must be in accordance with SABS 926: 1968
3. The zinc and aluminium coatings for the protection of iron and steel against atmospheric corrosion must be in accordance with SABS 1391: 1983.
4. The replacement or new earth tail shall be two copper-plated steel earth rods according to SABS 1063: 1985.
5. Each earth rod shall have a diameter not less than 14.5mm, equivalent M16, according SABS 1063: 1985. The thickness of the copper plating on the earth rod shall not be less than 250μm.

3. DESIGN AND APPROVAL

The Contractor shall allow for soil resistivity tests to be performed on site. A detailed report on the resistivity tests shall be submitted to the Engineer together with a preliminary earthing scheme showing how the Contractor envisages installing the earth mat before commencing installation of the earth mat. The Contractor shall employ a specialist to investigate, plan and install the earthing installation.

The earth mat installation shall incorporate earthing electrodes at the extreme corners of the station, in the vicinity of earthing switches and transformer neutrals. The fences shall also be earthed at regular intervals. The installed maximum earth resistance shall be 1 Ω, or as agreed by the Engineer. Copper rod, 10mm^2 shall be used for the earth grid. The earth conductors shall generally be laid at a depth of more than 500 mm below the finished surface.

The complete earth mat design shall be submitted for written approval. The Engineer may then add or delete equipment and change the design of the earth system if he so requires. The installation of the earth mat shall be so arranged as not to cause delays in civil works.

4. EARTH RESISTANCE SURVEY

The Contractor will be responsible to have an earth resistance survey carried out on site by a specialist in this field, to be approved by the Engineer. The test shall be done on the undisturbed site, i.e. before earth works, trenching, building etc. commence.

The Engineer shall attend the survey. The Contractor shall inform the Engineer in good time when the test is scheduled to take place. If it is done without his or his representative being present, the test shall be repeated in the Engineer's presence at no additional cost to the Council.

The results of this survey will be used to adjust the earthing system as specified herein, if necessary, on the basis of the quoted rates.

Payment for the services of the specialist shall be by the Contractor who may recover such costs out of the provisional amount allowed for this purpose. The recoverable amount will be the nett invoice amount charged by the specialist, plus a 5% mark-up to cover the Contractor's administrative overhead and profit.

5. STOLEN AND NEW EARTHING FOR OUTDOOR EQUIPMENT

To discourage theft of copper bar or conductor, no bare earthing copper shall be visible above ground. For all visible outdoor connections to equipment or structures, copper plated solid steel rods having an equivalent resistance as the copper it replaces, shall be used. Sizes and cross sections shall be according table 1 (see appendix A) and be approved by the Engineer

Connections shall either be bolted directly to the earthing conductor, or bolted to a copper flag silver soldered or exothermically welded to the earth conductor to the approval of the Engineer. Alternatively, each joint shall be made with adequate bolts to the approval of the Engineer

The copper plated earth rod must be exothermic welded onto the structure as well as the copper earth mat. The reason is to enable a temperature rise up to 800°C for the copper plated earth rod. This provides for higher current capability for 3 seconds. The galvanising of the structure must be removed with a grinder and the surface cleaned where the exothermic weld is to be preformed. Failing to remove the galvanising will cause holes in the exothermic weld, which will result in poor contact and poor current carrying capability. After completion of the exothermic weld, the area on the structure, where the galvanizing was removed, must be covered with cold galvanizing. All exothermic weld joints are to be hammered tested to ensure that the mechanical strength of the joints are adequate. It is very important to use the correct weld metal power for the correct joint.

After connection the Engineer shall inspect all joints before the joints are sealed or trenches closed.

The following equipment needs to be earthed and the standard practices for earthing this equipment are as follows:

a) Transformer earthing:

   Transformers need to be earthed on the top cover on two different places and by using double earth rods.

b) Surge arresters:

   Insulated surge arrestors will be earthed on the surge arrestors base where non-insulated surge arrestors will be earthed on the structure exothermically.

c) Voltage and current transformers:

   Voltage and current transformers will be earthed on the structure exothermically.

d) Earth switches and isolator earthing:

   Earth switches and isolator earthing will be earthed on the structure exothermically on two different ends. The handle of the earth switches shall be earthed through a flexible earth.

e) Fences:

   All steel fencing must be earthed with in every 20M

f) Mechanism boxes and kiosks:

   Mechanism boxes and kiosks shall be earthed independently of the associated device or steel structure on which they are supported.

6. INDOOR EQUIPMENT EARTHING AND CABLE TRENCHES

Control panels, battery chargers, cable racking and other indoor auxiliary equipment shall be bonded by earth rod.

An earth rod shall be laid in the cable trench together with the multicore cables. This earth strap shall be run into the building and serve as the building earth to which all equipment in the building is connected. The building earth shall be connected to ground rods or bonding bar at diametrically opposite ends of the building.

7. EARTHING ELECTRODES

The number and lengths of earthing electrodes shall be determined from the resistivity tests above. Earthing electrodes shall be of the extendible rod type. The rods shall be of copper clad steel and the copper to steel weld shall be a true molecular bond according SABS 1063.

8. LIGHTNING CONDUCTORS

Lightning conductor aerial masts shall be designed according to SABS 0160 with a safety factor of 2.5. They shall be hot-dip galvanised to SABS 763.

Masts shall be joined and hinged at ground level and shall be supplied complete with foundations.

9. TESTING OF EARTH RODS

SANS 1885: 2004

10. DRAWINGS REQUIRED

After completion of the Works, the Contractor shall supply the necessary drawings as agreed upon with the Engineer

11. ANNEXURES

Annexure A:

Copper earthing conductor sizes.

Fault current	**Copper area required mm²**		**Main earth grid (Rod)**		**Connections to equipment support (50 × 3 strap)**		**Connections to equipment support (2 × 10mm rod)**	
I (kA)	**Grid**	**Earth lead**	**No. of directions**	**Actual area mm²**	**No. of connections**	**Actual area mm²**	**No. of connections**	**Actual area mm²**
12.5	125	150	2	160	1	150	1	160
16	160	190	4	320	2	300	2	320
20	200	240	4	320	2	300	2	320
25	250	300	4	320	2	300	2	320
31.5	315	375	4	320	3	450	3	480
40	400	480	6	480	4	600	3	480
50	500	600	8	640	4	600	4	640

Table 1: The table above illustrates the conductor arrangements required to meet standard fault levels.

SECTION 4 : TECHNICAL SPECIFICATION

PART 9.2 : EARTHING

SPECIFICATION No:

1. EXTENT OF WORK

An earthmat (copper band/conductor) needs to be installed in the new trenches and the new Control Building to match the existing earthmat configuration. The new earthmat needs to be connected to the existing earthmat by an isothermic welding process (Cad-welding). Where existing earthmat sections are damaged or removed, they should be replaced.

The substation earth resistance and bonding of equipment must be tested and proved. Where abnormalities occur, it must be rectified and tested to the approval of the Engineer.

Tenderers are referred to the applicable requirements of Section 4 Part 12.1 “Earthing Grid”, Section 4 Part 18 “Project Specification: Substation Testing and Re-Commissioning”, as well as the price items in the Schedule of Prices (Section 7 Part 2).

SECTION 4: SPECIFICATION

PART 19.1: POWER LINES 132KV 150 & 300MVA

SPECIFICATION: PL.60/0-93 – Rev 0

1. SCOPE

TECHNICAL SPECIFICATION FOR THE CONSTRUCTION OF DOUBLE CIRCUIT OVERHEAD 132KV POWER LINES AND COMPOSITE EARTH WIRES:

1.1 This Specification covers the design, manufacture, supply, delivery, installation, erection, stringing, commissioning and handing over in a complete and proper working condition of three-phase double circuit overhead 132kV power lines having “BEAR” A.C.S.R. phase conductors and tow overhead earth wires erected on single lattice steel towers, complete with foundations, supplementary earthing, Tee-off, cross-over or terminal gantry structures and gantry spans as required, down droppers, insulators, all line fittings and accessories as required, and all other items, components and incidental work as detailed in the Specification, the Schedules of Particulars and Guarantees and the contract drawings. Alternatives designs of towers shall be discussed with the Engineer, and the compliance with or deviation from the provisions of this specification shall be submitted in writing. The following two types of power line are covered by this Specification:

1.1.1 150MVA three-phase double circuit overhead 132kV power line using a single “BEAR” A.C.S.R. conductor per phase with steel or fibre-optic earth wire and supported on towers as depicted on drawings Nos B-500, B-501 and B-502.

1.1.2 300MVA three-phase double circuit overhead 132kV power line using twin “BEAR” A.C.S.R. conductors per phase with steel or fibre-optic earthwire and supported on towers as depicted on drawings Nos B-500, B-501 and B-502.

1.2 This Specification also covers alterations to, or deviations of similar existing overhead power lines in accordance with the provisions of the Specification and the Schedules of Particulars and Guarantees and as depicted on contract drawings if so called for in the enquiry.

1.3 Except where specifically stated to the contrary, the contract work to be carried out under this Specification includes the provision and installation of all the equipment required, including all matters and details to provide a complete power transmission system and includes negotiations with and/or giving notice to other Municipal Departments, other Authorities where necessary, landowners where necessary, and the carrying out of all aspects of the Work necessary to complete the contract commitments. Assistance will be given by the Electricity Department of the City of Tshwane as specifically provided for in the contract and at the discretion of the General Manager, Electricity.

2. STANDARDS

2.1 Power lines to be constructed to this Specification and all equipment to be supplied and work to be carried out under this Specification, shall comply with the requirements of this Specification, shall comply with the requirements of this Specification, the particulars and guarantees stated by the tenderer in the Schedule(s) of Particulars and Guarantees and the relevant requirements in the latest revisions of the following standard specifications and codes of practice:

2.1.1 Power line in general

2.1.1.1 The design and construction of the complete power line shall be in accordance with South African Institute of Electrical Engineers' code of practice for overhead power lines for conditions prevailing in South Africa.

2.1.2	Concrete work and foundations	
2.1.2.1	SABS 471	Portland cement and rapid-hardening Portland cement
2.1.2.2	SABS 718	Aggregates for concrete
2.1.2.3	SANS 878:2004	Ready-mixed concrete
2.1.2.4	CKS 53	Sand for concrete
2.1.2.5	SABS 920	Steel bars for concrete reinforcemen
2.1.2.6	SANS 282:2004	Bending dimensions and scheduling of steel reinforcement for concrete
2.1.2.7	SABS 088	Pile foundations
2.1.3	Structural steel	
2.1.3.1	SABS 222	Dimensions and properties of rolled carbon steel structural sections
		or
	BS.4848	Hot-rolled structural steel sections together with BS.4360: Weldable structural steels
2.1.3.2	SABS 763	Hot-dipped (galvanized) zinc coatings (other than on sheet and wire)
		or
	BS.729	Hot dipped galvanized coatings on iron and steel article
2.1.3.3	SANS 10094:2005	The use of high-strength friction grip bolts
2.1.3.4	BS.5135	Metal-arc welding of carbon and carbon manganese steels
2.1.4	Conductor and earth wire	
2.1.4.1	SANS 182-3: 2003	Conductors for overhead electrical transmission lines: Part 3: Aluminium conductors, steel reinforced
2.1.4.2	BS.183	General purpose galvanized steel wire strand
2.1.4.3	SANS 935:2007	Hot-dip (galvanized) zinc coatings on steel wire
2.1.5	Insulators	
2.1.5.1	SANS 60120:1984	Dimensions of ball and socket couplings of string insulator units
2.1.5.2	SANS 60372:1984	Locking devices for ball and socket couplings of string insulator units - Dimensions and tests
2.1.5.3	SANS 60471:1977	Dimensions of clevis and tongue couplings of string insulator units
2.1.5.4	SANS 60815-3:2009	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions Part 3: Polymer insulators for a.c.

		systems
2.1.5.5	SANS 61109:2008	Insulators for overhead lines - Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria
2.1.5.6	SANS 60815-1:2009	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions Part 1: Definitions, information and general principles
2.1.5.7	SANS 60815-3:2009	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions Part 3: Polymer insulators for a.c. systems
2.1.5.8	SANS 61109:2008	Insulators for overhead lines - Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria
2.1.5.9	SANS 61466-1:1997	Composite string insulator units for overhead lines with a nominal voltage greater than 1 000 V Part 1: Standard strength classes and end fittings
2.1.6	Incidental work	
2.1.6.1	CKS.146:1972	Gates, steel with tubular frames (for farm and domestic use)
2.1.6.2	CKS.82:1973	Steel posts, stays, standards and droppers for strained wire fences
2.1.6.3	SANS 935:2007	Hot-dip (galvanized) zinc coatings on steel wire

2.2 Except where otherwise specified or implied, the Contract Works shall comply with the standards of the British Standards Institution current at the contract commencement date (such standards being herein referred to as “BS.”) or the standards of the South African Bureau of Standards (herein referred to as “SABS”), as applicable.

3. QUALITY OF MATERIAL AND WORKMANSHIP

3.1 The Plant shall be manufactured and constructed to the highest standards and all materials used under this Contract shall be new and of approved qualities and of the class most suitable for working under the conditions specified, and shall withstand the variations of temperature and atmospheric conditions arising under working conditions without distortion or deterioration or the setting up of undue stresses in any part, such as to affect the efficiency, suitability and reliability of the installation.

3.2 Workmanship shall be of the highest standard and shall in all respects be subject to approval by the Engineer.

3.3 The design shall incorporate every reasonable precaution and provision for the safety of all those concerned in the operation and maintenance of the Work.

3.4 The general arrangement of all plant supplied under this Contract, the arrangement of all towers, gantry structures and earthing including any special arrangements which may be necessary, shall be to approval.

4. STATUTORY REQUIREMENTS

4.1 With regard to power line design and construction and with regard to his own operations when working on site, the Contractor shall comply in all respects with the requirements of the Machinery and Occupational Safety Act (Act No 6 of 1983) and the Regulations issued there under which shall take precedence over other statutory requirements.

4.2 Should a power line route cross the route of a national road the Contractor shall, in the execution of the contract, comply with the requirements of the Act on National Roads (Act No 54 of 1971) and such requirements as may be laid down by the Department of Transport.

4.3 In the execution of the contract, the Contractor shall comply with the Transvaal Road Ordinance and Regulations (No 22 of 1957) and such requirements as the Transvaal Roads Department may lay down for power lines crossing provincial roads.

4.4 Should the power line route cross any railway line, the Contractor shall, in the execution of the contract, comply with the requirements laid down by the South African Transport Services.

4.5 Should the power line route cross any telegraph or telephone line, the Contractor shall, in the execution of the contract, comply with the requirements of the Post Office Act (Act No 44 of 1958) and such requirements as laid down by the Department of Post and Telecommunications.

4.6 Copies of way leave conditions for certain specific power line crossings as laid down by other Authorities in correspondence with the Electricity Department, can be obtain by the Contractor from the Electricity Department.

4.7 The Engineer shall have the power to instruct the Contractor to alter, replace, rectify, or otherwise provide for any item which is necessary to comply with any statutory requirement applicable to the contract. No extra payment will be considered for any provision which the Contractor may have to make to comply with any act or statutory requirement as all such costs will be taken as having been provided for in the prices quoted in the tender.

5. SERVICE CONDITIONS

5.1 The power line shall be suitable for continuous outdoor operating under the varying atmospheric and climatic conditions occurring at all seasons in Pretoria and shall operate satisfactorily under the following conditions:

5.1.1	Altitude above sea-level	1 530 m
5.1.2	Maximum ambient temperature (summer)	40°C
5.1.3	Average daily maximum ambient temperature (summer	30°C
5.1.4	Minimum ambient temperature (winter)	minus 5 °C
5.1.5	Average daily minimum ambient temperature (winter)	2 °C
5.1.6	Minimum relative humidity	20%
5.1.7	Maximum relative humidity	At times up to 94%
5.1.8	Maximum wind speeds:	
5.1.8.1	Steady conditions	25 m/s
5.1.8.2	Gusty conditions	45 m/s
5.1.9	Lightning area	Yes
5.1.10	Average thunderstorms days per annum	± 75
5.1.11	Approximate ground flash density per square km per square annum	7
5.1.12	Median value of peak discharge current	41 kA
5.1.13	Mean duration of strokes	less than 200 microsecond
5.1.14	Number of multiple stroke flashes as a percentage of total number of strokes	40%
5.1.15	Pollution conditions	Normal to heavy (dust and smog)
5.1.16	Other climatic conditions	At times dry and dusty
5.1.17	Gravity constant for Pretoria	9,786 m/s

6. SYSTEM PARTICULARS

6.1 The transmission line will be connected to a power distribution system in which electrical energy is generated at interconnected power stations as three-phase current at a frequency of 50 Hz and transmitted by means of overhead lines and underground cables.

6.2 The load on the system will consist of all or any of the following: Static transformers, induction and synchronous motors, motor generators, rotary converters and rectifiers for the supply of motive power, traction, lighting, heating and electromechanical work.

6.3 Further particulars of the three-phase distribution system are as follows:

6.3.1 Nominal system voltage (r.m.s. line to line) …… 132 kV

6.3.2 Highest system voltage (r.m.s. line to line) …… 145 kV

6.3.3	System frequency ……..	50Hz
6.3.4	Maximum symmetrical fault current capacity	
	(1.0 second rating) ……	31,5 kA (r.m.s.)
6.3.5	System BIL at sea-level ……...	650 kV
6.3.6	System insulation level at Pretoria altitude ……	550kV
6.3.7	Phase colour identification ……..	A – Red
		B – Yellow
		C – Blue
6.3.8	Phase rotation ……..	R – Y – B
		Anti-clockwise
6.3.9	Details of system neutral earthing …….	Neutral points of transformers solidly earthed

7. POWER LINE PARAMETERS

7.1 In addition to other requirements specified else where in the enquiry document, the power lines to be erected under this Specification shall be designed and constructed in compliance with the basic parameters specified in the Schedule of Basic Parameters for the design and construction of power lines at the end of this Specification.

8. WORKING LOADS

8.1 The complete power line including all towers, supporting structures, cross-arms, line fittings, conductor and foundations shall be designed, manufactured and constructed to operate safely under the specified in the Schedule of Basic Parameters for the design and construction of the power lines.

8.2 The assumed maximum simultaneous working loads on towers and supporting structures shall not be less than that specified in the clauses hereafter.

8.3 **Simultaneous working loads under normal balanced load conditions**

8.3.1 Vertical load

8.3.1.1 The weight of all insulator sets complete with all fittings attached to the structure; plus

8.3.1.2 The weight of all phase conductors and earth wires (including the weight of spacers and dampers) of twice the normal span length (to allow for towers at different levels); plus

8.3.1.3 The weight of all phase conductors and earth wire jumpers including the weight of jumper spacers and jumper terminals supported by the structure;

Together with

8.3.2 Longitudinal load (tension towers only)

8.3.2.1 The horizontal longitudinal components of the maximum tensions in the phase conductors and earth wires under minimum temperature and maximum wind loading conditions;

Together with

8.3.3 Transverse load

8.3.3.1 A wind pressure of 700 Pa on 1,5 times the projected area of all members on one face of the supporting structure; plus

8.3.3.2 A wind pressure of 700 Pa on 0,6 times the projected area of all phase conductors and earth wires in the maximum wind span length as stated in schedule B (Items 2.5. and 3.5); plus

8.3.3.3 The horizontal transverse components of the maximum working tensions in all phase conductors and earth wires operating at minus 5°C in still air and assuming the maximum power line deviation angle permissible for the structure under consideration.

8.3.4 Uplift consideration

8.3.4.1 On all types of angle tension towers the tower shall also be designed to safely withstand the loads specified in clauses 8.3.1, 8.3.2 and 8.3.3 but with the vertical load specified in clause 8.3.1.2 for the down hill span applied on the down hill side of the tower and a maximum nett total uplift equal to one-third of the respective maximum conductor working tensions applied at each attachment point on the other side of the tower.

8.3.5 Safety factor : balanced load condition

8.3.5.1 Based on the type-tested failing load or based on the calculated failing load (elastic limit for tension members and crippling load for compression members), the minimum factor of safety under the above assumed maximum simultaneous normal balanced loading conditions shall not be less than 2.5 for all support structures including any extensions up to maximum extension height.

8.3.5.2 Each tower together with any combination of base and tower leg extensions shall be designed such that no failure or permanent distortion shall occur in any part or component when tested with applied forces equal to 2.5 times the maxi simultaneous working loads specified in clause 8.3 above.

8.4 **Simultaneous working loads under unbalanced load conditions** (Broken conductors)

8.4.1 For suspension type towers the maximum unbalanced load condition shall be the worst case of tower loading with any one phase conductor and any one earth wire broken (remote side of span) with either one or both circuits strung assuming both earth wires strung in both cases before conductor breakage. The assumed simultaneous maximum working loads on attachments carrying unbroken conductors shall be the same as that specified in clauses 8.3.1, 8.3.2, 8.3.3 and 8.3.4 above. The simultaneous working loads on attachments carrying broken conductors shall be assumed to be altered as follows:

8.4.1.1 A vertical load (conductor weight) equal to 75% of the conductor weight as specified in clause 8.3.1.2.

8.4.1.2 On the cross-arm carrying the broken conductor a longitudinal load equal to 70% of the maximum working tension in the case of a phase conductor and 100% in the case of an earth wire

8.4.1.3 A horizontal transverse load (wind load) equal to 75% of the conductor wind load specified in clause 8.3.3.2

8.4.1.4 All other loads remain as specified in clause 8.3

8.4.2 For strain angle towers (tension towers) the maximum unbalance load condition shall be the worst case of tower loading with any two phase conductors and any one earth wire broken (remote side of span) with either one or both circuits strung but assuming both earth wires strung in both cases before conductor breakage. The assumed simultaneous maximum working loads on attachments carrying unbroken conductors shall be the same as that specified in clauses 8.3.1, 8.3.2, 8.3.3 and 8.3.4. The simultaneous working loads on the cross-arms carrying broken conductors shall be assumed to be altered as follows:

8.4.2.1 The vertical load due to conductor weight reduces to 75% of that specified in clause 8.3.1.2.

8.4.2.2 An unbalanced longitudinal load equal to the conductor maximum working tension is imposed on the other side of the cross-arm.

8.4.2.3 The conductor wind load on the cross-arm reduces to 75% of that specified in clause 8.3.3.2.

8.4.2.4 All other loads remaining as specified in clause 8.3.

8.4.3 Safety factor : Unbalanced load condition

8.4.3.1 Based on the type-tested failing load or based on the calculated failing load (elastic limit for tension members and crippling load for compression members), the minimum factor of safety under the above assumed maximum unbalanced loading conditions shall not be less that 1,5 for all types of towers including any extensions up to the maximum simultaneous working loadings specified in clause 8.4 above.

8.5 The gravitational acceleration constant to be used for calculating the above loads in newtons shall be 9,786 m/s (for Pretoria)

9. SUPPORTING STRUCTURES

9.1 Towers general

9.1.1 The power line shall be supported on galvanized steel towers of bolted lattice construction which shall be of the self-supporting brad-based type designed to accommodate double circuit transmission lines: one three-phase circuit on each side of the tower. The towers shall have concrete foundations. Where the right of way is exceptionally narrow, the Engineer may allow the use of a support of the tubular steel or concrete pole type for straight-line suspension supports only.

9.1.2 All towers shall be so designed that the two circuits are arranged symmetrically with the three-phase conductors of each circuit vertically disposed and with the two earth wires in the uppermost positions. Each conductor and earth wires shall be carried by its own cross-arm.

9.1.3 The towers shall be of standard design and all members of towers of the same type shall be fully interchangeable. The dimensions, dispositions and methods of connections fo all tower members and accessories shall be to approval

9.1.4 The Standard tower heights shall be designed for a ground clearance of 7.5 m to the bottom conductor at an operating temperature of 75°C for a normal span (or standard span) length of 300 m over level ground; the span length being measured horizontally between supports. All standard towers shall be designed so that where favourable grounds contours exists the sum of two adjacent spans may total the maximum length stated in the Schedule of Basic Parameters provided that no single span shall exceed the maximum permissible single span length stated in the Schedule of Basic parameters provided that the specified factors of safety are maintained.

9.1.5 To increase the height of support where necessary, it shall be possible to extend the height of towers by the addition of standard base extension of lattice construction in steps of nominally 3m without affecting the specified maximum working load or factor of safety of the tower.

9.1.6 To facilitate the erection of tower bases on very steep slopes, standard individual tower leg extensions in steps of nominally one metre within the range minus one metre op to plus 2 m shall be available. Tower leg extensions shall be designed such that the maximum working load rating and safety factors for the tower is not affected by the use of leg extensions.

9.1.7 Towers shall be designed with standard cross-arm lengths but alternative cross-arm lengths shall be available, if required, especially on terminal towers for special take-off purposes.

9.1.8 The cross-arm designs shall facilitate the separate attachment of earth wire clamps (on earth wire cross-arms) and disc insulator strings (on phase conductor cross-arms) by means of suitable shackles, as well as all other accessories and equipment for the erection of conductors and maintenance equipment.

9.1.9 All tower and tower components, including special cross-arms, base extensions, tower leg extensions etc, shall be designed to carry the phase conductors and earth wires together with all insulator strings and fittings under the working load conditions and with the minimum safety factors specified in clause 8. The towers shall also be designed to comply with the parameters specified in the Schedule of Basic Parameters for the design and construction of the power line at the end of this Specification.

9.1.10 Tower designs based upon strength calculations only will not be accepted. Towers shall be type-tested to determine their simultaneously acting failing loads as specified in clause 18 and Tenderers shall quote prices and delay times for type-testing of towers not previously type-tested. Where acceptable type-test reports and certificates on type testing of towers similar to those specified can be provided, and the designs of the towers offered are certified by an independent professional Structural engineer, the required type-testing may be waived by the Engineer. Type-testing may also be waived by the Engineer in the case of towers previously accepted and proved satisfactory for use on the Council's 132kV overhead line system.

9.1.11 The maximum unit stresses in the various members of towers, extensions and base steelwork shall not exceed the figures stated in the Schedule of Particulars and Guarantees and the Contractor shall submit such drawings, stress diagrams and calculations of tower and extension design to the Engineer as the Engineer may require.

9.2 Types of towers: application and designation

9.2.1 For the purpose of standardization, towers for double circuit transmission lines shall nominally have the dimensions shown on the drawings issued with the Specification and shall have the following type designation for the specified applications:

TOWER TYPE DESIGNATION		TOWER DESCRIPTION APPLIATION	LIMITS OF LINE DEVIATION ANGLE
150 MVA SINGLE CONDUCTOR LINES	**300 MVA TWIN CONDUCTOR LINES**		
1D	2D	Straight line suspension tower	0° to 2°
1D30	2D30	Strain angle tower for line deviations up to 30°	2° to 30°
1D60	2D60	Strain angle tower for line deviations above 30° up to 60°	30° to 60°
		Right angle strain tower for line deviations above 60° up to 90°	
1D90	2D90	Terminal strain tower with angle between normal of landing gantry and line approach between 0° and 45°	60° to 90°
1DT	2DT	Terminal strain tower with angle between line approach and normal of landing gantry above 45° up to 90°	
1DT90	2DT90		
NOTE: *The prefix “D” designates “Double circuit” transmission line towers			

9.2.2 Suspension insulator sets shall be used on type 1D or 2D towers whilst tension insulator sets shall be used on all other tower types.

9.2.3 Type 1DT and 2DT towers shall be designed to allow the conductors of the line to be terminated on the tower at any angle up to 45° from the normal to the cross-arms, assuming the tension on the other side of such a tower to be zero as the down-droppers from the tower will be installed with greatly reduced tensions and insulated by means of light duty tension insulator sets.

9.2.4 Type 1DT90 and 2DT90 towers are intended for use where the angle between the approaching line and the normal of the landing gantry exceeds 45° but not 90°. In these cases the terminal tower is normally placed such that the vertical plane through the tower cross-arms bisects the supplementary angle (larger angle) between the down droppers to the landing gantry and the centre line of the power line. Type 1DT90 and 2DT90 towers shall be designed to allow the line conductors to be terminated on the tower at any angle up to 45° from the normal to the cross-arms assuming zero tension on the take-off side.

9.2.5 Should it prove economical the duties of one or more towers may be combined in a single tower in which case tower designation shall be agreed with the Engineer.

9.2.6 A tower extended by means of the addition of a base extension shall be designated by the standard designation followed by the letter E and a figure indicating the height of the base extension as follows:=-

TOWER TYPE	POSSIBLE EXTENSION DESIGN	MAXIMUM EXTENSION HEIGHT
1D and 2D	E3, E6, E9, E12, E15 and E18	18 m
1D30 and 2D30	E3, E6, E9, E12, and E15	15 m
1D60 and 2D60	E3, E6, E9, and E12	12 m
1D90 and 2D90	E3, E6, E9, and E12	12 m
1DT and 2DT	E3, E6, and E9	9 m
1DT90 and 2DT90	E3, E6 and E9	9 m

9.2.7 Special parts for any standard tower as well as special towers, foundations or special extensions shall be of an approved design and shall be provided where required.

9.2.8 The type of tower and extension to be used in each position along the route shall be approved by the Engineer.

9.3 **Gantry structures**

9.3.1 Should gantry structures be required under the contract, all cross- over gantries, tee-off gantries and landing gantries shall be of bolted lattice steelwork construction of the self-supporting portal type mounted on block type concrete foundations:

9.3.2 Two types of gantries are defined as follows:

9.3.2.1 “Single gantry” or H-gantry consisting of two column supports and a horizontal strain beam suitable for carrying one three-phase circuits.

9.3.2.2 “Double gantry” or M-gantry consisting of three column supports and two horizontal strain beams suitable for accommodating two parallel running three-phase circuits

9.3.3 Gantry types shall be designated as follows:

9.3.3.1 A single gantry for a single conductor circuit shall be designated type 1HG.

9.3.3.2 A double gantry for a single conductor circuit shall be designated type 1 MG

9.3.3.3 A single gantry for a twin conductor circuit shall be designated type 2HG

9.3.3.4 A double gantry for a twin conductor circuit shall be designated type 2MG.

9.3.4 Gantries shall be designed to carry the three-phase conductors of each circuit in horizontal formation.

9.3.5 Gantry spans and phase-to-phase spacing shall be designed such that at maximum sag at a conductor temperature of 75° and assuming two adjacent conductors swinging through 90° towards each other for example under external fault conditions, the phase-to-phase clearance shall not be less than the value specified in the Schedule of Basic Parameters.

9.3.6 Subject to the requirements of clause 9.3.5 above, the minimum phase spacing (centre line to centre line) of gantry span conductors shall be as follows:

GANTRY TYPE	SPAN LENGTH	MIN. PHASE SPACING
1H and 1M	Up to 36 m	3,0
1H and 1M	Above 36 m up to 45 m	3,5
2H and 2M	Up to 30 m	3,0
2H and 2M	Above 30 m up to 38 M	3,5

9.3.7 Gantry designs shall be such that the phase-to-earth (steelwork) clearances laid down in the Schedule of Basic Parameters are complied with.

9.4 **Steelwork**

9.4.1 In the case of lattice type towers and structures all members shall be of standard metricated rolled steel sections (manufactured from structural steel to the requirements of BSS 4360 and /or SABS 222) bolted together. All such members shall be cut to jig and all bolt holes shall be drilled or punched to jig prior to galvanizing.

9.4.2 All members shall be clearly stamped with a distinguishing code corresponding to an approved code provided on approved drawings or material lists to be submitted by the Contractor. Such code shall be stamped prior to galvanizing and shall be clearly legible after galvanizing.

9.4.3 Bolted friction-grip joints shall comply with the requirements of SABS Code of Practice 064.

9.4.4 No Bolt holes shall be more than 1.5 mm larger than the corresponding bolt diameter and drifting and reaming of holes will not be allowed.

9.4.5 All bolts, nuts and other fittings shall be galvanized unless otherwise approved and all bolts shall as far as conveniently possible, be fitted with the bolt head on the outer face of the structure, rather than the nut. The minimum diameter of bolts used to fix members shall be:

9.4.5.1 Stressed members - 16 mm

9.4.5.2 Other steelwork - 12 mm

9.4.6 The length of bolts shall be such that when fitted the maximum projection through the nut shall be 15 mm and the minimum 6 mm. Under no circumstances shall the screwed portion of any bolt fall within the shearing plane between members.

9.4.7 The centres of all bolt holes in plate members shall not be less than one bolt diameter from the edge of such a member.

9.4.8 A hole to clear a 16 mm bolt drilled approximately 200 mm above the concrete encasement, necessary for bolting of the earthing counterpoise shall be provided in each leg of every tower or extension and gantry column.

9.4.9 All steelwork below ground level shall be completely encased in concrete of not less than 80 mm thickness from a position 200 mm above ground level down to the main foundation. Details shall be given of the method and type of concrete to be used as well as the preventative measures against ingress of water between the steelwork and foundation concrete.

9.4.10 All exposed steelwork shall be hot-dipped galvanized as specified elsewhere.

9.5 **Galvanizing**

9.5.1 Galvanizing shall be in accordance with SABS 763 or BS 729.

9.5.2 Tenderers shall include in their supply prices, for the complete test and approval of the galvanizing by the SABS at the factory of the galvanizing by the SABS at the factory of the galvanizing company. Steel members will be unacceptable without the stamp of the SABS or their written approval.

9.5.3 The hot-dip process shall apply galvanizing. Sheradising or other similar processes shall not be used.

9.5.4 All welding, drilling, punching, cutting and bending of parts shall be completed and all scale, flux, rust and burrs removed and fabrication completed before the galvanizing process is applied.

9.5.5 The minimum weight of zinc coating on structural steelwork and other fittings shall not be less than 763 grams per square metre.

9.5.6 The threads of bolts and screwed rods shall be cleared by spinning or brushing; a die shall not be used. In the case of nuts the threaded portion shall be cleared after galvanizing by the passing through of a tap. Immediately after tapping to clear the threads the un-galvanized portions shall be coated by dipping in hot grease. The grease used shall be to approval.

9.5.7 The zinc coating shall be adherent, smooth and continuous. The coating shall be free of such imperfections as lumps, thin patches, blisters, gritty areas, uncoated spots, acid and black spots and flux. The zinc coating shall not be so loosely adherent as to be removable by any reasonable process of handling during transport and erection. Light blows with a hammer shall not cause peeling of the coating adjacent to the area deformed by the hammer blows.

9.5.8 Globular and extra heavy deposits of zinc which will interfere with the intended use of material will not be permitted.

9.5.9 Faulty areas of galvanized steelwork may only be repaired by re-dipping in molten zinc before the sample cools or oxidizes.

9.6 **Tower accessories**

9.6.1 Anti-climbing devices

9.6.1.1 An anti-climbing device shall be provided on each tower and tee-off or cross-over gantry column at a height of not less than 3 m and not more than 6 m above ground level.

9.6.2 Climbing bolts (step bolts)

9.6.2.1 Climbing bolts to approval shall be provided on two diagonally opposite legs of the tower commencing immediately above the anti-climbing devices at a maximum spacing of 400 mm up to the earth wire cross-arm.

9.6.2.2 No climbing bolts or ladders are required on gantry columns.

9.6.3 Tower identification and danger plates

9.6.3.1 General:

1) Each tower erected under this specification shall be fitted with a danger and property plate, a tower number and route identification plate with two circuit identification discs.

2) The plates shall be fixed to the tower in such positions that they cannot be tampered with and are clearly legible to any observer, either from the ground or the air, underneath the lines with the front facing the source (as discussed with customer), at a height of 6 m from ground level.

3) All tower plates and discs shall be durable and robust. The plates shall be of approved design and sizes and the layout, wording and numbering shall be approved by the Engineer. The inscription on all plates shall be on a contrasting background and shall be clearly distinguishable.

9.6.3.2 Substrate:

1) The substrate shall be non fading and resistant to ultra violet rays.

2) All tower, route identification, danger and property plates shall have black inscriptions on a yellow background.

3) The colours to be used on the tower plates shall comply with the colour requirements of SABS 1091 – 1975 as follows:

COLOUR	**SANS 1091:2004**	
	COLOUR NUMBER	**COLOUR NAME**
Black	-	-
Yellow	G.61	Canary yellow

4) Unless specifically otherwise approved, the substrate shall be manufactured of cold rolled enamelling quality steel plates, (like chromadeck), with the background as well as the inscription in vitreous baked enamel.

The vitreous baked enamelling shall properly cover the whole surface of the plate including the edges and back to prevent corrosion.

9.6.3.3 Legend:

1) The material of the legend shall be non fading and resistant to ultra violet rays. The colour shall be black and the lettering shall be style ARIAL.

2) The letters on the line designation labels shall have a minimum height of 75 mm.

3) The letters on the tower designation labels shall have a minimum height of 150 mm.

4) The lettering used on danger and property plates shall be of minimum height of 50 mm.

5) The circuit identification discs shall be yellow lettering on black circular background. The background circle shall be of minimum diameter of 125 mm. The lettering inside the black circle shall be of minimum height of 100 mm, and of style ARIAL.

9.6.3.4 Identification

1) Each label shall be marked with the suppliers name. The identification marking shall be of the same quality and standard as the rest of the tower plates and the legend shall be legible with a maximum height of 15 mm.

9.6.3.5 Size of plates:

1) The size of the identification plate shall be of dimensions 500 (w) x 500 (h) mm. The layout of the lettering and symbols required will be as illustrated in figure ……..

2) The size of the danger plate shall be of dimensions 500 (w) x 450 (h) mm. The layout of the lettering and symbols required will be as illustrated in figure …….

9.6.3.6 Affixing methods:

1) Both the danger and identification plates, shall be affixed as follows:
    - For steel lattice towers, at the crossing of the second horizontal cross beam and connecting lattices, see figure …….
    - For concrete and other poles, at a distance of 9 m from ground level.

2) The plates shall be mounted on a 50 x 50 x 3 mm angle-iron rectangular frame, in a robust way, provided with adjustable connection points for connection on the lattice frame of the tower, (or relevant part of pole, if poles are to be used).

3) Assurance must be given for the design's ability to withstand atmospheric and temperature conditions, without failure.

9.6.3.7 Naming of towers :

1) Tower route numbers and identification will be provided by the customer.

9.6.4 Bird Guards

9.6.4.1 Guards of approved design to prevent birds perching above insulator sets shall be provided on all suspension type towers.

10. FOUNDATIONS

10.1 Standard foundations and design

10.1.1 Concrete block or frustum type foundations shall be regarded as standard foundations and shall be used in all cases where suitable ground conditions exist.

10.1.2 Rock anchor foundations of approved design will only be permitted in solid fresh rock or massively bedded fresh rock and then only with the specific approval of the Engineer for each instance. Rock anchors in shale, “ouklip”, boulders or other loose or fragmented or decomposed rock strata will not be accepted. Should rock be encountered during excavations, and the Contractor propose to install rock anchors, he shall employ the services of a Geological Engineering Consultant (Geotechnical Consultant) approved by the Engineer to investigate and report on the suitability of the rock for the type of rock anchor proposed by the Contractor. The Contractor shall submit a copy of the geotechnical report with his request for approval for using a rock anchor foundation. The cost of the geotechnical investigation and report shall be included in the price to be quoted for rock anchor foundations.

10.1.3 No drilled or root pile type foundation will be allowed without the specific approval of the Engineer. If piled foundations for special purposes are approved by the Engineer they shall comply with SABS Code of Practice 088 and full details of piling and foundation design shall be submitted to the Engineer for approval beforehand.

10.1.4 Where poor subsoil conditions are encountered, i.e. excavations below water table level, or in soils of which the bearing pressures are to be determined by test as specified in the Schedule of Basic Parameters, or in soils of which the maximum safe bearing pressure could possibly become less than the minimum safe bearing pressure used for the design of standard foundations, the Contractor shall employ the services of a Geotechnical Consultant approved by the Engineer to carry out subsurface geotechnical investigations, and if necessary, soil tests, to determine soil parameters for the selection of foundation type and report on the suitability of employing standard foundations. Should standard foundations not be suitable, specially designed foundations, the type(s) and details of which are approved by the Engineer, shall be provided by the Contractor at prices to be agreed. Unit rate(s) for geotechnical investigations required in terms of this clause shall be quoted in the Form of Tender. The Engineer shall nevertheless be entitled to instruct the Contractor to appoint a Geotechnical Consultant to carry out geotechnical subsoil investigations, including soil tests if required, at sites to be selected by the Engineer at the unit rate(s) quoted for geotechnical investigations.

10.1.5 For each site so investigated, the Contractor shall submit a copy of the Geotechnical Consultant’s detailed report on the investigation to the Engineer for approval of foundation type before installation of the foundation is commenced with.

10.1.6 In dolomite areas percussion drilling or other approved means shall be used for investigating sub-soil conditions and exploring subsurface cavities at proposed tower positions before starting foundation excavations.

10.1.7 In the design and application of standard and special foundations. The Contractor shall be responsible for ensuring that the subsoil at each foundation is suitable to withstand the maximum design load which will be imposed upon it by the foundation under maximum simultaneous tower working load conditions specified in clause 8 and according to the parameters specified in the Schedule of Basic Parameters.

10.1.8 The Contractor shall be responsible for any subsidence or failure of foundations due to insufficient care having been taken in the examination of the soil or the installation of the foundations. In such an event the foundation shall be replaced by the Contractor at his own expense.

10.1.9 Foundations design(s) shall comply with the parameters specified in the schedule of Basic Parameters for the Design and construction of the power line and the minimum safety factors specified therein.

10.1.10 The type of foundation to be used at each tower and gantry position shall be approved by the Engineer and the Contractor shall submit full particulars and design details of each type of foundation to be used before installation thereof.

10.2 **Concrete block foundations**

10.2.1 Concrete block foundations shall have stubs of galvanized steel sections embedded in the concrete. The stubs shall be firmly keyed into the concrete by means of suitable attachments or cleats. The adhesion between galvanized steel and concrete shall not be relied on to transmit the load to the foundations.

10.2.2 Each tower leg or base shall be bolted to a foundation stub with the top end of the joint approximately 300 mm below ground level. The concrete encasement shall however be continued to a level approximately 200 mm above finished ground level where it shall be finished off smoothly and neatly. The upper surface of this encasement or cap shall be sloped in an approved manner to prevent the accumulation of water.

10.2.3 All steelwork below ground and part of the tower shall be galvanized. Steel shall be completely covered by concrete not less than 80 mm thick. Care shall be taken to ensure that no crack can develop between the encasing and the main foundation block.

10.2.4 All members projecting above the concrete section at the lower leg bases as well as the concrete encasement cap shall be thoroughly coated with black bitumastic paint to a point approximately 1 m above ground.

10.3 **Rock anchor foundation**

10.3.1 The holes in rock for rock anchors shall be made in such a way that the possibility of cracking the rock is eliminated.

10.3.2 The dispositions and dimensions of holes for rock anchors shall be to approval. The actual depth of an anchor bolt grouted into the rock shall in no case be less than one metre.

10.3.3 Rock anchor bolts shall be completely galvanized. The adhesion between galvanized steel and grouting shall not be relied upon to transmit the load to the rock. The anchor bolt shall be firmly keyed to the rock by means of taper heads of split ends with taper wedges properly and completely grouted.

10.3.4 If solid rock is encountered below the surface, the tower leg or footing shall be supported on a concrete base or cap extending down to the rock surface in which the rock anchors shall project at least 200 mm above finished ground level and shall be grouted off around the base plate with the upper surfaces sloping in an approved manner to shed water.

10.3.5 The design of rock anchor foundations shall be to approval and shall comply with the parameters specified in the Schedule of Basic Parameters.

10.4 **Concrete work for foundations**

10.4.1 Unless otherwise approved, the concrete mix for all foundations shall consist of one part Portland Cement, two parts of sand and four parts of 18 mm crushed stone aggregate whilst the concrete required for encasing of tower steelwork above ground line shall consist of one part Portland Cement, two parts of sand and four parts of 6 mm stone chipping

10.4.2 In the case of excavations required beyond the normal foundation depth in order to establish suitable sub-soil, such sub-foundations shall be filled with a mixture of one part Portland cement and 10 parts of approved soil/sand well tamped down.

10.4.3 Broken stone and sand shall be clean and free from earthy or organic matter and salt. Seashore sand, unwashed pit sand or unwashed gravel shall not be used. All gravel or broken stone shall be of approved grading, and able to pass through a mesh of not more than 18 mm diameter. All sand shall be screened through a mesh not exceeding 5 mm square in the clear. All sand shall be coarse, sharp, clean and free from dust, salt, clay, vegetable matter or other impurities. Fine sand of a uniform grain size shall not be used, but all sand shall be a well graded mixture of coarse and fine grains.

10.4.4 Stone aggregate for concrete shall comply with SABS 718 and concrete sand with CKS 53. Fresh Portland cement complying with SABS 471 shall be used.

10.4.5 Water shall be clean and free from all earthy vegetation or organic matter, acids and alkali substances in solution or suspension.

10.4.6 The aggregates and cement shall first be mixed dry, then after addition of the minimum water consistent with practical workability, mixing shall be carried on until the concrete is of even colour and consistency throughout. No concrete shall be poured, or mixed, when the ambient temperature, or the temperature of the ingredients, is less than 2°C.

10.4.7 Ready-mixed concrete, if used shall comply with SANS 878:2004.

10.4.8 All concrete shall be mechanically vibrated during installation so as to form a well consolidated mass presenting a smooth surface upon removal of the shuttering.

10.4.9 Where required, the Contractor shall supply all re-inforcing steel required for foundations. All reinforcing steel shall comply with SABS 920 and bending dimensions shall conform to SANS 282:2004. The concrete cover over steel reinforcement shall not be less than 50 mm.

10.4.10 Joints in concrete are to be avoided. Where the construction requirements are such that joints are unavoidable, adequate bond between old and new concrete shall be ensured by chipping the old concrete to a rough and clean surface. Before casting the fresh concrete, the old concrete shall be sprinkle and dusted over with dry cement.

10.4.11 The Contractor shall provide all shuttering and foundation templates required for concrete work. Unless otherwise approved shuttering or templates used for foundations shall not be struck within 24 hours after casting and towers or other structures shall not be erected on any foundation within fourteen days of casting.

11. EARTHING OF STRUCTURES

11.1 All towers and steel structures shall be earthed to a resistance level not exceeding 10 ohms. Buried foundation earths as specified below shall be installed under each tower leg and gantry column foundation. Structure earth resistances shall be measured before stringing and supplementary buried earthing or driven earth rods shall be installed to lower the earth resistance in cases where the footing resistance exceeds 10 ohms.

11.2 Buried foundation earths shall consists of a galvanized steel tape of dimensions 38 mm by 3 mm and 7 m long coiled at the bottom of each foundation excavation and covered with a layer of at least 80 mm of good riddled soil, which shall be well tamped down prior to the casting of the foundation. If the steel tape is not one continuous length, the joint(s) shall be bolted and soldered to approval. One end of the coil shall be brought up outside the foundation and be bolted to the structure leg at a position clearly visible for inspection. The cost of supply and installation of the steel tapes shall be included in the price for the erection of the foundation. The Contractor shall arrange with the Engineer for the inspection of foundation earths before casting the foundation concrete.

11.3 As provided for in clause 9.4.8, in addition to provision for the above earthing coils, provision shall be made on each leg of all structures for the connection of a buried supplementary earthing system where required by the Engineer. The conductor to be used for the supplementary earthing system shall be as specified in the Schedule of Particulars and Guarantees.

11.4 One week prior to stringing of the earth conductors, the Contractor shall advise the Engineer of the proposed stringing date, in order that the Engineer may make timely arrangements for the measuring of tower earthing resistances by the Council, (if required) after which the Contractor will be advised of the extent of the counterpoise earthing system to be installed by the Contractor.

11.5 The supplementary earthing shall be buried in a 700 mm deep trench along a route to be directed by the Engineer. The cost of excavation shall be included in the installation rate for supplementary earthing. No extra price will be paid to the Contractor due to variations in the ground conditions.

11.6 Terminal towers shall be bonded to the overhead earth wires and to the station earthing system. The earthing of the earth peaks on gantry structures shall be to approval of the Engineer.

11.7 The overhead earth wires shall be continuous between terminal towers and all intermediate towers and structures shall be connected to the earth wires except for the following exclusions:

11.7.1 For the control of electrolysis, all towers within 800 m of electrified railway lines or within 800 m of major pipe lines with cathodic protection shall be insulated from the earth wires using standard earth wire insulators with spark gaps.

12. CONDUCTORS

12.1 **Phase conductors**

12.1.1 Phase conductors shall be of the stranded aluminium conductor steel reinforced type with the code reference specified in the Schedule of Basic Parameters. The conductor shall comply in all respects with the requirements of BS 215 Part 2 and/or SANS 182-3: 2003 and shall have the characteristics detailed in the Schedule of Particulars and Guarantees.

12.1.2 The steel core of the conductor shall comply with BS 4565 and shall be uniformly covered with an approved grease of applied mass not less than 16 kg per kilometre of conductor.

12.1.3 The number of conductors per phase conductor for the different line ratings shall be as specified in the Schedule of Basic Parameters.

12.1.4 The conductors of twin conductor lines shall be disposed horizontally throughout the entire span at the centre line spacing specified in the Schedule of Basic Parameters.

12.1.5 At tension points, phase conductors shall be terminated by means of approved clamps of the compression type (dead ends). On strain angle towers, terminal towers and gantries, phase conductors shall be connected through by means of removable (bolt-on) jumper loops made up of accurately cut lengths of the same conductor fitted with compression type jumper terminals at each end. Twin jumper loops shall be used for connecting through twin conductor lines. Removable jumpers shall also be used for connections between down-droppers and lines or jumper loops,

12.1.6 Phase conductors, including jumpers and droppers, shall comply with the conductor clearances specified in the Schedule of Basic Parameters. Jumper swing shall not be limited by the installation of additional insulator sets. Where approved by the Engineer, jumper weights of jumper stiffeners of aluminium tube may, if necessary, be installed to obtain the specified clearances. On twin conductor lines the centre line spacing on twin down-droppers and over the centre section of twin jumper loops may be reduced as stated in the Schedule of Basic Parameters.

12.2 **Earth conductors** (Ground Wire

12.2.1 The two aerial earth wires used as overhead earth conductors shall be of the stranded galvanized steel wire type. Where specified, optical Fibre Ground Wire (OPGW) as detailed in Clause 15 shall be used. The size and other parameters are specified in the Schedule of Basic Parameters

12.2.2 The earth conductor shall comply with the requirements of BS 183 and/or SANS 182-3: 2003 and shall have the characteristics stated in the Schedule of Particulars and Guarantees. Galvanizing of the earth wires shall comply with BS 443 and/or SANS 935:2007.

12.2.3 At tension points earth wires shall be clamped in suitable bolted earth wire strain clamps. The tails of the earth wires shall be taken through and bonded to the structures where required by means of compression type earth wire lugs bolted to the steel structures. Where called for, earth wires shall be insulated from the towers by using approved earth wire suspension and tension assemblies.

12.3 **Conductor general**

12.3.1 All conductors on the power line shall be applied with the factor of safety specified in the Schedule of Basic Parameters under maximum working load conditions and in compliance with the other relevant parameters laid down in the Schedule of Basic Parameters.

12.3.2 Factory drum lengths of conductor shall be supplied without joints in individual strands of conductor.

12.3.3 On site, joints for jointing successive conductor lengths shall be of approved types. Mid span joints (tension joints) shall be avoided as far as possible. Unless otherwise approved conductor joints shall be located at tower positions. No Joints will be permitted in spans crossing proclaimed roads, railway lines, other power lines, important communication lines or buildings. Joints will also net be permitted in gantry spans or down-droppers.

12.3.4 Vibration dampers shall be fitted to all conductors to damp vibration, oscillation and galloping of the conductors to damp vibration, oscillation and galloping of the conductors.

12.4 **Drumming of conductor**

12.4.1 All conductors to be installed on this contract shall be supplied on new wooden drums of substantial construction, suitable in every way for the safe handling and transport thereof. All drums shall be clearly marked to indicate the drum number; the length of conductor on the drum and the correct direction of rolling shall be indicated by an arrow.

12.4.2 Any spare conductor required on this contract shall be supplied to the Council's Stores on approved steel drums. These steel drums shall be suitable for rotation on a 120 mm diameter spindle with at least 20 mm wide bearing surface at each point of contact with the spindle. Both flanges and the barrel of the drum shall be of material of approved gauge which shall be braced to the approval of the Engineer and the entire drum shall be either galvanized or painted with approved anti-rust paint and clearly marked as specified above.

13. BASIC REQUIREMENTS STIPULATED FOR COMPOSITEINSULATORS FOR 132 KAV POWRLINES:

Phase conductors shall be insulated from towers and supporting structures by means of string insulators

13.1 **Relevent standards**

All insulatorstrings and fittings shall comply with the following relevant standards unless otherwise specified:

- NRS 041:1995
- IEC 815

13.2 Sesvice conditions

The insulators shall be suitable for continuous outdoor operation under the varying atmospheric and climatic conditions occurring at all seasons in Pretoria and shall operate satisfactory under the following conditions:

Altitude above sea level	1700 m
Maximum ambient temperature (summer)	45°C
Average daily maximum ambient temperature (winter)	30°C
Minimum ambient temperature (winter)	-5°C
Average dailly minimum ambient temperature (winter)	2°C
Minimum relative humidity	20%
Maximum relative humidity	94%
Maximum wind speeds • Steady conditions • Gusty conditions	 25 m/s 45 m/s
Lightning area	Yes (high)
Average thunderstorms days per annum	± 75
Approximate ground flash density per square km per annum	7
Median value of peak discharge current	41kA
Mean duration of strokes	<200µs
Number of multiple stroke flashes as a percentage of total number of strokes	40%
Pollution conditions	Normal to Heavy (industrial dust, smog & mist)
Gravity constant for Pretoria	9.786m/s²
Design wind pressure (DWP)	1170 Pa

13.3 System particulars

13.3.1 The insulators will be used on transmission lines and gantry structures, which are connected to a 132kV power distribution system in which electrical energy is generated at interconnected power stations as three-phase current at a frequency of 50 Hz, and transmitted by means of overhead power lines and underground cables.

13.3.2 The load on the system will consist of all or any of the following: Static transformers, induction and synchronous motors, motor generators, rotary converters, rectifiers for the supply of motive power, traction, lighting, heating and electromechanical work.

13.3.3 Further particulars of the three-phase distribution system are as follows:

Nominal system voltage (r.m.s. line to line)	132kV
Highest system voltage (r.m.s. line to line)	145kV
System frequency	50Hz
Maximum symmetrical fault current capacity (1 second rating)	31,5kA (r.m.s.)
System BIL at sea level	650kV
System insulation level at Pretoria altitude	550kV

13.4 **Electrical requirements**

13.4.1 All components used in insulator assembly sets shall be designed such that the voltage stress anywhere on the metal surface of such fittings shall not exceed a value equivalent to a voltage gradient of 0,65 MV/m at sea level with the fittings energised at the specified maximum system voltage (line to line)

13.4.2 There shall be no audible or visible corona on the fittings when in use on site and energised to the maximum system voltage.

13.4.3 Insulator assembly sets shall not cause unacceptable levels of radio or television interference when energised to maximum system voltage.

Required creepage:	
Light pollution	16 mm/kV
Medium pollution	20 mm/kV
Heavy pollution	25 mm/kV
Very heavy pollution	31 mm/kV

13.5 **Mechanical**

13.5.1 The insulator string as a whole shall be designed, manufactured and constructed to operate safely under the specified service conditions under the maximum simultaneous working loads to which it may be exposed with the minimum factors of safety as in NRS 041:1995 (table 1)

13.5.2 The assumed maximum simultaneous balanced and unbalanced working loads, as well as the maximum loads during broken conductor conditions, on the insulator string and fittings shall not be less than that specified in the NRS 041:1995.

13.5.3 A 16 mm ball and socket connection will be provided on all new suspension and tension insulator strings, to provide a 120kN mechanical load strength on suspension insulator strings.

13.5.4 On all tenders where replacement of existing glass or porcelain insulators are called for, the following will be provided:

- 16 mm ball and socket connection for tension insulator strings
- 16 mm ball and socket connection for suspension insulator strings

13.5.5 On suspension towers, a single suspension string shall be used for both single and twin conductor lines.

13.5.6 Strain insulator strings shall be used on all strain towers. On single conductor lines, a single tension string shall be used. On twin conductor lines, double tension strings shall be used.

13.6 **Other requirements**

13.6.1 The insulator sheds shall be self-cleaning

13.6.2 The insulator sheds shall be hydrophobic

13.6.3 The insulator sheds profile will be designed so that:

- The insulator surfaces are sufficiently aerodynamic to minimise the deposition of pollution;
- Rain washing will be effective; and
- Bridging of adjacent sheds will not take place under heavy rain conditions

13.6.4 The material rod shall be a well pultruded fibreglass reinforced resin rod. A test sample of the rod shall be supplied.

13.6.5 The sleeve shall cover the whole fibreglass rod, up to the end fittings, and shall be of uniform thickness. The sleeve shall be High Temperature Vulcanized to the rod to form a seamless protective covering.

13.6.6 The sleeve shall hermetically seal the rod and provide resistance to hydrolysis, ultraviolet radiation; corona and ozone degradation.

13.6.7 The sheds shall be installed over the sleeved rod and High Temperature Vulcanized to insure a track resistant, bonded composite insulator.

13.6.8 The sheds shall also be resistant to hydrolysis, ultraviolet radiation; corona and ozone degradation.

13.6.9 The preferred material used for the composite shall be silicone rubber, free of all EPDM and EPM alloy polymers.

13.6.10 The required lifespan of the insulator string and fittings is 30 years, during this time no degrading in the insulator string and fittings is 30 years, during this time no degrading in the insulator's ability of hydrophobic action, mechanical strength, or any other requirements will take place.

13.6.11 Insulator sheds must be able to withstand the amount of reasonable pressure generated during washing, without loss of bonding to the sleeve.

13.6.12 All insulator string and fittings must be accompanied by the following tests:

Flashover test

Type test

Sample test

Breaking strength test (*to be arranged with tenderer)*

13.6.13 The insulator shall be provided with a arcing control lip to provide a termination point for 50 Hz power follow current during an insulator flashover. The lip shall be designed to divert the heat generated from flashover currents away from the crimped portion of the end fitting.

13.6.14 The insulator shall be vandal proof.

13.6.15 The manufacturer shall have at least 10 years field experience in composite insulators.

13.6.16 Proof of adequate service and support must be supplied by the tenderer.

13.6.17 The manufacturer shall comply with ISO 9000 standards in Quality Control.

13.7 **Profile parameters**

To be specified in the Schedule of basic parameters as follows:

Definitions

C - Shed clearance – the length of perpendicular to the shced surface to the outer rib of the shed above.
S - Shed spacing – the vertical distance between two similar points on successive sheds
P - Shed protection – the maximum shed overhang
_ - The straight air distance between any two points on the shed surface
l_ - The creepage distance measured between the two points that define _
ls - The creepage distance measured between the two points that define S.
L - The total creepage distance of the insulator
A - The arcing distance of the insulator
CF - Creepage factor = L/A
Pf - Profile factor = (2P+S)/ls or (2P1 + 2P2 + S)/ls (P1 and P2 is the respective maximum shed overhangs for sheds on an alternating shed insulator)

Recommended profile parameter limits:

C > 20mm (shed clearance the length of perpendicular to the shed surface to the outer rib of the shed above
S/p > 0.8 for ribbed sheds
S/P > 0.65 for plain sheds
l_/_ < 5
P1-P2 > 15mm
_ > 5°
ß > 2°
CF < 4
PF > 0.7

14. POWER LINE FITTINGS AND HARDWARE

14.1 **Fittings general**

14.1.1 All power line fittings shall be of approved design and shall comply with the relevant requirements of SABS 178 and/or BS.3288.

14.1.2 All fittings made of ferrous materials shall be hot-dipped galvanized to SABS 763 and/or BS 729 after complete manufacturing.

14.1.3 All fittings shall be supplied complete with all nuts, bolts, washers, pins, clips and locking devices as required. Bolts and pins shall be fitted with approved locking devices such as

split pins. Spring washers on galvanized surfaces will not be permitted. All split pins shall be backed by flat washers and shall be either of phosphor bronze or stainless steel.

14.1.4 All bolt threads shall be greased before erection.

14.1.5 Standard ball-ended links or fittings shall be used for attachment to the cap side of disc insulators, and links or fittings used for attachment to the pin side of the disc insulators shall have standard socket connections. These links or fittings shall have facilities to accommodate arcing horns if required.

14.1.6 All ball and socket joint shall be effectively locked by means of W-security clips or retaining pins or other approved locking device.

14.1.7 Retaining pins or locking devices shall be of phosphor bronze or stainless steel and shall be so formed that when set and under any conditions nothing but extreme deformation of the retaining pin or locking device shall allow separation of the insulator units or fittings, or shall permit accidental displacement of the retaining pins or locking devices. Their design shall be such as to allow for easy removal or replacement of insulator units or fittings without removal of the insulator sets from the structures. Retaining pins or locking devices shall be incapable of rotation when in position.

14.1.8 All ball and socket couplings shall be lightly coated with approved grease immediately before erection on site.

14.1.9 Standard pin type shackles and clevis couplings shall be used for attachment of insulator assembly to conductor clamps or yoke plates. Under no circumstances will hooks be allowed.

14.1.10 All fittings and components in tension and suspension assemblies shall be of sufficient mechanical rating of the set is met and applied with a minimum factor of safety under maximum working load conditions as specified in the Schedule of Basic Parameters.

14.1.11 All clamps to be used shall have the minimum mass consistent with good design and adequate mechanical strength. Clamps shall comply with the relevant requirements of SABS 178 and/or BS 3288. Clamps intended for stranded conductor shall be designed to avoid any possibility of deforming the stranded conductor or separating of the individual strands.

14.2 **Tension insulator assemblies (sets) for phase conductor**

14.2.1 The fittings of tension insulator set assemblies shall be arranged to provide a minimum clearance of 150mm between the rim of the live end insulator disc and the jumper conductor or arcing horn.

14.2.2 For single conductor lines a single tension insulator assembly shall be used and be referred to as a normal tension set. Each normal tension set shall be provided with approved sag adjusting plate or links for sag adjustment where necessary. No device employing screw threads shall be used for sag adjustment on Norman tension sets.

14.2.3 In the case of twin conductor lines, a separate insulator string assembly for each conductor shall be used which shall be separately attached to the cross-arm. These tension sets shall be referred to as double normal tension sets and shall be fitted with approved sag adjustment links to provide a total adjustment range of 300 mm in approved steps. Devices using screw threads for sag adjustment will not be acceptable on double normal tension sets.

14.2.4 For low duty applications, on down droppers and gantry spans, low duty tension sets employing disc insulators and fittings with a lower assigned safe load rating, may be used. These tension sets shall be referred to as low duty tension sets and reverse low duty tension sets where the insulators have to be reversed to shed water. A single insulator string shall be used for both single and twin conductor low duty tension sets, but the low duty tension set for twin conductor construction shall incorporate a yoke plate to equalise conductor tensions. Separate means shall be provided for sag, adjustment on each conductor on twin sets. On low duty tension sets, approved turn-buckles with suitable lock nuts will be allowed for sag adjustment.

14.3 Suspension insulator assemblies (sets) for phase conductor

14.3.1 For both single and twin conductor lines, phase conductor suspension sets shall consist of a single insulator string assembly with the necessary links and fittings. Suspension sets intended for supporting twin conductor lines shall incorporate a yoke plate to equalise conductor loads.

14.4 Arcing horns

14.4.1 Acing horns of approved types, capable of safely withstanding a force of 500 N applied to the tip of the horn and designed to minimise the damage to conductors or insulator assemblies under all flash-over conditions, shall be attached to the fittings of the assembly in an approved manner and not to the clamps or insulator caps.

14.4.2 All suspension and normal tension insulator sets throughout the line shall be fitted with arcing horns on the live end only. Arcing horns shall only be fitted on the outer strings of double tension insulator sets.

14.4.3 Low duty and reverse low duty tension sets shall be fitted with arcing horns on the live as well as on the earthed side.

14.5 Phase conductor strain clamps

14.5.1 All tension clamps for phase conductors shall be of the current carrying compression type.

14.5.2 Compression type strain clamps shall have a mechanical strength of not less than 100% of the ultimate strength of the conductor when tested in accordance with BS 3288 Part I.

14.5.3 Compression type strain clamps for steel reinforced aluminium conductor shall comprise two compression sleeves, an inner steel compression sleeve for transmitting the mechanical strain from the steel core of the conductor to the attachment fitting and an outer aluminium compression sleeve mainly for current transfer.

14.5.4 Compression type strain clamps shall be supplied complete with jumper flags (jumper lugs) for bolting on jumper terminals. Where required strain clamp sleeves shall have double flags opposite each other for making two connections. The bolt-on surface of the flag shall be machined to provide a flat and reasonable smooth contract surface which shall be protected against oxidation by approved means.

14.5.5 Compression type strain clamps shall comply with the relevant requirements for current carrying clamps.

14.6 Phase conductor suspension clamps

14.6.1 Suspension clamps for phase conductors shall be of the trunnion type fixed in position by means of two M12 U-bolts and a keeper piece. The clamp shall be designed to support the conductor even if both U-Bolts are removed.

14.6.2 The conductor supporting groove of suspension clamps shall be flared out in a vertical plane to allow the conductor to leave the groove tangentially at any angle of declination encountered in service. In addition the groove shall be bell-mouthed to a minimum radius of 25 mm.

14.6.3 The mechanical clamping of the conductor shall be designed so as not to cause mechanical damage to the conductor of deforming it or separating the individual strands. The clamp shall permit conductor slip before conductor failure.

14.6.4 On conductor suspension clamps pivoting shall be provided about a horizontal axis transverse to, and through the centre line of the conductor.

14.6.5 Suspension clamps shall be of galvanized malleable cast iron. Ferrous suspension clamps shall be provided with soft pure aluminium liners to protect the conductors.

14.6.6 Suspension clamps shall comply with SABS 178.

14.7 **Earth wire strain clamps**

14.7.1 Earth wire strain clamps shall be of the straight bolted type strain clamps and shall comply with the relevant requirements of SABS 178.

14.7.2 The clamp shall be forged from steel and shall comprise a clamp body with integral pulling eye and keeper plate(s). At least six M12 bolts shall be used for clamping the conductor in the groove. The clamp shall be reasonably smooth and all parts shall be hot-dipped galvanized.

14.7.3 The clamp shall be supplied compete with all necessary bolts, nuts and washers.

14.8 **Earth wire suspension clamps**

14.8.1 Suspension clamps for earth wires shall be of the trunnion type and shall be fixed in position by means of two M12 U-Bolts bolting down onto a preformed keeper plate to clamp the conductor.

14.8.2 Earth wire suspension clamps shall comply with similar requirements as laid down for the phase conductor suspension clamps.

14.9 **Current carrying clamps, joints and accessories**

14.9.1 All current carrying parts of compression type clamps, joints and accessories (e.g. conductor repair sleeves) for aluminium conductor shall be manufactured of aluminium of at least 99.5%purity.

14.9.2 The conductivity and current carrying capacity of compression type clamps and joints shall not be less than that of the conductor.

14.9.3 The clamps shall clamp the stranded conductor effectively under all conditions including repeated cyclic heating resulting in clamp temperatures varying between minus 5°C and plus 95°C.

14.10 **Phase conductor jumper terminals**

14.10.1 Jumper terminals shall be of the compression/bolt type arranged for compression jointing to the conductor and bolt-on to other clamps as for instance strain clamp flags.

14.10.2 The connection between jumper terminals and strain clamps shall be arranged such that the jumper conductor approaches the extended centre line of the line conductor at an angle of between 60°C and 75°C.

14.10.3 The bolt-on surface or palm of jumper terminals shall be machined to provide a flat and reasonable smooth contact surface which shall be protected against oxidation by approved means.

14.10.4 Jumper terminals shall be bolted to strain clamps by means of at least two M12 bolts. All jumper terminals shall be supplied complete with all necessary bolts, washers, spring washers and nuts as required.

14.10.5 Jumper terminals shall comply with the requirements for current carrying clamps.

14.11 **Tension joints** (Mid span joints)

14.11.1 If the use of a mid span joint is approved by the Engineer mid span tension joints shall be of the compression current carrying type and shall be of approved design.

14.11.2 Tension joints shall not allow any slip of the conductor and shall have a mechanical strength not less than 100% of the ultimate strength of the conductor when tested in accordance with BS 3288 Part I.

14.11.3 Compression type tension joints for steel reinforced aluminium conductor shall comprise of compression sleeves; an inner steel sleeve to transmit mechanical tension from steel core to steel core of the conductor, and an outer aluminium compression sleeve mainly for current transfer.

14.11.4 Steel compression sleeves shall be used for mid span jointing of earth wires, if approved.

14.11.5 Compression type joints shall comply with the requirements for current carrying clamps and joints specified elsewhere in this Specification.

14.12 **Conductor repair sleeves**

14.12.1 Should isolated strands of the conductor be damaged during erection, repair sleeves may be permitted at the discretion of the Engineer. The type and manner of fitting shall be to approval.

14.12.2 Conductor repair sleeves shall not be used on stranded conductor which has been kinked.

14.13 **Phase conductor spacers**

14.13.1 On twin conductor lines, the two conductors in each phase conductor shall be disposed horizontally and spaced throughout the entire span at the centre line spacing specified in the Schedule of Basic Parameters by means of suitable spacers of approved design.

14.13.2 Spacers shall be fitted at regular intervals not exceeding 75 m along each span with the first spacer in each span fitted at 10 m from the tower centre line.

14.13.3 Line spacers shall be of the flexible ring type allowing limited relative longitudinal movement between conductors as well as limited torsional movement of each conductor.

14.13.4 Rigid spacers shall be used on twin jumper connections as well as on twin down droppers and twin gantry spans. At least three spacers shall be fitted at intervals not exceeding 3 m.

14.13.5 All spacers shall be light and of robust construction.

14.13.6 Spacer clamps shall be designed so as to avoid any possibility of deforming the stranded aluminium conductor or separating the individual strands.

14.13.7 Spacer clamps shall be designed with an adequate radius of curvature at the clamp mouth to prevent the clamp “biting” into the conductor.

14.13.8 U-bolts employed on spacer clamps shall not clamp directly onto the conductor. Conductor keeper plates of suitable design shall be used to clamp down onto the conductor. Unless otherwise approved the spacer clamp body and keeper plate(s) shall be made of aluminium.

14.13.9 All bolts, nuts and washers and other ferrous part of spacers shall be galvanized to SABS 763. All nuts on spacers shall be locked in an approved manner.

14.13.10 Spacers shall comply with the test requirements of SABS 178 and/or BS 3288 Part I.

14.14 **Vibration dampers**

14.14.1 Stockbridge pattern vibration dampers shall be fitted to all phase conductors and to both earth wires on all spans exceeding 50 m to damp conductor vibrations.

14.14.2 The mass of vibration dampers on phase conductors shall be approximately 6 kg and that of earth wire dampers approximately 1.5 kg.

14.14.3 On all conductors the vibration damper shall be fitted at a distance of 1.25 m from the conductor support point or conductor attachment point. On spans exceeding 360 m a second damper shall be fitted on each conductor in a position 1.25 m out from the first damper.

14.14.4 All dampers shall be of approved design and construction.

15. OPTICAL FIRBRE MATERIAL

15.1 **Optical fibre ground wire (OPGW)**

15.1.1 A composite earth wire with sixteen (16) individually identified optical fibres shall be supplied and installed where specified.

15.1.2 The composite earth wire characteristics shall be similar or better than the conventional earth wire in operation.

15.1.3 The optical fibre earth wire will be used for the vital protection and control functions of the terminal substations where reliability and proven integrity under Tshwane’s service conditions are essential.

15.1.4 Full details of service experience giving type of system, length of line, location and years in service and the direct effect of lightning on the optical fibre shall be provided. Full Type Test information shall be provided.

15.1.5 The optical system will operate at 1 300Nm. The average maximum attenuation shall not exceed 0.15 dB per km.

15.1.6 The OPGW shall be in drum lengths commensurate with tension tower spacing in order to minimise the number of joints in the line.

15.1.7 The optical fibre contained within the OPGW shall be of the loose buffered type with fibres housed in individual grooves in a helically grooved extruded aluminium alloy former within an extruded aluminium tube. The earth wire itself shall consist of aluminium clad steel wire.

15.2 **Optical fibre cable**

15.2.1 Normal underground optical fibre cable for connection between the tower and the substation will be enquired and shall be non-armoured with 16 individually identified optical fibre cores with a strength member and orange coloured outer PVC sheath.

15.2.2 The optical characteristics shall be the same as the OPGW.

15.2.3 The non-armoured cable shall be installed in a 32 mm high density polythene pipe.

16. SETTING OUT AND NOTIFICATION

16.1 **General**

16.1.1 The power line(s) is/are to be erected along the route(s) shown on the route plan(s) to be provided by the Council. Unless otherwise specified or directed by the Engineer, the power line is to be erection the centre line of the route shown on the route plan.

16.1.2 The necessary way leaves and right of access will be obtained by the Council. Obstructions, which in the opinion of the Engineer have to be cleared, and certain trees on the route will be cleared by the Council to enable the Contractor to carry out the erection of the line. The Contractor will have to make his own arrangements and provide the necessary scaffolding or other means to cross over the remaining obstacles such as fences, structures, roads, railway lines, telephone lines, etc.

16.1.3 Access to the line route I available at several positions along the route, therefore no special access will be provided by the Council, Tenderers shall acquaint themselves fully as to the access required on site and provide in the contract price for any special access to be built, as no extra claims will be entertained by the Council at a later date.

16.1.4 Particulars of ground contours along the route on which the power line is to be erected are shown on the profile drawings. The necessary surveyed profile drawings will be provided by the Council on which side-slope information is indicated in positions where side-slopes in excess of 1:10 are encountered. The Contractor shall show the following information on such profile drawings all of which shall be approved by the Engineer before the Contractor commences setting out foundations:

16.1.4.1 Tower positions.

16.1.4.2 Tower type number and if applicable tower base extension type number at each tower position.

16.1.4.3 The sag curve of the bottom phase conductor at minimum operating temperature between towers.

16.1.4.4 The 7.5 m clearance curve from bottom phase conductor at maximum temperature.

16.1.4.5 Sag curve(s) of bottom phase conductor in spans crossing railway lines or proclaimed roads under broken line (adjacent span) conditions.

16.1.4.6 Minimum weight span length on every tower.

16.1.4.7 Maximum weight span length on every tower showing the contribution from each span adjacent to tower.

16.1.4.8 Wind span length on each tower showing contribution from each span adjacent to tower.

16.1.4.9 Position of maximum sag at maximum conductor operating temperature.

16.1.4.10 Position of maximum sag at minimum conductor temperature.

16.1.4.11 Equivalent span length of strain section.

16.1.4.12 Actual length of each span.

16.1.5 Prior to the stage of crossing any overhead services, public roads, railway lines or pipe lines with the stringing of conductors, or installation of counterpoise earth conductor, the contractor shall give adequate notice to the appropriate authority of the date and time of the proposed work and make the necessary arrangements for the protection of the services and the safety of the public at his own cost.

16.1.6 The contractor shall give adequate notice of the commencement of work to occupiers of all properties to be traversed and shall at his own expense make good any damage caused to crops, fences, gates, gardens, walls, roads, or other property.

16.1.7 At all crossings of public roads, railways, telephone, telegraph and other power lines the provisions of the Factories, Machinery and Building Work Act, 1941, as amended, shall be complied with to the approval of the Engineer.

16.1.8 Prior to erection, the Representative of the Contractor shall ascertain from the Engineer which part of the work, and at what stage, he wishes to inspect and approve contract work from time to time. Adequate notice shall be given to the Engineer to enable him t carry out such inspections.

16.1.9 As each part of the Contract Works is erected the Engineer shall approve it. This particularly applies to the setting out, installation of buried earths, foundation construction, the levelling, aligning and adjusting of the various parts. No approval given by the Engineer will exonerate the Contractor from his contractual obligations or his guarantees under the contract.

16.2 **Tenderer to inform himself fully**

16.2.1 The onus is on the tenderer to inform himself fully as to details of the Work involved and Plant and Equipment required for carrying out the contract. Tenderers shall visit the sites to familiarize themselves with all conditions on site before Tenderers are submitted. Tenderers shall allow for all conditions on site. No claims for extras will be allowed whatsoever if Tenderers failed to allow for all costs and any conditions peculiar to the site.

17. INSTALLATION, ERECTIONAND SITE WORK

17.1 Excavations

17.1.1 Prior to tendering, Tenderers are to inform themselves fully as to the nature of the ground to be excavated throughout the route, as the cost of excavation shall be included in the unit price for the installation of foundations and structure earthing regardless of the type of material which will be encountered. It shall be distinctly understood that the Council will not be responsible for any variations in the strata and type of material and under no circumstances will be Contractor be paid an extra price due to such variations.

17.1.2 Any additional excavation in excess of the excavation required for the standard foundation, in order to establish suitable subsoil or bearing area, shall be approved by the Engineer, and shall be paid for at the unit rates for such excavations to be quoted in the Price Schedules.

17.1.3 The Contractor shall at his own expense provide means for maintaining the excavations for foundations in a dry state free from storm-water, seepage water or any other water.

17.1.4 The excavated material shall be stacked as compactly as possible, consistent with safety of workmen and the Works and the Contractor will be held responsible for making good at his own expense any damage caused by the excavation of such stacked material.

17.1.5 As soon as possible after the shuttering has been struck the foundation shall be back-filled in even layers of not more than 300 mm thick, each of which shall be well rammed down.

17.1.6 The foundations shall in all respects comply with the requirements of clause 10 of the specification.

17.2 Erection of towers and structures

17.2.1 No tower or structure shall be erected on any foundation within 14 days after being cast.

17.2.2 Prior to the erection of any conductors all towers and other structure shall be vertical within a tolerance of 0.3 per cent the total structure height measured at the top of the structure.

17.2.3 Earthing resistance shall be measured on all foundations prior stringing as described under clause 11 of the specification.

17.2.4 All bolts and nuts below 3 m above ground level shall be locked by punching with a heavy centre punch to make the removal thereof without special tools impractical.

17.2.5 After back-filling the concrete encasement cap and the base steelwork shall be treated as detailed under clause 10.2.4.

17.3 Stringing and sagging of conductors

17.3.1 The method of stringing, the utilization of conductor lengths to minimize the number of joints and the type of equipment to be used for erection shall be to approval. Come-along clamps used for stringing shall be of the proper size, especially on the OPGW. No joints will be allowed in the crossing spans over roads, railways, buildings, other power lines or important communications lines or in any strain section of three spans or less.

17.3.2 The Contractor shall satisfy the Council that he has wide experience in the erection of power lines of this nature. If in the opinion of the Engineer, the work I carried out in an inefficient and unsatisfactory manner, the Engineer shall have the power to order the Contractor to employ additional plant, tools, labour or anything he may see fit in order that the work may thereafter be executed in a proper and efficient manner at no extra cost to the Council.

17.3.3 The Contractor shall take all precautions to prevent excessive loading of towers during erection and shall provide any temporary staying of towers where necessary.

17.3.4 Rubber faced snatch blocks, scaffolding and/or other approved devices shall be employed during stringing to avoid any contract between the conductor and the ground or other obstructions. No extra charges for providing such equipment or manhandling of materials during abnormal stringing and sagging operations over buildings, other overhead services, roads, railways and communication circuits or other obstructions will be allowed.

17.3.5 The cut ends of all conductors shall be tied by wire binders and painted or treated in an approved manner to prevent oxidation and the ingress of moisture.

17.3.6 Vibration dampers and conductor spacers shall be installed as soon as possible after the erection of the conductors.

17.3.7 Suitable dynamo meters, sag scopes, sighting rods or other approved devices shall be provided by the Contractor for the proper checking of the work.

17.3.8 The sagging of conductors shall be done on the equivalent span method, whereby the tension of the strain section will be calculated for the equivalent span and the equivalent span length is calculated from the formula:

$$Le = \frac{\sqrt{L_1^3 + L_2^3 + \ldots\ldots\ldots\ldots\ldots\ldots L_n^3}}{L_1 + L_2 + \ldots\ldots\ldots\ldots\ldots\ldots L_n}$$

Where Le = Equivalent (or ruling) span length
L_1 = Length of first span in strain section
L_2 = Length of second span in strain section
L_n = Length of nth span in strain section

17.3.9 Phase conductors and earth wires shall be erected with such sags in still air that, at a conductor temperature of minus5°C and under maximum wind loading conditions and with the assumed maximum simultaneous work loads specified in clause 8, the failing strength of the conductor and failing loads of the tower, tower foundation, insulator sets or fittings are not exceeded whilst maintaining the minimum factors of safety specified in the Schedule of Basic Parameters, The everyday-stress in the conductor shall also not exceed 25% of the ultimate strength. The design maximum working tension in phase conductors and earth wires shall be stated in the Schedule of Particulars and Guarantees.

17.3.10 In calculating the sags and tensions for the different spans at erection temperature, due allowance shall be made for the elasticity and coefficients of expansion of the conductor materials.

17.3.11 In order to allow for any permanent settlement of the conductors after erection, the conductors shall be over-tensioned to approved curves and sag charts clearly indicating the initial and final sags and tensions at deferent temperatures of the line and earth conductors.

17.3.12 The Contractor shall submit for approval curves or tables showing the correct initial and final sags and tensions of the line and earth conductors at various temperatures and spans, the former making allowance for such permanent stretch as might take place in service.

17.3.13 The actual sag of any conductor shall not differ more than 3 per cent from the calculated sag for that span, and shall not differ by more than 100 mm from the mean of the sag of all the conductors in that span. For twin conductor lines the difference in sag of the conductors of a pair shall not exceed 30 mm. Any adjustments required to comply with these requirements shall be carried out by the Contractor at the end of the maintenance period at no extra charge to the Council.

17.3.14 The appropriate ambient temperature shall be determined by means of a thermometer inserted in the end of a 1.5 m section of conductor from which a 150 mm length of centre strands have been removed. The conductor with the thermometer inserted shall be hung at cress-arm level for at least two hours before the temperature is read.

17.3.15 The Contractor shall also be responsible to ensure that the mass carried by any suspension insulator string under the above tensions at minus 5°C in still air, be not less that the minimum weight span specified in the Schedule of Basic Parameters. If required, the Contractor shall prove this to the Engineer and shall be responsible for any alterations which may be required in order to comply with the above specified requirements.

17.3.16 The Contractor shall satisfy himself as to the correctness of all connections made between plant and apparatus supplied under this Contract and Plant and apparatus supplied under any other contract before any of the former is put into operation.

17.3.17 The carrying out of all work included in this contract shall be supervised throughout by a sufficient number of qualified representatives of the Contractor who have had thorough experience in the erection and operation of apparatus similar to that to be supplied.

17.3.18 Stringing of the optical fibre earth wire shall be done by the main contractor under the supervision of the OPGW supplier. The maximum permissible pulling tension for the offered OPGW and the pulley diameter for stringing shall be specified with the tender.

17.4 **Optical fibre work**

17.4.1 Joint boxes shall be mounted on the inside of the tower immediately above the anti-climbing device on a horizontal beam. The earth wire shall be properly clamped on the inside of the tower leg at 1.5 m intervals or less.

17.4.2 Where earth wires are specified to be insulated, the joint boxes shall be mounted on top of the earth wire tower cross arm.

17.4.3 All stringing clamps shall be installed with armour rods, to prevent damage on the inner aluminium tube. Bolts on all tension and suspension clamps shall be tightened with a torque wrench to the specified torque of the OPGW supplier.

17.4.4 The Contractor shall be responsible for jointing and shall, therefore be equipped with all the necessary specialised tools and test equipment and shall have staff capable of performing such a function.

17.4.5 The Tenderer shall describe the jointing method to be employed both on the optical fibre ground wire and the underground optical fibre cable.

17.4.6 The Contractor shall have a full after service facility so that the Council may call on these services with immediate response available to perform jointing and testing at the request of the council should this be necessary once the line is in service.

17.4.7 Where applicable each fibre optic splice shall have a loss of less than 0.15dB/joint.

17.4.8 The OPGW shall be terminated at each end in a tower mounted joint box. From this joint box, all optical fibres shall be extended into the respective substation or control room, as the case may be, by means of the required length of underground type optical fibre cable, laid from the outdoor termination box, through the substation yard in high density polythene pipes. The pipes shall be laid in the ground at a depth of 0.9m, where no ducts exist. The trench shall be backfilled and compacted in layers of 300 mm up to ground level. In the substation, or control room, the underground optical fibre in the indoor cubicle shall be spliced into a 5 m length of reinforced fibre pigtail, and where applicable, the fibre optic cores shall be terminated in an approved manner using type ST connectors.

17.5 **Incidental work**

17.5.1 If directed by the Engineer, the Contractor shall install access gates in fences on the power line servitude at the unit prices quoted in the Form of Tender.

17.5.2 Steel gates with tubular frames complying with the requirements of CKS.146:1972 shall be installed on steel posts with stays complying with the requirements of CKS.82:1973. All fencing wire used shall be galvanized in accordance with SANS 935:2007.

17.5.3 Facilities for locking the gate by means of a length of 10 mm chain and a padlock shall be provided. The padlocks will be supplied by the Electricity Department and the Contractor shall fit them. The chain shall be fixed to the gate post.

17.5.4 All posts and stays shall be set in concrete.

17.6 **Working in live yards**

17.6.1 Site work in energised (live) yards will only be permitted under cover of a Permit to Work, issued by the Chief Distribution Engineer (Operations) or his duly authorized representative and then only under such conditions as may be laid down in the said Work Permit. Work in live yards shall be carried out under the constant, direct and strict supervision of a competent responsible person so appointed in writing by the Contractor. In the above context “competent person” shall have the meaning as defined in Chapter I of the Regulations appertaining to the Machinery and Occupational Safety Act.

17.6.2 The contractor shall apply in writing for the necessary Work Permit(s) and shall submit with his application the following particulars:

17.6.2.1 Full name, designation and other particulars of the responsible person appointed by the Contractor together with a copy of his letter of appointment.

17.6.2.2 The date, time, period and detailed purpose for which access is required to each site or yard.

17.6.2.3 The names or identity numbers of all persons (including sub-contractor employees, if any) for whom access is required under the responsibility of the Contractor’s responsible person.

17.6.3 In order that the Council may make the necessary arrangements, each application for a Work Permit shall be submitted to the Engineer, together with all the required particulars, at least three full working days before access to the site or yard is required.

17.6.4 The Work Permit hall be made out to the contractor's responsible person who shall have the responsibilities and duties stipulated in Regulation C.1(6) issued under the Machinery and Occupational Safety Act who shall be responsible to see to it that the conditions laid down in the Work Permit are fully complied with by himself and all persons under his control.

17.6.5 When working in live yards the contractor shall ensure that all his workmen, employees and sub-contractors obey the Council's Safety Rules, a copy of which may be obtained from the Chief Distribution Engineer (Works).

17.6.6 With regard to safety, the Council in its own discretion may appoint one of its own employees to supervise safety aspects on a full or part time basis while work is carried out in live yards or in the vicinity of live equipment. The contractor's responsible person shall comply with, and shall see to it that safety instructions issued by the Council's supervisor, are complied with by all persons working under the responsibility of the responsible person.

17.6.7 On completion of the work in live yards the responsible person shall sign off the Work Permit and shall not leave the site without signing off the Work Permit and returning it to the issuer. Should the contractor fail to have this requirement strictly observed, he shall render himself liable to pay all direct and indirect costs which the Council may incur in having the Work Permit signed off, which cost may include the loss of revenue in respect of equipment remaining switched out or the purpose of giving the contractor access.

17.6.8 In the case of work to be carried out on existing power lines or equipment in operation or work to be carried out so close to existing live equipment that switching out is required, the contractor shall prepare a proposed programme of the work for discussion with the Council's Operation Staff, which programme shall be submitted for approval to the Engineer at least three weeks prior to the proposed access date. If required, the contractor of his duly authorized representative shall be present to discuss the proposed programme with the operation staff.

17.6.9 With regard to switching out of equipment to facilitate contract work to be carried out, it shall be distinctly understood that switch out dates, times and periods are subject to load and operational requirements. Operational and/or load requirements may dictate that contract work on the existing network be carried out over weekends or outside normal working hours, and the contractor shall therefore quote as an extra to contract for alterations to existing power lines to be carried out outside normal working hours.

17.6.10 For stringing new lines parallel and close to existing power lines, the contractor may apply for the nearest circuit on the existing line to be switched out to reduce induced voltages in the conductors to be erected. Should load and operational conditions permit it, the circuit will be switched out for such period(s) as it may be feasible but the Council reserves the right to switch back the circuit on very short notice to the contractor. Should it not be possible to switch out the nearest parallel circuit as contemplated above, the contractor shall take such safety precautions as may be required and provide such measures as the Engineer may direct to prevent damage to the existing line at no extra cost to the Council.

17.7 **Security measures**

17.7.1 Work inside electrical yards is subject to the Council's security measures and the contractor shall contact the Council's Chief Security Officer prior to the commencement of any work under the contract to make the required security arrangements. The cost of security measures shall be included in the rates for site work.

17.7.2 If so required by the Council, all employees of the contractor his subcontractors employed with regard to the execution of the contract shall be security cleared on such conditions as laid down by the Council.

17.7.3 Should any employee of the contractor or his subcontractor, for whatever security reasons, be declared unfit, the contractor or the subcontractor shall have the right to appoint any person in lieu of the employer who had been disqualified for security reasons, subject to the Council's security clearance.

17.7.4 The contractor undertakes –

17.7.4.1 To treat all information regarding the contract and the execution thereof as strictly confidential;

17.7.4.2 That he himself, his subcontractors and all employees concerned, will sign the Council's Declaration of Secrecy;

17.7.4.3 In the execution of the contract, to report to the Council's Chief Security Officer, without delay and confidentially, any information regarding:

1) Any suspected espionage in respect of the lay-out of the site where the work is being executed, or in respect of sites where protective measures are applied;
2) Actions which may be interpreted as sabotage, or any planning in this regard;
3) Any suspected subversive activities among these employees
4) The loss of any classified documents which came into his possession as a result of the contract
5) The contravening of any security measure by an employee
6) Housebreaking, theft, arson, vandalism, loss of identity documents, security keys or lock combinations
7) Corruption, blackmail, intimidation, striking or inciting or unauthorized access to an office or premises;
8) Any employee who has ties with a person who has recently come from a Communistic country, or who has relations with a person sympathizing with Communism; and
9) Any employee who is involved with the contract and who is suspected of bringing drugs, intoxicating liquor, a weapon, ammunition or explosives on the site of the Council.

17.7.5 The Council shall have the right to inspect, al all reasonable times, and through its Security Sub department, the contractor's and subcontractor's premises and offices where work in connection with the contract is executed or where documents in that connection are kept, in order to prescribe suitable security measures, and to determine whether the prescribed security measures are being implemented satisfactorily.

17.8 **Storage of Materials**

17.8.1 The contractor shall be solely responsible for all security arrangements for the safe storage of materials on site and the arrangements for the safe storage of materials on site and the arrangements for safe storage positions along the route. The Council will not be liable for any loss or damage of any materials or equipment whatsoever.

17.8.2 Prices for supply and delivery of materials shall allow for all rail age, transport, handling, loading and offloading on site.

17.8.3 The receiving on site of all materials and the handling thereafter is the responsibility of the contractor.

17.9 **Working hours**

17.9.1 Site work carried out for the execution of this contract, shall be confined, as far as possible, to normal working hours on normal working days (i.e. 07:00 – 17:00 on Mondays to Fridays) excluding Public Holidays.

17.9.2 Work to be done outside normal working hours shall be approved by the Engineer who shall be notified of the reasons in writing at least three working days in advance of any work to be done outside normal working hours.

17.10 **Clearing site**

17.10.1 On completion of the contract the contractor shall clear the site of all temporary offices, sheds, temporary structures and of all stumps, boulders, debris, surplus excavated material, waste material and rubbish. The contractor shall level off all ground on the site and shall reasonably prior to the commencement of such works, except where otherwise provided for, and shall leave the site in a clean and tidy order, to the satisfaction of the Engineer. Waste, rubble, rubbish and surplus excavated material shall be dumped at one of the Council's official dumping sites.

17.10.2 The cost of clearing the site shall be included in the various prices for work.

18. RECORDING

18.1 The contractor shall keep accurate records of the positions of all conductor joints, temperatures, sags and tensions for each strain section, the positions where counterpoise earthing is installed as well as tower types, extensions and positions of towers. On completion of the contract the contractor shall supply to the approval of the Engineer, fully marked-up transparencies of the profile drawings with all the complete schedules of particulars of all items used and installed on the line, for reference when repairs or modifications are to be made.

19. TESTS AND TESTING

19.1 **Testing general**

19.1.1 All materials and equipment supplied to this specification shall be tested in accordance with the requirements of the relevant Standard Specification referred to and in accordance with the requirements specified hereafter.

19.1.2 Notice of all testing shall be given to the Engineer in accordance with clause 69 of the Conditions of Contract.

19.1.3 All instruments required for testing shall be approved and if required, shall be calibrated at the expense of the contractor by the South African Bureau of Standards or such other body as may be approved.

19.1.4 Factory routine and sample tests shall be regarded as an integral part of the manufacturing of the various items and shall therefore be allowed for in the unit prices quoted for supplying.

19.1.5 Site and commissioning tests shall be regarded as an integral part of the installation of the various items and shall be allowed for in the unit prices quoted for installation.

19.1.6 Three copies of the manufacturer's records of all factory tests shall be furnished to the Engineer, immediately after such tests and before any material is shipped. No material shall be installed before these tests have been officially approved by the Engineer.

19.1.7 Three copies of the contractor's records of all site and commissioning tests shall be furnished directly to the city Electrical Engineer, P O Box 423, Pretoria, 0001, immediately after completion of such tests.

19.2 **Type tests**

19.2.1 The contractor shall satisfy the Engineer that the following equipment has been type-tested successfully, or is certified to have been type-tested successfully in accordance with the specified requirements laid down in the appropriate Standard Specification and if required by the Engineer, the Contractor shall furnish copies of the relevant type test certificates:

19.2.1.1 A.C.S.R. conductor to SANS 182-3: 2003 or BS 215 Part 2.
19.2.1.2 Earth wire and supplementary earthing conductor to SANS 182-3: 2003 or BS 183.
19.2.1.3 Insulators to SANS 61109:2008 or BS 137
19.2.1.4 Line fittings and clamps to SABS 178 or BS 3288
19.2.1.5 Galvanizing to SABS 763 and SANS 935:2007 or BS 729 and BS 443 (as applicable).

19.2.2 Type-testing of towers and supporting structures shall be to approval and shall be fully detailed in type test certificates.

19.2.3 Existing type test certificates will be considered on their merits and Tenderers are requested to submit copies of existing type test certificates with their tenders. Should reasonable doubt arise as to the validity of test certificates submitted after acceptance by the Engineer in relation to the equipment actually to be supplied, for example by virtue of modifications to the equipment, the Engineer may direct that a further certificate(s) be obtained on a sample unit(s) manufactured under the contract at the expense of the successful tenderer. Such further testing shall be carried out by an independent recognised testing institute.

19.2.4 If type-testing is to be done specifically for the purpose of this contract, testing shall be carried out in accordance with the following specified requirements by an independent recognised testing institute approved of by the Engineer at the prices to be inserted in the Form of Tender.

19.2.5 Type-testing of supporting structures

19.2.5.1 If required by the Engineer, one tower of each standard type, with or without base extension as specified, shall be assembled and erected at the approved testing station. Such towers shall be erected on a rigid test foundation and the erection shall be done consistent with the practice used on site.

19.2.5.2 Each tower shall then be subjected to such test loads as the Engineer may specify in order to prove compliance with the factors of safety stated in clause 8 in an approved manner, without showing signs of failure or permanent distortion in any part.

19.2.5.3 If required by the Engineer, tests to destruction shall then be carried out in an approved manner on all or any of the towers submitted for test.

19.2.5.4 Unless specially approved, steel towers submitted for test shall be galvanized.

19.2.5.5 No parts of any tower which has been submitted to test loads shall be used on the Contract Works.

19.2.5.6 Gantries shall be tested in a similar way.

19.2.6 Corona tests

19.2.6.1 If required by the Engineer, one suspension insulator set and one tension insulator set of each type (to be selected by the Engineer), complete with all fittings as in service and with insulator strings approved by the Engineer, shall be tested when clean and dry as follows:

19.2.6.1.1 A length of not less than 5 m of the specified conductor (or aluminium tubing with equivalent diameter; at the discretion of the Engineer) shall be fixed to the conductor clamp in the manner adopted in service. The tension set shall be supported vertically under a nominal tension of 1 000N parallel to and at a distance of 1 400 mm from an earthed vertical “wall”. The “dead” end of the et shall be earthed.

19.2.6.1.2 The test voltage shall be applied between the conductor and earth for not less than 10 minutes during which time the room shall be in complete darkness.

19.2.6.1.3 The voltage of any visible corona shall be noted with the aid of binoculars having 50 mm x 8 objectives.

19.2.6.1.4 No corona shall be visible on the fittings at any voltage below an applied voltage of 1.2 times nominal phase to neutral (earth) voltage.

19.3 Routine and sample tests

19.3.1 All routine and sample tests as laid down in the appropriate Standard Specification shall be carried out in accordance with the requirements of such Standard Specifications by the manufacturer at his factor (or at an alternative place of testing as specified or approved).

19.3.2 Samples of the materials for the towers and fittings shall be sample tested in accordance with the latest issue of BS 4360.

19.4 Fibre optic testing

19.4.1 A certificate giving the optical characteristics for each drum shall be submitted to the Engineer on delivery to site and thereafter the following tests on the fibre shall be performed.

19.4.1.1 TEST 1: Testing of the fibre per drum prior to stringing (continuity test).

19.4.1.2 TEST 2: Testing of the fibre after stringing (continuity test)

19.4.1.3 TEST 3: During jointing each connector loss (splice loss) shall be measured in dB using an optical time domain reflecto-meter (OTDR). The result shall be printed out and the corresponding distance and attenuation measurement determined from the plot.

19.4.1.4 TEST 4: A total test from both ends of the line including all joints. The object of the test is to measure the attenuation of each fibre from both ends including all fibre splices.

19.5 **Site and commissioning tests**

19.5.1 After erection of the towers but before any stringing operations, the contractor shall accurately measure and record the tower footing resistance of every tower and gantry installed under the contract.

19.5.2 The contractor shall carry out such site testing as the Engineer may reasonably call for to determine compliance with the specification, which testing shall be carried out in the present of the Engineer.

19.5.3 If so required by the Engineer, the contractor shall be available on site and shall render such assistance as the Engineer may reasonably require from him during commissioning of the equipment.

20. PAYMENTS, MEASUREMENTS AND RATES

20.1 **Payment general**

20.1.1 No invoices will be authorized for payment without the necessary substantiating documents to prove measurements or actual guaranties of work done as certified by the Engineer.

20.1.2 All payments shall be subjected to the “Terms of Payment” and shall be made in accordance with the Conditions of Contract. (See also clauses 12,17,75,76,77 and 78 of the Conditions of Contract)

20.1.3 Payments for conductors, towers and fittings will be adjusted for the actual measured and true quantities after completion of the work. Likewise progress payments will be made on application by the contractor (refer to clause 75 of the Conditions of Contract) for total quantities measured.

20.2 **Payment of clerk of Works**

20.2.1 The Council may appoint and pay a Clerk of Works for the specified period of the contract, as stated in clause 50 of the Conditions of Contract.

20.3 **Sum for plant and establishment**

20.3.1 The sum provided in the Price Schedule for plant, shall include for the supply, delivery, erection, maintenance and removal on completion, of all plant of every description together with all tools required for the complete carrying out of all work under this contract.

20.3.2 The Contractor’s claim for the sum for plant and equipment will only be considered on completion of the contract provided no plant, equipment or labour has been withdrawn (without the Engineer’s consent) from the contract, whereby completion of any part of the contract has been delayed.

20.4 **Measurement of work**

20.4.1 The measurements of lengths for the purpose of payment for conductors shall be to the nearest metre and shall be made by the contractor in the presence of the Engineer. These measurements shall normally be made along the centre line of the completed power line measured on ground level if suitably even or calculate as the straight line length between the centre lines of towers and no allowance shall be made for any sag. Measuring-up shall be subject to the provisions of clause 74 of the Conditions of Contract.

20.4.2 After inspection of any trenches required for supplementary earthing, (specified under clause 11) payment will be made on a basis of lineal metres of completed trench measured by the contractor in the presence of the Engineer after installation of the counterpoise cable but prior to back-filling. This payment for trenching shall include excavation, back-filling and reinstatement of the trench and shall be paid for as the installation of counterpoise as specified under clause 11.

20.4.3 Measurements of the mass of extra steel required shall be calculated from approved working drawings to the nearest kilogram, assuming a density for steel of 7,843 g/cc. These calculations shall be jointly made by the contractor and the Engineer.

20.5 **Payment for foundations**

20.5.1 The payment for foundations shall be at the unit prices for the applicable type of foundations quoted in the price schedules. These prices shall include the cost of soil investigations, excavations, drilling, provision and installation of earthing tapes (refer to clause 11.2), foundations steelwork and reinforcement, shuttering and/or templates as well as the dismantling thereof, the provision and installation of concrete and the proper back-filling and reinstatement of the excavations.

20.5.2 As specified under clause 17.1.1, no extra prices will be considered for foundation excavations due to changes in the types of materials to be excavated and no consideration shall be given to any claims for shuttering to be placed, as the Contractor is required to inform himself fully as to the nature of the materials to be excavated prior to tendering.

20.5.3 Excavation required in excess of that of the applicable standard foundation, in order to establish suitable subsoil, or bearing area, shall be measured and approved by the Engineer and shall be paid for at the appropriate unit rates for such additional excavations quoted in the price schedule.

20.5.4 The actual measured and approved quantities of all sub foundation filling as specified under clause 10.4.2 shall be paid for at the unit rate provided in the Schedule of Prices.

20.6 **Payment for towers and fittings**

20.6.1 All standard towers shall be paid for at the appropriate unit prices for towers quoted in the Schedule of Prices. The unit price for each type of tower shall include the following in accordance with the specified requirements:

20.6.1.1 Tower steelwork for standard towers including foundation steel and earth tape.

20.6.1.2 Bolts, nuts and washers.

20.6.1.3 Anti-climbing devices, climbing bolts, bird anti-perching guards, danger, property, number and phase plates and other tower accessories.

20.6.1.4 All line hardware such as the required number of insulator assemblies complete with insulator strings, shackles, links, sag adjusters, yokes and live-end arching horns, the required number of suspension clamps or strain clamps (compression dead ends), vibration dampers, jumper terminals, jumper loops, jumper spacers and all other conductor fittings for six phase conductors (single or twin as applicable) and two earth conductor suspension sets complete with suspension clamps or the required number of earth wire tension sets complete with earth wire tension clamps, bonding loops, earth wire terminals, and the required number of earth wire vibration dampers, all as required for the particular type of tower.

20.6.2 The above prices shall be based on the following:

20.6.2.1 Phase conductor insulator strings ……..… 10 discs only

20.6.2.2 Arching horns …… Live end only

20.6.2.3 Earth wire assemblies …… without earth wire insulators

20.6.2.4 Vibration dampers ……. 1(one) per conductor on each side of tower

20.6.3 The unit rate for tower erection shall include the cost of measuring the tower footing resistance before stringing.

20.6.4 Should any additional items be required to a tower or its fittings, these quantities shall be approved by the Engineer and shall be paid for at the appropriate rate in the Schedule of Prices.

20.6.5 No payments will be made for any tower and its accessories prior to satisfactory completion by the contractor and inspection by the Electricity Department.

20.6.6 Where individual tower leg extensions are required on sloping ground, such extensions shall be measured in accordance with clause 20.4.3 and will be paid for at the rate for such steelwork in the Schedule of Prices.

20.6.7 Any special towers, major modifications to the main structure of standard towers or special foundations shall be approved by the Engineer and shall be paid for at the appropriate rates in the Schedule of Prices. Should provision not be made in the Schedules, the Tenderers shall advise and agree such rates with the Engineer beforehand, since failing to do so will result in the costs being taken as included in the normal prices and rates.

20.7 **Payment for time and material work**

20.7.1 Extra work which is ordered by the Engineer in writing and which is not covered by the contract shall be undertaken by the contractor on a day-work basis. Such day labour as may be required for such work shall be provided by the contractor at the rate(s) of wages inserted by the tenderer in the appropriate price schedule in the Form of Tender.

20.7.2 Where the contractor is required to supply material(s) in connection with such day-work as may be ordered, and no provision has been made in the price schedule(s) for the supply of such materials, the tenderer shall state in the Form of Tender the percentage over actual cost price on which the contractor agrees to supply such materials as may be required.

20.7.3 The contractor shall, when required by the Engineer, produce all variation orders, correspondence, quotations, invoices, vouchers and receipted bills, time sheets and any other particulars necessary to enable the Engineer to certify as to the correctness of claims for payment made in terms of this clause.

20.7.4 Vouchers specifying the time spent and materials used shall be delivered to the Engineer before the end of the week following that in which the work is carried out. Failure to comply with the requirement may render the claims liable to rejection.

21. DRAWINGS ISSUED WITH ENQUIRY

21.1 The drawings issued with the enquiry document for tender purpose are listed in Annexure II.

22. DRAWINGS & DESCRIPTIVE LITERATURE TO BE SUPPLIED BY TENDERERS

22.1 All Tenderers shall supply with their tenders paper copies of the following drawings relating to the equipment offered:

22.1.1 Dimensioned general outline and arrangement drawings for:

22.1.1.1 Each type of tower offered.

22.1.1.2 Available base and leg extensions for each type of tower offered.

22.1.1.3 Alternative cross-arm lengths available for each type of tower offered with alternative cross-arm lengths.

22.1.1.4 Each type and size of portal gantry offered.

22.1.2 Dimensioned and to scale clearance diagram clearly showing cross-arm arrangement, conductor to ground clearance and conductor to steelwork clearances in still air and under specified maximum conductor swing conditions for each type of tower and gantry structure offered.

22.1.3 Dimensioned drawings showing foundation lay-out and full details of foundations and foundation excavations for:

22.1.3.1 Standard block type foundations for each type of tower offered without and with base extensions up to the maximum height offered.

22.1.3.2 Block type foundations for each type and size of gantry column offered.

22.1.3.3 Special non-standard foundations offered (e.g. rock anchor foundations).

22.1.4 Dimensioned general arrangement drawing showing details, catalogue reference number and mass of each component, part or fitting in:

22.1.4.1 Double tension insulator assembly (set) for twin conductor line.

22.1.4.2 Tension insulator assembly (set) for single conductor line.

22.1.4.3 Suspension insulator assembly (set) for twin conductor line.

22.1.4.4 Suspension insulator assembly (set) for single conductor line.

22.1.4.5 Low duty tension set for twin conductor line.

22.1.4.6 Low duty tension set for single conductor line.

22.1.4.7 Reverse low duty tension set for twin conductor line.

22.1.4.8 Reverse low duty tension set for single conductor line.

22.1.4.9 Earth wire tension assembly (set).

22.1.4.10 Earth wire insulated tension assembly (set).

22.1.4.11 Earth wire suspension assembly (set).

22.1.4.12 Earth wire insulated suspension assembly (set)

22.1.4.13 Earth wire tension assembly (set) for OPGW.

22.1.4.14 Earth wire insulated tension assembly (set) for OPGW

22.1.4.15 Earth wire suspension assembly (set) for OPGW.

22.1.4.16 Earth wire insulated suspension assembly (set) for OPGW

22.1.5 Drawings showing the voltage gradient across each disc insulator unit in tension and suspension strings with arcing horn fitted to live end only and operating at system voltage.

22.1.6 Detailed drawings of:

22.1.6.1 Phase conductor tension clamp (compression type dead end).

22.1.6.2 Phase conductor suspension clamp

22.1.6.3 Earth wire strain clamp

22.1.6.4 Earth wire suspension clamp

22.1.6.5 Twin conductor line spacer.

22.1.6.6 Twin conductor jumper spacer.

22.1.6.7 Phase conductor mid span joint.

22.1.6.8 Phase conductor repair sleeve.

22.1.6.9 Phase conductor jumper terminal.

22.1.6.10 Earth wire mid span joint.

22.1.6.11 Earth wire terminal.

22.1.6.12 Counterpoise earth conductor terminal.

22.1.6.13 Phase conductor vibrat5ion damper.

22.1.6.14 Earth wire vibration damper.

22.1.6.15 Anti-perching guard.

22.1.6.16 Tower OPGW joint box.

22.1.6.17 Tower OPGW joint box with insulated gland plate.

22.2 Each Tenderer shall return with his tenderer one set of enquiry profile drawings on which his provisional power line design shall be shown with the positions and types of towers and types of extensions offered. The position and magnitude of maximum and minimum weight spans and wind span for both phase conductor and earth wire in respect of each span and individual tower shall be clearly shown for the provisional design.

22.3 Tenderers shall also return with their tenders one set of route plans on which the tower positions and types of towers with provisional tower numbers corresponding to his provisional design are clearly marked up.

22.4 Tenderers are invited to furnish such other drawings and descriptive literature as they may think fit with their tenders in amplification thereof.

22.5 Tenderers shall submit with their tenders the type test certificates and/or certified design certificates specified under Clause 9.1.10.

23. DRAWINGS AND LITERATURE TO BE SUPPLIED BY CONTRACTOR

23.1 The successful tenderer shall submit duplicate prints of the following drawings for approval to the Engineer, after which approval a durable set of transparencies of the said drawings, as approved, shall be supplied by the contractor for the permanent recodes of the Electricity Department not later than the delivery to site date of the equipment.

23.1.1 All drawings specified under clause 22.1 which drawings shall be to scale, fully detailed and show metric dimensions.

23.1.2 Fully detailed drawings to scale and showing metric dimensions of the following

23.1.2.1 Tower leg extensions to be used on the contract.

23.1.2.2 Arrangement of anti-climbing device on towers.

23.1.2.3 Arrangement of anti-climbing device on gantry columns.

23.1.2.4 Danger and property plate.

23.1.2.5 Town number and route identification plate.

23.1.2.6 Circuit identification plates or discs.

23.1.2.7 Phase identification plates or discs.

23.1.2.8 Full constructional details in respect of each type of tower and structure to be supplied showing the part and member reference codes or numbers called for in clause 9.4.2.

23.1.2.9 Erection information and drawings complete with structure lists detailing materials required for each tower or structure.

23.1.2.10 Special foundations or structures required under the contract.

23.1.2.11 Such other items of which the Engineer may require drawings.

23.1.2.12 Stress diagrams for all types of structures to be supplied.

23.2 Within two months of the contract being awarded, the contractor shall submit for approval a duplicate set of prints of profile drawings on which his proposed power line design together with all the relevant information called for in clauses 16.1.4 and 21.2 is shown. For this purpose a set of transparent surveyed ground profile drawings will be provided by the Council to the contractor. Within two months of completion of each separate section of line, the contractor shall supply a complete set of “as installed” profile drawings on durable plastic film for that section as approved by the Engineer.

23.3 The contractor shall also mark up on a set of route plans to be supplied by the Council the “as installed” final positions of towers.

23.4 The contractor shall also supply the other information to be recorded in terms of clause 18 in such form as the Engineer may approve. Counterpoise earthing installed by the contractor shall be shown in the strip plan on the profile drawings. A table listing the structure footing resistances shall be supplied.

23.5 The contractor shall supply two complete sets of profile templates to the Engineer before completion of the transmission line. The design and scales of the templates shall be to approval. If different templates are used for twin and single conductor lines, two sets for each type of line shall be supplied.

23.6 Before stringing the lines, the contractor shall supply the sag/tension curves/tables called for under clause 17.3.

23.7 **Drawings: general requirements**

23.7.1 All drawings, diagrams, sketches and plans to be supplied by the Contractor shall be clear, well laid out, of a high standard and in all respects subject to the approval of the Engineer. Legends, notes and descriptions shall be incorporated in each drawing or diagram or plan. Separate loose legend sheets or descriptions or other leaflets will not be acceptable.

23.7.2 The wording of drawing titles shall be to approval. The name of the manufacturer, supplier and/or contractor and the contract number shall appear prominently on all drawings, plans and diagrams.

23.7.3 Preference is given to drawing sheet sizes complying with the International A series within and including sizes A4 to A0.

23.7.4 All lay-out, constructional and detail drawings and all plans shall be to scale.

23.7.5 All drawings, diagrams or plans shall use S.I. metric units and the English or Afrikaans language.

23.7.6 Transparency drawings (sepias) shall be on durable transparency polyester film and shall render uncluttered prints.

23.7.7 The approval of drawings by the Engineer shall not relieve the contractor of his responsibility regarding the correctness there of, or of any subsequent failures as a result of faults or omissions by the contractor.

23.7.8 The cost of all drawings, diagrams and plans to be supplied on this contract shall be included in the tender price of equipment to be supplied. The equipment will not be considered to be “delivered complete” if the drawings and certificates called for have not been supplied, which may result in payment being withheld.

CITY of TSHWANE METROPOLITAN MUNICIPALITY
ELECTRICITY DEPARTMENT
SCHEDULE OF BASIC PARAMETERS FOR 300 /150 MVA POWER LINE
SPECIFICATION NO PL.60/0-93

CLAUSE	PARAMETER	VALUE / REQUIREMENT
24.1	General power line design requirements	
24.1.1	Nominal rated voltage (line-to-line); kV	132
24.1.2	Highest operating voltage (line-to-line) ;kV	145
24.1.3	Rated operating frequency; Hz	50
24.1.4	Power line insulation level at Pretoria altitude (1 530 m); kV (peak)	550
24.1.5	Number of three-phase circuits per tower	Two
24.1.6	Disposition of conductors on tower (per circuit)	Vertical
24.1.7	Vertical arrangement of conductors:	
24.1.7.1	Uppermost position wire	Earth
24.1.7.2	Top phase conductor	Red or blue phase
24.1.7.3	Middle phase conductor	Yellow phase
24.1.7.4	Bottom phase conductor	Blue or red phase
24.1.8	Conductor material and type of conductor to be used for phase conductors	A.C.S.R.
24.1.9	Code name of conductor	"BEAR"
24.1.10	Number of conductors per phase conductor for circuit rating of	
	a) 300 MVA	Twin "BEAR"
	b) 150 MVA	Single "BEAR"
24.1.11	Disposition of twin conductors	Horizontal
24.1.12	Centre line to centre line spacing of twin conductors:	
24.1.12.1	Tower to tower …….. mm	380
24.1.12.2	Gantry spans …….. mm	380
24.1.12.3	Down droppers ……..… mm	May be reduced to 330
24.1.12.4	Jumpers and jumper loops ……... m	May be reduced to 330
24.1.13	Number of aerial earth-wires per tower …….	Two
24.1.14	Position of earth-wires on tower …….	Above phase conductor
24.1.15.1	Stranded galvanized high tensile strength steel wire of number and diameter …….. No / diameter mm	7/3, 251

CoT – Signature - Contractor

24.1.15.2	Tensile strength of steel used in earthwire; MPa	1 060
24.1.16	Lightning protection angle:	
24.1.16.1	Outside shielding angle with no conductors swing (to vertical plane through earth-wire)	0° or negative
24.1.16.2	Outside shielding angle with maximum outward swing of top phase conductor	less than 30°
24.2	Optical fibre	
24.2.1	Number of fibres	-
24.2.2	Material of the tube	Aluminium
24.2.3	Type of fibre	Single mode
24.2.4	Optimum wave length of fibre …….. mm	1 300
24.2.5	Maximum average attenuation level …… dB/km	0,5
24.2.6	Glass fibre core diameter error …… micro meter	+/-1
24.2.7	Glass fibre cladding diameter error ……. Micro meter	+/-3
24.2.8	Core concentricity error ……. Micro meter	1
24.3	Design spans	
24.3.1	Normal (or standard) span length; meter	300
24.3.2	Ruling (or equivalent) span length; meter	Varies
24.3.3	Maximum permissible single span length (unless specifically approved otherwise by Engineer) ; meter	510
24.3.4	Maximum wind span length; meter	330
24.3.5	Maximum weight span length; meter	600
24.3.6	Minimum weight span length on suspension towers with all conductors and earth-wires at minus 5°C in still air; meter	100
24.3.7	Maximum of sum of any two adjacent span lengths (unless specifically sanctioned otherwise by Engineer) without any line deviation at straight line towers; meter	600
24.4	Operating temperatures	
24.4.1	Minimum operating temperature of phase conductors; °C	Minus 5
24.1.2	Minimum operating temperature of earth-wires; °C minus 5	
24.4.3	Maximum normal operating temperature of phase conductor; °C	75
24.4.4	Maximum normal operating temperature of earth-wire; °C	4
24.5	Wind pressures	
24.5.1	Maximum wind pressure on each phase (horizontally at right angles to conductor centre line)	700 Pa on 0,6 of project conductor area
24.5.2	Maximum wind pressure on each earth wire (horizontally at right angles to conductor centre line)	700 Pa on 0,6 of project conductor area
24.5.3	Maximum wind pressure on steel lattice structure (including cross-arms or gantry times projected area of beam as applicable) (horizontally at right angles to centre line of power line)	700 Pa on 1,5 times projected area of all members on one face of structure exposed to wing

24.6	Tower loading	
24.6.1	Assumed maximum simultaneous working load on tower under normal balanced load conditions	See clause 8.3 of specification
24.6.2	Assumed maximum simultaneous working load on tower under unbalanced (broken conductor) conditions	See clause 8.3 of specification
24.7	Safety factors : tower and supporting structures	
24.7.1	Minimum factor of safety under balanced maximum simultaneous working load on supporting structure based on type tested failing load of structure	2,5 (See clause 8.3.5 of specification)
24.7.2	Minimum factor of safety under unbalanced maximum simultaneous working load on structure based on type tested failing load of structure specification	1,5 (See clause 8.4.4 of specification)
24.8	Safety factor : foundations	
24.8.1	Minimum factor of safety against overturning or uprooting under maximum simultaneous working load under normal balanced loading conditions	2,5
24.8.2	Minimum factor of safety overturning or uprooting under maximum simultaneous working load under maximum unbalanced loading conditions	1,5
24.9	Safety factor : insulators and line fittings	
24.9.1	Minimum factor of safety for insulators and fittings for phase conductors and earth-wires under maximum working load (worst case) based on type tested failing load of insulator or fittings as applicable	3,0
24.10	Minimum factor of safety with phase conductor operating at maximum tension (at minus 5°C and simultaneously subjected to maximum wind pressure of 700 Pa on 0,6 project area) based on rated ultimate tensile strength of phase conductor	2,5
24.10.1	Minimum factor of safety with phase conductor operating at maximum tension (at minus 5°C and simultaneously subjected to maximum wind pressure of 700 Pa on 0,6 projected ares) based on rated ultimate tensile strength of phase conductor	2,5
24.10.2	Minimum factor of safety with earth wire operating at maximum tension (at minus 5°C and simultaneously subjected to a maximum wind pressure of 700 Pa on 0,6 projected area) based on rated ultimate tensile strength of earth wire conductor ……	2,5
24.11	Conductor clearances to ground and other structures	
24.11.1	Minimum conductor clearance under conditions of maximum sag at a conductor temperature of 75°C in still air with conductor swinging through any angle from zero degrees to 45°C from vertical	
24.11.1.1	To normal ground level within and outside townships and at all road crossings; meter	7,5
24.11.1.2	To road level at road crossings under broken conductor conditions (broken in adjacent span); meter	4,5
24.11.2	To railway formation level in spans crossing non-electrified railway lines; meter	11,2
24.11.3	To railway formation level in spans crossing electrified railway lines; meter	13,0
24.11.4	To conductors on railway electrification structures .. m	3,3

24.11.5	To buildings and other structures on which a person can stand unsupported; meter	4,5
24.11.6	To communication lines, other power lines of a lower voltage or between power lines and cradles; meter	2,2
24.12	Minimum live metal to steelwork clearance	
24.12.1	Live metal to tower steelwork measured in any direction on suspension towers with insulator string hanging vertically (i.e. no swing) ; millimetre	1 500
24.12.2	Live metal to tower steelwork measured in any direction on tension towers with any line deviation angle up to maximum deviation angle with jumper loops hanging vertically (ie no swing) ; millimetre	1 500
24.12.3	Live metal to tower steelwork on suspension towers under maximum inward (transverse) insulator swing of 40° from the vertical ; millimetre	1 500
24.12.4	Live metal to tower steelwork measured horizontally on outside arms of angle towers erected at maximum line deviation angle under conditions of maximum inward jumper loop swing of 20° from vertical ; millimetre	1 300
24.12.5	Live metal to earthed steelwork or metal for all jumper loops other than line to line jumpers under no swing conditions ; millimetre	1 5--
24.12.6	Live metal to earth for all jumper loops other than line to line jumpers under conditions of maximum swing (assume 20° swing from position of equilibrium) ; millimetre	1 450
24.12.7	Minimum clearance between top phase conductor and earth wire ; millimetre	4 000
24.13	Minimum phase-to-phase clearance	
24.13.1	Minimum clearance between live metal of different phases ; millimetre	1 650
24.13.2	Minimum vertical clearance between phase conductors of same circuit ; millimetre	3 500
24.13.3	Minimum horizontal clearance in still air between phase conductors of opposite circuits on tower ; millimetre	6 500
24.14	Insulator parameters	
24.14.1	Insulator material	Polymer
24.14.2	Reference type number of disc insulator unit used in:	
24.14.2.1	Phase conductor normal tension strings (twin conductor)	U120BS/20
24.14.2.2	Phase conductor normal tension strings (single conductor)	U120BS/20
24.14.2.3	Phase conductor low duty and reverse low-duty tension strings (single and twin conductor)	U70BL
24.14.2.4	Phase conductor suspension strings (single and twin conductor)	U70BL
24.14.2.5	Earth-wire insulated tension set	U90-EWS
24.14.2.6	Earth-wire insulated suspension set	U90-EWS
24.14.3	Arcing horn gap setting on earth-wire insulator ; millimetre	10 1
24.14.4	Number of disc insulator units in insulator strings:	
24.14.4.1	Phase conductor normal tension string for single conductor	10
24.14.4.2	Phase conductor normal tension string for twin conductor	2 x 10

24.14.4.3	Phase conductor low duty and reverse low-duty tension string (single and twin conductor)	10
24.14.4.4	Phase conductor suspension string (single and twin conductor)	10
24.14.4.5	Earth-wire insulated tension set	1
24.14.4.6	Earth-wire insulated suspension set	1
24.15	Foundation parameters	
24.15.1	Assumed maximum density of earth; kg/mm^3	1 600
24.15.2	Assumed maximum density of concrete; kg/mm^3	2 200
24.15.3	Assumed maximum safe bearing pressure for sub soils under foundations for:	
24.15.3.1	Massively bedded fresh rock, igneous, metamorphic or sedimentary rock requiring blasting to remove; kPa	5 000

24.15.3.2	Fresh rock (fractured or jointed) and hard shale excavated with difficulty using pneumatic picks; kPa	1 000
24.15.3.3	Compact well graded gravels permanently above water table; kPa	400
24.15.3.4	Compact well graded gravels and soft shale from time to time below water table; kPa	200
24.15.3.5	Compact but poorly graded gravels, sands or mixtures thereof permanently above water table; kPa	200
24.15.3.6	Firm clays, sandy clays, sandy silts and silty sands permanently above the water table; kPa	By test only
24.15.3.7	Soft clays, sandy clays, sandy silts and silty sands; kPa	By test only
24.15.3.8	Loose sand and other poor non-cohesive soils	By test only
24.15.3.9	Make-up ground, waste dumps and the like	By test only
24.15.4	Assumed angle to the vertical of sides of inverted earth frustum resisting uplift for:	
24.15.4.1	Virgin cohesive soils; degrees	30°
24.15.4.2	Back-filled soil, loose sand, make-up ground and the like; degrees	0°
24.15.5	Maximum ultimate stresses allowable in concrete for foundation design under assumed maximum simultaneous tower loading conditions with a factor of safety of 2,5:	
24.15.5.1	Tensile stress in concrete due to bending; MPa	2,0°
24.15.5.2	Bond stress: galvanized steel to concrete; MPa	1,0°
24.15.5.3	Bearing stress of concrete made with ordinary Portland Cement; MPa	20
24.15.5.4	Punching shear stress; MPa	6
24.15.5.5	Diagonal shear stress; MPa	4
24.15.6	Minimum proportion of stub load to be provided for with cleats in concrete foundation	50%

SECTION 5: PARTICULARS & GUARRENTEES

PART 7.1: INSULATORS 33 & 132KV

SPEC NO:

ITEM	DESCRIPTION	UNIT	REQUIREMENTS	OFFERED
1	**Post insulators 132 kV**			
1.01	Manufacturer			
1.02	Type			
1.03	Details of connections -			
1.04	Material			
1.05	Voltage continuous / BIL rating	kV /		
1.06	Strength			
1.06	Cantilever	kN		
1.06.1	Torque	kN		
1.07.2	Sheds			
1.07	Creepage distance	mm		
1.07	Flashover distance	mm	> 1200	
1.08	Fixing - Top			
1.09	Fixing - Bottom			
1.10	Drawing number			
1.11	Dimensions	mm		
2	**132 kV Suspension insulators**			
2.01	Manufacturer			
2.02	Type			
2.03	Details of connections -			
2.04	Material			
2.05	Voltage continuous / BIL rating	kV/kV		
2.06	Strength in tension	kN		
2.07	Sheds			
2.07.1	Creepage distance	mm		
2.07.2	Flashover distance	mm		
2.08	Fixing - Details			
2.09	Drawing number			
2.10	Dimensions			
3	**Other 132 kV insulators - Tenderer to list**			
3.01	Manufacturer			
3.02	Type			

ITEM	DESCRIPTION	UNIT	REQUIREMENTS	OFFERED
3.03	Details of connections -			
3.04	Material			
3.05	Voltage continuous / BIL rating	kV/kV		
3.06	Strength in tension	kN		
3.07	Sheds			
3.07.1	Creepage distance	mm		
3.07.1	Flashover distance	mm		
3.08	Fixing - Details			
3.09	Drawing number			
3.10	Dimensions			
4	**Post insulators 33 kV**			
4.01	Manufacturer			
4.02	Type			
4.03	Details of connections -			
4.04	Material			
4.05	Voltage continuous / BIL rating	kV /		
4.06	Strength			
4.06.1	Cantilever	kN		
4.06.2	Torque	kN		
4.07	Sheds			
4.07.1	Creepage distance	mm		
4.07.2	Flashover distance	mm		
4.08	Fixing - Top			
4.09	Fixing - Bottom			
4.10	Drawing number			
4.11	Dimensions	mm		
5	**33 kV Suspension insulators**			
5.01	Manufacturer			
5.02	Type			
5.03	Details of connections -			
5.04	Material			
5.05	Voltage continuous / BIL rating	kV/kV		
5.06	Strength in tension	kN		
5.07	Sheds			
5.07.1	Creepage distance	mm		
5.07.2	Flashover distance	mm		
5.08	Fixing - Details			
5.09	Drawing number			
5.10	Dimensions			

ITEM	DESCRIPTION	UNIT	REQUIREMENTS	OFFERED
6	**Other 33 kV insulators - Tenderer to list**			
6.01	Manufacturer			
6.02	Type			
6.03	Details of connections -			
6.04	Material			
6.05	Voltage continuous / BIL rating	kV/kV		
6.06	Strength	kN		
6.07	Sheds			
6.07.1	Creepage distance	mm		
6.07.2	Flashover distance	mm		
6.08	Fixing - Details			
6.09	Drawing number			
6.10	Dimensions			

SECTION 5: PARTICULARS & GUARRANTEES

PART 16.1: GANTRIES - STEEL LATTICE

SPEC NO:

ITEM	DESCRIPTION	UNIT	REQUIREMENTS	OFFERED
	STEEL LATTICE PORTAL TYPE GANTRIES			
1	**Material**			
1.1	Rolled steel angles		Yes	
1.2	Hot dip galvanized		Yes	
2	**Dimensions**			
2.1	Angle section dimensions	mm x mm		
2.2	Span	m		
2.3	Loading	kN		
2.4	Safety factor			
3	**Drawings and descriptions**			

CONTACT: EED 05 2022.23:

TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV 132KV AND 275KV FROM 5MVA UP TO 300 MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS

PART C3

SCOPE OF WORK

CONTENTS

CITY OF TSHWANE
IGNITING EXCELLENCE

ENERGY AND ELECTRICITY DEPARTMENT

TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300 MVA POWERLINES AND STRUCTURES FOR THE CITY OF TSHWANE ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS

BID NUMBER: (EED 05 2022.23)

1. INTRODUCTION AND PURPOSE

The purpose of this tender is to **appoint one service provider** to repair 33KV, 132kV and 275KV from 5MVA up to 300 MVA power lines and structures over a period of 3 years as and when required.

2. BACKGROUND

The City of Tshwane is a licensed distributor of Electricity within Municipal boundaries. The electricity is purchased from Eskom at 88KV and 275kV and is distributed across the City of Tshwane on 33KV and 132kV overhead lines and equipment from the in-feed stations to the primary substations.

3. SCOPE OF WORK

The failure of any component of a high-voltage conductors and structure (pylons) installation as a result from theft of lattice and Natural disasters, generally results in significant repair costs and disruption to the power system. In order to minimize the risk of any breakdowns, CoT will utilize only high-voltage overhead equipment and applicable accessories (33KV and 132kV overhead systems) that have been type tested and installed successfully in accordance with the standards listed below.

3.1 SCOPE OF CONTRACT

The contract comprises of the rebuild of lattices towers, stringing and repairing or sagging single lines (10MVA) and (150MVA) and twin lines (300MVA) line in bear or similar conductor including and jointing with insulators to its original state.
Appoint one service provider to

- To remove and re-install of anti-climbing devices on towers.
- The earth resistance correction
- The erection of netting for live service crossings.
- Dismantle and repair of the pylon inclusive of the - cross-arms, base/footing and the re-installation of cross-arms, base/footing on the 33KV and 132kV power lines.
- All materials needed for execution of the work will be provided by the contractor. The work shall be performed to the satisfaction of the Municipality, as stipulated in this document and references.

- Repositioning of tower, from old position and relocated to new position. (As a results of natural causes).
- Allow for the supply, preparation, design and construction of new foot reinforced cement base and line structure design. By a Civil Engineer register with ECSA

3.2 STANDARDS AND COMPLIANCE WITH SPECIFICATION

All work shall be in accordance with this Specification and Standard Specifications herein: The appointed tenderer must obtain the latest detailed technical specification for the construction of overhead 33KV and 132kV Power lines at the Engineer. **(City of Tshwane technical specification for the construction of double circuit overhead 132kv power lines specification no pl.60/0-93 as amended**)
Where no particular specification clause is referred to with respect to any item of equipment to be supplied, the latest issue/amendment of the relevant SANS specification or NRS, IEC or BS Specification shall be adhered to (in the same order).
Tenderers shall highlight any deviations from the specification on a clause-by-clause basis explaining the reasons for any deviations in detail. Reference to attached pamphlets, brochures etc., which may contain details of such deviations, are not acceptable. All civil work shall be in accordance with the **Standard Specifications for Municipal Civil Engineering Works (as amended)**

3.3 ENVIRONMENT

Altitude above sea-level	1 530 m
Maximum ambient temperature	40 °C
Average daily maximum ambient temperature	30 °C
Minimum ambient temperature	-5 °C
Average daily minimum ambient temperature	2 °C
Maximum ground temperature	25 °C
Minimum ground temperature	10 °C
Relative humidity	94%
Lightning conditions	Severe
Degree of pollution	Medium
Earth resistivity	Varying between 50 and 1000 ohm per meter at a depth of 1,5m
Maximum wind speeds:	
a) Steady conditions;	25 m/s
b) Gusty conditions.	45 m/s
Dolomite risk characterizations:	Ground movement event anticipated per hectare in a 20-year period
a) HIGH	> 1,0 events or more anticipated per hectare.

3.4 SYSTEM PARTICULARS 132 kV

Nominal system voltage (rms. line to line)	132 kV
Highest system voltage (rms. line to line)	145 kV
System frequency	50 Hz
Maximum symmetrical fault current capacity (3 second rating)	31.5 kA
System BIL at sea-level	650 kV
System insulation level at Pretoria altitude	550 kV

Number of phases	3
Phase rotation	R-Y-B anti-clockwise
System earthing	Neutral points on 132kV transformer windings solidly earthed
Number of conductors per tower	RYB and BYR 6 phase line's + OPGW (Optical ground wire) + Earth

3.5 Compliance with the Occupational Health and Safety Act and applicable regulations (Use OHS Specification as guideline)

3.5.1 Netting and Signs

Provision must be made to fence off working (dead/switched-out) areas from live areas and put up warning signs. Contractor supply all nets, earths and signs. Nets must be minimum 1.8m high PVC orange colored. The contractor must erect the nets, earths and signs after the CoT Operator give the instruction. Portable earths must be applied to equipment to be worked on. The placing of the nets, earths and warning signs must be approved by the CoT Operator before a permit will be issued. The Contractor must maintain the nets, earths and warning signs at all times until instructions are received from the CoT Operator

3.5.2 Provision of a Health and Safety Plan

The rate tendered shall include full compensation for the provision and maintenance of a health and safety plan, risk assessment, permit applications and notifications as called for in the act and regulations.

The amount will be paid when an approved health and safety plan has been received by the client with the appointment of tender.

3.5.3 Provision of a Health and Safety File

The unit of measurement shall be per hour for provision of a Health and Safety file for actual hours worked based on risk assessment for that type repair work task to do. Payment will only be made in month when work is done for the repair work requested on the network.

The payment shall include full compensation for the provision and maintenance of a health and safety file on site containing all the documentation required in terms of the act and applicable regulations. The complete consolidated health and safety file is handed to the client before a completion certificate is issued

3.5.4 Provision of a safety officer working on Power line

The unit of measurement shall be per hour for provision of a safety officer for actual hours worked.
Per hour payment shall include full compensation for the provision of a competent and experienced safety officer, for the duration of the actual repair work. Payment will only be made in months as and when work is done for the duration of the tender. The contractor shall be paid for only one safety officer irrespective of the number of Areas the contractor will work on the CoT network.

3.5.5

Item Unit

001.04 Compliance with the Occupational Health and Safety Act and applicable regulations

001.04.01 Provision of a Health and Safety plan lump sum

The lump sum tendered shall include full compensation for the provision and maintenance of a health and safety plan, risk assessment, permit applications and notifications as called for in the act and regulations.

Eighty per cent (80%) of the amount will be paid when an approved health and safety plan has been received by the client. A further 10% will be paid when the value of all work done, excluding escalation, exceeds one-half of the Tender Price, and the remaining 10% will be payable when the completion certificate has been issued.

001.04.02 Provision of Health and Safety file lump sum

The lump sum tendered shall include full compensation for the provision and maintenance of a health and safety file on site containing all the documentation required in terms of the act and applicable regulations.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be made when a consolidated health and safety file is handed to the client on completion of the works.

001.04.03 Provision of construction supervisors lump sum

The lump sum tendered shall include full compensation for the provision of one or more competent and experienced construction supervisors as may be necessary for the duration of the construction work.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

001.04.04 Provision of a safety officer (state full-time or part-time) lump sum

The lump sum tendered shall include full compensation for the provision of a competent and experienced safety officer, part-time or full-time as the case may be, for the duration of the construction work.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

001.04.05 Health and Safety training lump sum

The lump sum tendered shall include full compensation for the provision of training programs for the contractor's employees and also, where applicable, for sub-contractors.

Eighty per cent (80%) of the amount will be paid when the contractor's personnel and sub-contractors, where relevant, have received health and safety training. A further 10% will be paid when the value of all work done, excluding escalation, exceeds one-half of the Tender Price, and the remaining 10% will be payable when the completion certificate has been issued.

001.04.06 Provision of personal protective clothing and equipment lump sum

The lump sum tendered shall include full compensation for the provision, maintenance, repair and/or replacement of damaged or unsuitable protective clothing and equipment for use by the contractor's employees, subcontractors and visitors on site.

Sixty per cent (60%) of the amount will be paid when the contractor's personnel and sub-contractors, where relevant, have received personal protective clothing and equipment. The payment of the remaining amount will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

001.04.07 Provision of safety fences, signs and barricades lump sum

The lump sum tendered shall include full compensation for the provision of safety fences, signs and barricades as well as maintenance, repair and/or replacement of damaged safety fences, signs and barricades and for all labour and costs required

for the placement, removal or moving to fresh positions as and when necessary. The cost of safeguarding the above items against theft and vandalism shall also be included in the tendered sum. 001-13

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

01.04.08 Other obligations

01.04.08.01 Short description of
obligation Lump sum

01.04.08.02 Etc for other obligations Lump sum

The lump sum tendered shall include full compensation for the contractor's obligations in terms of the occupational health and safety act and supporting regulations not specifically covered in the items above.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

3.6. PENALTIES FOR DELAY IN COMPLETION OF CONTRACT

a) Should the Contractor fail to complete the whole of the Works, or any section thereof for which a separate date of completion is stipulated within the time named for completion or any extension of such time authorized by the Engineer, he shall pay to the Purchaser as a penalty a sum per week of 15 % of the Contract Price of the Works or such portion thereof as the case may be from the date on which the Works or such section as the case may be should have been completed until such completion but such penalty shall not in any case exceed 15% (per cent) of the Contract Price thereof. Any penalty may be deducted from any moneys due to the Contractor by the Purchaser or recovered by the Purchaser from the Contractor as a debt.

b) Provided always that the Purchaser shall not apply a penalty in respect of any part of the Works which he has put into beneficial use and is capable of being used commercially and efficiently in the manner contemplated by the contract even though in the opinion of the Engineer such part of the Works may be uncompleted and the value of such part shall not be included in calculating the penalty.

3.7. TERMINATION

a) The Council reserves to itself the absolute right of Termination of this Contract for any breach of the conditions thereof, without the Contractor being entitled to claim any compensation or damages in respect of such termination.

b) The Council may Terminate the Contract if the Contractor:

i. gives or promises to give any gratuity, reward, commission or benefit whatsoever to any Councilor or any person in the employment of the Council.

ii. Has not commenced Work at the time or in the manner required by the Contract;

iii. Does not make due progress with the Works or exercise due diligence with regard thereto or maintain them from time to time in a satisfactory manner;

iv. Does not complete the Works within the time allowed under the Contract for the completion thereof;

v. Does not comply with the Conditions, requirements, or notices of the Engineer made and given in terms of the Contract;

vi. Is not executing the Works in accordance with the Contract or is neglecting to carry out his obligations under the Contract;

vii. Has failed to comply with the Council's By laws and/or Regulations.

viii. Has abandoned the Contract; or

ix. Has failed to remove materials from the Site or to pull down or replace work for 14 days after receiving from the Engineer written notice that the said materials or work have been condemned and rejected by the Engineer in terms of the Contract.

c) After the Council has determined the Contract, it shall have the right to enter upon the Site and the Works, to take the Works entirely out of the Contractor's hands, and to dismiss the Contractor and his workmen from the Site and after such dismissal to make arrangements to have the Works completed or employ any other contractor or person to complete the Works or may itself do so without voiding the Contract or releasing the Contractor from any of his obligations or liabilities under the Contract or affecting the rights and powers conferred on the Council, or the Engineer by the Contract.

d) In case of Termination of the Contract the Council shall also have the right to take possession of the Works, to take possession of and use, or cause to be used gratuitously, the plant, tools, equipment and materials of the Contractor for proper completion of the Works.

e) As soon as may be practicable after such Termination the Engineer shall fix and certify ex parte, or by or after reference to the Contractor, what amount, if any had been earned by or would have accrued to the Contractor in respect of work actually done by him up to the time of determination and what the value was of any goods, material, equipment and articles on the Site which have become the property of the Council in terms of this Clause and such certificate shall be final and binding on the Contractor.

f) No moneys shall, after Termination of the Contract, under this Clause be payable to the Contractor on account of the Contract until completion of the entire Works and the expiration of the period of maintenance. The amount then payable to the Contractor shall be certified by the Engineer and shall be calculated as follows:

g) The total of:

i. the total amount which would in terms of the Contract have been due and payable to the Contractor upon due completion of the entire Works by him without deducting any amount that has already been paid to the Contractor in terms of the Contract.
and

ii. the amount representing the value of the tools, equipment and articles which have become the property of the Council in terms of this Clause as certified in terms thereof;

h) less the total of:

i. The amount of liquidated damages, if any, herein agreed upon;

ii. All costs and expenses incurred by the Council in the exercise of the power conferred by this Clause;

iii. The actual cost incurred by the Council to complete the entire Works after determination of the Contract;
and

v. The amount that has already been paid to the Contractor in terms of the Contract.

i) If the total of the amounts referred to exceeds the total of the amounts referred to hereof, the Contractor shall pay an amount equal to such excess to the Council.

3.8. ENGINEER'S POWERS OF DISMISSAL AND STOPPAGE OF WORK

a) The Engineer shall have full liberty and power to have discharged or order to be removed from the Works any foreman or other person or persons employed thereon who may act in an insolent or objectionable manner, or who appears to be incompetent or negligent; or who may misconduct himself, or is likely to cause or has caused strikes, quarrels or delays; such person or persons shall be immediately excluded form the Works or premises connected therewith, and shall not be again employed thereon without the written permission of the Engineer.

b) The Engineer shall have the authority to stop any part of the Work from proceeding if, in his opinion, the Contractor is not carrying out the Work in strict accordance with the Specification or Conditions of Contract, and the Contractor shall have no claim for loss of materials, loss of time or delay in this respect.

3.9. NON COMPLIANCE WITH ENGINEER'S DIRECTIONS (NEGLIGENCE)

If the Contractor shall neglect to execute the Work with due diligence and expedition, or if the directions of the Engineer be not complied with regarding defective materials and defective work within 7 days after notice has been given to that effect in writing, he shall be at liberty to remove such materials, implements, etc. to wherever he may think fit, or to amend, pull down, or reinstate such defective work, by employing the Contractor's implements and materials, or the Council's workmen, or he may employ other contractors or workmen and provide all necessary materials, implements, plant and labor that may be required, and shall deduct the cost (including administration) of such removal, amendment, or reinstatement from any subsequent certificates relating to any money due to the Contractor, or the Council may recover the same in a court of law, or by use of any surety in force, or otherwise as may be advised.

3.10 INSPECTION AID TO DETECT CONDUCTOR AND EQUIPMENT FAULTS FROM GROUND LEVEL

The product must be rugged and reliable premium grade aid binoculars to detected conductor and equipment fault from a distance. Also precise integrated laser rangefinder with a range of up to 1,100m with full functionality. Display of linear measuring and angle- dependent distance relevant for fault finding. Very short measuring of only 0,3 secondes. Has a 390' field of view at 900m (354'+ for eyeglass wearers), close focus of 16.5', and 91% light transmission, 10x42 power range. With high light-gathering power, high – contras sharp images and good color fidelity. Must use the Perger Prism Design. Superb glass with wireless external programming Display of linear measurement distance and angle-dependent distance relevant to fault finding from ground. Compact construction and shock-absorbing aluminium body with high-traction rubber armoring. Including the 3V Lithium CR2 battery, fairly light range finding binocular. The magnesium housing, waterproof to a depth of 6 m and is nitrogen internal filled HDC multi-coatings and Aqua Dura water- and dirt-repellent coatings on the external lens surfaces

3.11 REACTION TIME TO BE ON SITE

The Contractor’s response time to the site for evaluation and execution of the work shall preferably be as soon as possible but shall not exceed 2 hours after notification. The Engineer shall notify the Contractor after the scope of work is determined and confirmation of material to be used is available.

4. STAGES OF EVALUATION

Stage 1: Administrative Compliance
Stage 2: Local Contents and Production
Stage 3: Mandatory Requirements
Stage 4: Functionality score card
Stage 5: 90/10 Preferential Points System

4.1 STAGE 1: ADMINISTRATIVE COMPLIANCE

Failure to comply with the administrative requirements will disqualify the tender from further evaluation.

4.2 STAGE 2: LOCAL CONTENTS AND PRODUCTION

All goods and services rendered must comply to the (Department of Trade and Industry) DTI requirements and regulation.

Minimum threshold for local production and content:

Description	%
Cable jointer	100%
Bonding lead	90%
Electrical Cable	90%
Transformers and Shunt Reactors: Class 0 Class 1 Class 2 Class 3 Class 4	 90 % 70 % 70 % 45 % 10 %
Steel Products and Component for Construction Fabricated Structural Steel Joining/Connecting Components Frames Roof and Cladding Fasteners Wire Products Ducting and Structural pipework Gutters, downpipes & lauders **Steel Value-added Products** Plates Sheets Galvanised and Colour Coated Coils Wire Rod and Drawn Wire Sections Reinforcing bars	 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%
Plastic Pipes Polyvinyl chloride (PVC) pipes High density polyethylene (HDPE) pipes Polypropylene (PP) pipes Glass reinforced plastic (GRP) pipes	100% 100% 100% 100% 100%

Industrial lead Acid Batteries	50%

Only locally produced or locally manufactured cables with a stipulated minimum threshold of 90% for local production and contents will be considered.
Failure to meet this requirement will lead to disqualification.

4.3 STAGE 3: MANDATORY REQUIRMENTS

4.3.1 Provide proof that a minimum of four (4) competent transmission Linemen, are trained in **tower climbing** (NQF Level 3 or Higher) or a minimum post qualification as transmission lineman. Provide certified copy of Certificates from relevant accredited institutions that provides training in tower climbing. Attach curriculum vitae with minimum 2 projects completed with references.

4.3.2 Provide proof that two (2) or more competent transmission Linesmen, are trained in tower fall and emergency **recovery by rope**. Attach certificates from a recognized institution, equal or better than (SAQA) South African Qualification Authority.

4.3.3 Attached a "test and **certified certificate**" for all the Safety Harness or submit proof that harness is still under guaranteed and safe to use

4.3.4 Key staff to submit proof of valid ORHVS (Operating Regulation for High Voltage System) certificate.

4.3.5 The tenderer must have in his employ a registered provisional Civil Engineer, who is in possession of a valid engineering council of South Africa (ECSA) certificate.

4.3.6 The tenderer must have in his employ a registered provisional Electrical Engineer, who is in possession of a valid engineering council of South Africa (ECSA) certificate.

Failure to comply with these requirements will lead to the bidder being disqualified.

The tenderers must complete Schedule of Particulars and guarantee Part C2. Pricing data – Schedule of particulars and guarantee

The tenderers must offer and guarantee the specified requirement in the Schedule of Particulars.

The tenderer must complete Part C2.1- Bill of Quantity:

Item 1 to Item 41

4.4 STAGE 4: FUNCTIONALITY SCORE CARD

The following criteria and weights will be applied when bids are assessed for **functionality.**

NO	CRITERIA	SUB-CRITERIA	SCALE	WEIGHT	HIGHEST POSSIBLE SCORE
1	**TENDERER'S EXPERIENCE** Complete Form RD.D.2 and attach signed copies of contract appointment letters and project completion certificates for work successfully completed by the tenderer. Completed projects must be turnkey which includes (design, supply, delivery, installation, testing, and commissioning of electrical power lines and associated equipment). **Only completed projects on 132kV power lines or Higher will be considered.**	**Only projects with verifiable documentary proof in the form of both appointment letter(s) and completion certificate(s) will be considered and awarded points.**			
		Appointment letter and completion certificate for at least 1 to 2 projects	1	15	45
		Appointment letters and completion certificates for at least 3 to 4 projects	2		
		Appointment letters and completion certificates for at least 5 or more projects	3		
2	**KEY PERSONNEL EXPERIENCE** The tenderer must have in his employment, the management and project engineer personnel with the necessary years' experience in the Electrical engineering field.	**The tenderer must have in his employ, personnel with the following years' experience in maintenance and construction of electrical 33KV / 132KV Towers**			
		Years' experience 1-3 years	2	5	30
		Years' experience 4-6 years	4		

	It is compulsory to complete Form RD.D.3 and attach <u>certified copies</u> of qualifications of key personnel.	Years' experience 7 + years	6		
3	**Quality Management System** **Complete Form RD.D.4** **(NOTE: Points will be allocated and added for each)**	Provide company's valid ISO 9001 compliance certificate **(see below table)**	1	5	10
		Provide company's valid ISO 14001 compliance certificate **(see below table)**	1		
4	**LOCAL ECONOMIC PARTICIPATION** (Location of Business) **Complete Form RD.D.5** and Attach the copies of the rates and taxes in the name of the business.	Outside Gauteng (Within South African boarders)	1	5	15
		Gauteng	2		
		City of Tshwane	3		
	HIGHEST POSSIBLE SCORE				**100**

The maximum possible score that can be achieved for functionality is 100.
Bids that do not achieve a minimum score of 70 (out of 100) for functionality will not be evaluated further.

- ISO 9001 is defined as **the international standard that specifies requirements for a quality management system (QMS)**. Organizations use the standard to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements.
- ISO 14001 is **an internationally agreed standard that sets out the requirements for an environmental management system**. It helps organizations improve their environmental performance through more efficient use of resources and reduction of waste, gaining a competitive advantage and the trust of stakeholders.

Stage 4.5 PREFERENTIAL POINT SYSTEM

Preferential points to be used will be the 90/10 points system in terms of the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000) Regulations 2017.

- 90 points for price
- 10 points for B-BBEE status (service provider to submit the certified copy of the B-BBEE level rating certificate).

5. SUBCONTRACTING

Empowerment of local economy.

The successful SP shall subcontract a minimum of 30% of the work to EME's or QSE's. The tendered rates shall take into account the appointment of EME's or QSE's.
Failure to subcontract minimum of 30% of the work to EME's or QSE's shall be construed as breach of contract and shall result in termination of the contract.
Preference will be given to the EME's or QSE's within the boundaries of City of Tshwane.
The City of Tshwane reserves the right to accept or reject the sub-contracted entity.
The following items may be subcontracted to EME's or QSE's:

- New steel lattice galvanized supply and delivery
- New monopole galvanize supply and delivery

The SP must submit documentary proof on a quarterly basis to the City of Tshwane indicating the subcontracting figures for purchasing orders delivered.
It is the SP's responsibility to make sure that sub-contracting of any portion of the work must not affect the quality of service and goods expected by The City of Tshwane from the service provider.
The SP must make sure that the subcontractors are competent, the SP shall be held responsible for any incompetent work done by the subcontractors.
The main contractor must make provision for supervision for of subcontractors.
The tenderers must submit plan of how they intend to use EME's or QSE's for sub-contracting. The plan must be submitted with the tender.

6. AWARD

This tender will be awarded to one bidder

SERVICE LEVEL AGREEMENT

entered into between

THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY

(Hereafter referred to as the **"City"**)

Herein Represented by: **Mr Johann Mettler** in his capacity as: **City Manager**

(Duly authorised hereto)

AND

……

(Hereafter referred to as the **"SERVICE PROVIDER"**)

Herein Represented by: **……..**

In his/ her capacity as:**……**

(Duly authorised hereto)

SERVICE LEVEL AGREEMENT

entered into between

THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY

a municipality as described in section 2 of the Local Government: Municipal Systems Act, 2000 and as contemplated in section 155 of the Constitution of the Republic of South Africa, 1996 as a category A municipality, or the Assignee, if applicable, herein represented by Mis. Mmaseabata Mutlaneng in her capacity as Acting City Manager duly authorised thereto under and by virtue of a resolution passed on ……, and who by her signature hereto warrants that she is properly authorised to sign this Agreement.

(Herein referred to as the "**CITY**")

AND

Service

Provider……..

Registration Number ……

Herein represented by …….., in his/ her capacity as ……. duly authorised thereto under and by virtue of a resolution of the Board passed on ……(DATE), a copy of which is annexed as Annexure **"B"**, and who by his signature hereto warrants that he is properly authorised to sign this Agreement

(Herein referred to as the "**SERVICE PROVIDER**")

CONTENT

RECORDAL:

WHEREAS the City of Tshwane requires to appoint service providers for the SERVICE TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300 MVAFOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRE BASIS FOR A PERIOD OF THREE (3) YEARS

AND WHEREAS the City wishes to appoint …… as a service provider;

AND WHEREAS the service provider wishes to provide such services;

AND WHEREAS the service provider has indicated that it has the necessary expertise, skills and capabilities to provide the service;

NOW THEREFORE the Parties have agreed to enter into this Agreement, in terms of which ……(**SP**) shall provide the Services in the Service Areas and/or Delivery Area and provide maintenance and support thereof, to the City in accordance with the terms and subject to the conditions of this Agreement:

1 DEFINITIONS

Unless otherwise expressly stated, or the context otherwise requires, the words and expressions listed below shall, when used in this Agreement, including this introduction, bear the meanings ascribed to them:

1.1 "**Agreement**" means this Service Level Agreement and shall include any annexures and/or schedules and/or attachments and/or appendices and/or any addenda hereto or incorporated herein by reference, as amended from time to time;

1.2 "**Business Day**" means any day from Monday to Friday excluding Public Holidays as defined in the Public Holidays Act 36 of 1994 ("Public Holidays Act") as amended from time to time;

1.3 "**Business Week**" means five consecutive Business Days, excluding Public Holidays as defined in the Public Holidays Act;

1.4 "**City**" means the City of Tshwane Metropolitan Municipality, a metropolitan municipality established in terms of section 12 of the Local Government: Municipal Structures Act 117 of 1998;

1.5 "**Contact Persons**" means persons identified by the Parties as persons who are responsible for the execution of the Agreement and whose names are set out in clause 34 below and who can be substituted in writing from time to time;

1.6 "**Contract Price**" shall mean the amount reflected as the contract price in clause 9 below;

1.7 "**Contract Period**" means the contract period as reflected on Annexure **"A"**;

1.8 "**Effective Date**" means notwithstanding the Signature Date, …….

1.9 **"GCC"** shall mean the General Conditions of Contracts as stated in the Government Procurement: General Conditions of Contract July 2010;

1.10 "**Goods**" shall mean the Services related goods to be procured by the City from time to time as sated in clause 8 below and the Appointment Letter attached herewith as Annexure **"A"**;

1.11 “**Intellectual Property**” means Patents, Designs, Know-How, Copyright and Trade Marks and all rights having equivalent or similar effect which may exist anywhere in the world, introduced and required by either Party to give effect to their obligations under this Agreement, owned in whole or in part by, or licensed to either Party prior to the Commencement Date or developed after the Commencement Date, and includes all further additions and improvements to the Intellectual Property, otherwise pursuant to this Agreement;

1.12 “**Month**” means a calendar month;

1.13 “**Parties**” means the City and Service Provider and “Party” means either of them as the context requires;

1.14 **“Order”** means an official written order issued for the supply of Goods and or Services under this Agreement;

1.15 “**Services**” means services to be provided by the Service Provider to the City as detailed in clause 8 below;

1.16 “**Service Provider**” means a company duly incorporated in accordance with the company laws of the Republic of South Africa with company registration number;

1.17 “**Signature Date**” means the date of signature of this Agreement by the Party signing last;

1.18 “**Subcontract**” means any contract or agreement or proposed contract between the Service Provider and any third party whereby that third party agrees to provide to the Service Provider the Services or any part thereof;

1.19 “**Subcontractor**” means the third party with whom the Service Provider enters into a Subcontract;

1.20 “**Tax Invoice**” means the document as required by section 20 of the Value Added Tax Act 89 of 1991, as amended from time to time; and

1.21 “**VAT**” means Value Added Tax as defined in terms of the Value Added Tax Act of 1991.

2 INTERPRETATION

2.1 Headings and sub-headings are inserted for information purposes only and shall not be used in the interpretation of this Agreement.

2.2 Unless the context clearly indicates a contrary intention, any word connoting:

2.2.1 any singular shall be deemed to include a reference to the plural and vice versa.

2.2.2 any one gender shall be deemed to include a reference to the other two genders; and

2.2.3 a natural person shall be deemed to include a reference to a legal or juristic person.

2.3 The expiry or termination of this Agreement shall not affect provisions of this Agreement which expressly provide that they will operate after any such expiry or termination of this Agreement. Provisions of necessity shall continue to have been effective after such expiry or termination of this Agreement, notwithstanding that the clauses themselves do not expressly provide for this.

2.4 The rule of interpretation that a written agreement shall be interpreted against the party responsible for the drafting or preparation of that Agreement shall not apply.

2.5 The provision of this Agreement shall be read in conjunction with the provisions of the Government Procurement General Conditions of Contracts (“GCC”) 2010 as if they are incorporated herein.

2.6 Where figures are referred to in numerals and in words and there is any conflict between the two, the words shall prevail.

2.7 Any reference to any legislation is a reference to such legislation as at the Signature Date and as amended or re-enacted, from time to time.

2.8 If any provision in a definition is a substantive provision conferring any rights or imposing any obligations on any party, then notwithstanding that, it is only in this

interpretation clause, effect shall be given to it as if it were a substantive provision in this Agreement.

3 APPOINTMENT

The City hereby appoints the Service Provider, who accepts such appointment, as per the Appointment letter dated ……. attached herewith as Annexure **"A"** to provide the Services in accordance with the terms and subject to the conditions of this Agreement.

4 PURPOSE OF THE AGREEMENT

4.1 The Purpose of this Agreement is to:

4.1.1 formalise and regulate the working relationship between the Parties;

4.1.2 set out the roles and responsibilities of the Parties; and

4.1.3 define process and procedures to be followed by the Parties.

5 RELATIONSHIP

Nothing in this Agreement shall constitute or be deemed to constitute a partnership or joint venture between the Parties. Furthermore the Service Provider acknowledges and agrees that its status under this Agreement is that of an independent service provider and its status shall in no way be deemed to be that of an agent or employee of the City, for any purpose whatsoever, and the Service Provider shall have no authority or power to bind the City or to contract in the name of the City, or create a liability against the City in any way or for any purpose.

6 DURATION

This Agreement shall commence on the Effective Date and shall subsist for a period of 3 (three) years, unless terminated earlier pursuant to clause 31 below.

7 CONTACT PERSON

7.1 The work to be performed by the Service Provider hereunder will be supervised by City's Contact Person.

7.2 The Parties shall notify each other, in writing from time to time, of the details of their nominated Contact Person.

7.3 The Contact Persons shall liaise and update each other on the progress of the Services rendered and shall endeavor to resolve and remedy any problems or disputes that may arise in relation to the Services.

7.4 Either Party may substitute a Contact Person at its discretion provided that each Party shall give the other Party reasonable notice of such substitution and will provide replacement employees of equivalent ability.

7.5 Without derogating from the afore-going, should either Party replace a Contact Person for any reason whatsoever, it shall ensure, to the greatest extent possible in the circumstances, that the suitable period of hand-over and overlap takes place, at its cost, between the new and the encumbered Contact Person.

8 SCOPE OF GENERAL SERVICES

The Service Provider shall, for the duration of this Agreement, provide the Services in terms of the Appointment Letter and as outlined fully in the Scope of Work, including but not limited to: EED 05 2022/23: TENDER TO APPOINT SERVICE PROVIDERS FOR THE SERVICE TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300 MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRE BASIS FOR A PERIOD OF THREE (3) YEARS

8.1 TO PROVIDE A SERVICE TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRE BASIS FOR A PERIOD OF THREE (3) YEARS

9 PRICE AND PAYMENT

9.1 The City shall pay to the Service Provider as stated in the Appointment Letter attached and or in terms of the Scope of Work attached herein as **Annexure "C"**.

9.2 All payments under this Agreement shall be made by electronic fund transfer or other forms of payment as the Parties may agree from time to time, upon receipt of valid and undisputed Tax Invoices and month-end statements together with the supporting documentation from the Service Provider, once the undisputed Tax Invoices or such portion of the Tax Invoices which are undisputed become due and payable.

9.3 All amounts and other sums payable in terms of this Agreement and Schedules hereto will be stipulated exclusive of VAT, unless expressly stated otherwise.

9.4 Unless otherwise provided in the Schedules, valid Tax Invoices shall be submitted together with a month-end statement. Payment against such month-end statement shall be made by The City within 30 (thirty) days after the date of receipt by The City of the Service Provider's statement together with the relevant valid and undisputed Tax Invoice(s) and supporting documentation, but in any event not later than 90 (ninety) days of receipt of such statement.

9.5 There shall be no interest levied on a Tax Invoice that is in dispute between the Parties.

9.6 The City shall pay the amount reflected on a Tax Invoice once the City's Contact Person has verified that the Services set out in a schedule have been rendered and the Tax Invoice amount has been approved by the City.

9.7 All Tax Invoices shall be addressed to the City' Contact Person.

9.8 All payments shall be transferred, by the City to the Service Provider electronically into the Service Provider's bank account, the details of which are set out below:

Bank: **…….**
Account type: **……..**
Account No: **……**
Branch No: **…….**

9.9 Failure to comply with the clauses above may result in late payment of the total amount of an invoice by the Service Provider to the City. The City shall not be liable for any costs or damages suffered by the Service Provider as a result of such late payment.

9.10 If the City fails to make payment in accordance with the Agreement or fails to comply with any provisions of any Order issued under this Agreement, the Service Provider reserves the right to cancel any undelivered portion of the Goods and/or to suspend the Services, and the City shall remain responsible for the completed and partly completed work up to the date of such cancellation.

10 PRICE RESTRUCTURING

10.1 The Service Provider shall be subject to a price review every year.

10.2 The City shall embark on a benchmarking exercise every 12 (twelve) months where the City shall benchmark the Service Provider's Contract Price against the prevailing market rates.

10.3 In the event it emerges that the Service Provider's charges in respect of the Contract Price and other charges under this Agreement are materially higher than the reasonable benchmark ascertained by the City or that the City can acquire similar Services of a like quality from another supplier at a total delivered cost that is lower than the total delivered cost of the Services acquired hereunder from the Service Provider, the City shall have the right to notify the Service Provider of such total delivered cost and the Service Provider shall have an opportunity to adjust the Contract Price and any other charges hereunder, on such a basis as to result in the same total delivered cost to the City, within 30 (thirty) calendar days of such notice.

10.4 If the Service Provider fails to do so or cannot legally do so, The City may:

10.4.1 acquire the Services from such other supplier in which case the obligations, including, but not limited to, any purchase and sale requirements and/or commitments, if any, of the City and the Service Provider hereunder shall be reduced accordingly;

10.4.2 terminate this Agreement without any penalty, liability or further obligation; or

10.4.3 continue under this Agreement.

10.5 Within 30 (thirty) calendar days of a notice by the City or at any time the City so requests, the Service Provider shall certify in writing to the City that it is in compliance with this clause and shall provide all information that the City reasonably requests in order to verify such compliance.

11 SERVICE LEVELS

11.1 The Service Provider recognizes that the City has entered into this Agreement relying specifically on the Service Provider's representations regarding service levels including, *inter alia*:

11.1.1 capacity allocations in accordance with the Service to be provided;

11.1.2 all work to be performed and Services rendered under this Agreement shall comply with industry norms and best practice acceptable within the Services industry and shall be executed by the Service Provider to the total satisfaction of the City.

11.1.3 The Service Provider shall provide suitably qualified and trained employees to provide the Services to the City in terms of this Agreement, and shall allocate, in its discretion employee resources in accordance with the technical skill and knowledge required, provided that any exercise of such discretion by the Service Provider shall not negatively impact on the provision of the Services by the Service Provider to the City, and shall allocate employees with the technical skill and knowledge onsite at the City at all times during normal working hours, if the City so requires.

11.1.4 Amongst others, the Service Provider shall comply with and provide the Services as set out in clause 8 above.

12 WITHHOLDING OF PERFORMANCE

The Service Provider may not under any circumstances, including, without limitation, non-payment by the City, withhold any Services from the City during the currency of this Agreement, unless it validly terminates this Agreement in terms of clause 30 below.

13 PENALTY

13.1 Should the Service Provider fails to comply with its obligations in terms of this Agreement, the City may impose a penalty on the Service Provider in terms of clause 13.3 below.

13.2 The City shall provide the Service Provider with a written notice requiring the Service Provider to remedy the default within 7 (seven) days from the date of delivery of the notice.

13.3 Should the Service Provider fail to remedy the default within 7 (seven) days after receiving the notice, then the City shall be entitled, without prejudice to any alternative or additional right of action or remedy available to the City and without further notice, impose as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance not exceeding 10% of the total Contract Price. The City may also consider termination of the Agreement as stated in clause 31 of this Agreement once the maximum penalty amount related to delays has been reached. .

13.4 Should there be a dispute as to whether the failure to deliver was caused by the City or was the Service Provider's fault such dispute shall be dealt with in accordance to clause 31 below.

14 ACCESS

14.1 The City shall allow the Service Provider reasonable access to its premises, provided that:

14.1.1 access is related to the Services to be provided by the Service Provider; and

14.1.2 the Service Provider adheres to all rules, regulations and instructions applicable at City's premises.

14.2 The Service Provider is required to notify City monthly of employees who are to provide Services at the Service Areas and/or Delivery Areas.

14.3 The City shall grant the Service Provider and/or its employees, referred in clause 14.2 above, access to its premises to perform its obligations in terms of this Agreement.

14.4 The Service Provider and its employees shall at all time when entering the premises and/or Service Areas and/or Delivery Areas of the City comply with all rules, laws, regulations and policies of the City.

15 DELIVERY OF GOODS

15.1 The Service Provider shall deliver the Goods on the Delivery Date.

15.2 Should the Service Provider be unable to deliver the Goods on the Delivery Date, the Service Provider shall inform the City of its inability to deliver the Goods, the reason thereof, and shall provide the City with a reasonable alternative Delivery Date which in any event shall not be more than 14 (fourteen) days from the original Delivery Date.

15.3 In the event that the Service Provider is unable to deliver the Goods on the Delivery Date 3 (three) times in a period of 6 (six) months, then the City shall be entitled to terminate this Agreement by giving the Service Provider 1 (one) month's written notice to terminate.

15.4 Upon delivery of the Goods by the Service Provider, the City's contact person shall sign the delivery document provided by the Service Provider as acknowledgement of receipt of the Goods. Such acknowledgement of receipt shall not constitute an acceptance:

15.4.1 that the Goods were received in good condition;

15.4.2 that the Goods were free of any defects;

15.4.3 that the Goods were fit for the purpose for which they were purchased; and/or

15.4.4 of any terms and conditions of the delivery document.

15.5 In the event that the City notifies the Service Provider, within five (5) Business Days, that the Goods delivered are not in accordance with the order, the City shall be entitled to return the Goods to the Service Provider at the Service Provider's cost and the Service Provider shall deliver the replacement Goods ordered within five (5) Business Days of taking delivery of the defective Goods.

15.6 The Service Provider shall bear all risk of loss or damage to the Goods until they are delivered to the City's named place of destination, and transfer of ownership of the Goods shall pass from the Service Provider to the City only when all payments have been made in full.

16 DEFECTIVE GOODS

16.1 The Service Provider shall verify whether the Goods received are in order and without any defects.

16.2 In the event that the City realizes that the Goods have any defect, the City shall inform the Service Provider in writing within 5 (five) days of becoming aware of the defect ("Notice of Defect").

16.3 Upon receipt of the Notice of Defect, the Service Provider shall immediately deliver replacement Goods to the City within 14 (fourteen) Business Days of receiving the Notice of Defect referred to in clause 16.2 above and replace the defective Goods.

16.4 The cost of returning and replacing the defective Goods shall be borne by the Service Provider.

16.5 The Service Provider shall be responsible for the replacement amount of any parts of the Goods that are to be replaced in terms of this Agreement.

17 AMENDMENT OR CANCELLATION OF PURCHASE ORDER

The City is entitled to cancel an order, reschedule delivery of the Goods or change the Delivery Area and Delivery Date on fourteen (14) days written notice to the Service Provider.

18 INSPECTION

18.1 The City may at any time inspect the Goods and/or Services levels of the Service Provider in terms of this Agreement.

18.2 If the City is, at any time, dissatisfied with the service levels then the Service Provider shall, within 7 (seven) days, notify the Service Provider in writing of the failure or default.

18.3 The Service Provider shall immediately upon receipt of written demand by the City, remedy such failure or default, within 7 (seven) Business Days from the date of receipt of the notice, free of charge.

18.4 Should the Service Provider fail to remedy the failure or default referred to above then the City shall have the right to impose penalties as provided for in clause 12 above or invoke the provisions of clauses and/or clause 30 below.

18.4.1 To enable the City to determine whether the Goods and/or Services rendered in terms of this Agreement are being complied with the Service Provider shall:

18.4.1.1 provide the City with such information as it may reasonably require;

18.4.1.2 allow the City to inspect and take copies of any records of the Service Provider relating to the Goods and/or Services, including all hardware, software, data, information, visuals, procedures, event logs, transaction logs, audit trails, books, records, contracts and correspondence;

18.4.1.3 allow the City or its authorised representatives to conduct interviews with any of the Service Provider's employees, subject to reasonable notice being given to the Service Provider.

18.5 **Service Provider to Provide Reasonable Assistance**

18.5.1 Where any information is required for inspection in terms of this clause and the information is kept in a computer, the Service Provider shall give the City reasonable assistance required to facilitate inspection and obtain copies of the

information in a visible and legible form or to inspect and check the operation of any computer and any associated apparatus or material that is or has been in use in connection with the keeping of the information.

18.5.2 Any information required to be provided to the City pursuant to this clause 18 shall be provided by the Service Provider, as the case may be in such form (including a form otherwise than in writing) as the City may reasonably specify.

18.5.3 The cost of any inspection contemplated in terms of this clause 18 shall be for the account of the City unless any material irregularity or failure on the part of the Service Provider is determined by City in the course of such inspection.

18.6 The inspection contemplated in this Agreement will be conducted:

18.6.1 during normal business hours;

18.6.2 save where the circumstances justify it, on reasonable notice to the Service Provider; with the minimum interference in the provision of the Goods and/or Services and the Service Provider's other operations.

19 MAINTENANCE AND SUPPORT

The Maintenance support only applicable for that portion the contractor work on.

20 TRAINING

If required, the Service Provider shall after delivery and installation of the Goods, and as part of Maintenance And Support, ensure that the City's nominated employees, from time to time, receive the required and necessary training relating to the nature, purpose and appropriate use of the Goods.

21 SERVICE PROVIDER'S WARRANTIES AND INDEMNITIES AND LIABILITIES

21.1 Service Warranties

21.1.1 The Service Provider warrants that in relation to each Service provided in terms of this Agreement:

21.1.1.1 it has full capacity and authority to enter into and perform this Agreement, and that this Agreement is executed by duly authorised representatives of the Service Provider;

21.1.1.2 it possesses or has access to the requisite knowledge, skill and experience to provide the Services in an expert manner;

21.1.1.3 it will discharge its obligations under this Agreement and any annexure, appendix or Schedule hereto with all due skill, care and diligence;

21.1.1.4 all work performed and Services rendered under this Agreement shall comply with prevailing practice, standards and specifications within the industry;

21.1.1.5 it will be solely responsible or the payment of remuneration and associated benefits, if any, of its Personnel and for withholding and remitting income tax for its Personnel in conformance with any applicable laws and regulations;

21.1.1.6 the use or possession by the City of any Materials will not subject the City to any claim for infringement of any Intellectual Property Rights of any third party;

21.1.1.7 with promptness and diligence and in a skilful manner and in accordance with the practices and professional standards of operations while performing Services and/or delivering Goods and/or similar to the Services and/or Goods;

21.1.1.8 which Services and/or Goods will in all aspects comply with industry norms and best practice to the satisfaction of the City with regard to materials and workmanship; ;

21.1.1.9 using and adopting any standards, processes and procedures required under this Agreement;

21.1.1.10 warranting that it shall employ suitably qualified and trained employees to provide the Services and/or Goods to the City and it shall allocate employees in accordance with the technical skill and knowledge required;

21.1.1.11 free from any defects in material and workmanship;

21.1.1.12 maintaining and causing to be maintained the highest standard of workmanship and care in undertaking the Services and/or processing the Goods;

21.1.1.13 maintaining and caused to be maintained the highest standard of care and diligence in providing the Services, maintenance and support;

21.1.1.14 ensuring that all applicable laws are observed;

21.1.1.15 without derogating from the generality of the aforegoing, strictly adhering to any or all laws, regulations and accepted procedures with regard to health, hygiene and the maintaining of the environment in the manufacture, packaging, labelling, identification, storage and transportation of the Goods.

21.1.1.16 guaranteeing that the Goods shall be in good working condition for the warranty and/ or maintenance period of the Goods, and that the Service Provider shall be responsible for the costs of repair of the Goods should the Goods require to be repaired to their normal use.

21.1.2 Defective workmanship or failure of the Goods and/or Services shall cease upon expiry of the period of maintenance, being the earlier of twelve (12) months after completion of the Services or eighteen (18) months from delivery of the Goods to the site. Such liability shall be in lieu of any liability implied by law and shall be limited to the repair or replacement, at the election of the Service Provider, of the defective portion of the Goods and/or Services, where after the Service Provider shall have no further liability of whatsoever nature towards the City.

21.2 **Indemnity**

21.2.1 The Service Provider hereby indemnifies the City against any claim which may be brought against the City by the Service Provider's personnel or a third party arising from the execution of this Agreement alternatively which arises against the City as a result of the Service Provider's breach of any of the provisions of this Agreement, provided that the City shall notify the Service Provider in writing within a reasonable time, and in any event not less than 14 (fourteen) Business days of the City becoming aware of any such claim to enable the Service Provider to take steps to contest it and shall provide the Service Provider with such reasonable assistance as may be necessary to enable the Service Provider to defend the claim to the extent only that it is in a position to render such assistance. The Service Provider may, within 5 (five) Business Days of receipt of written notice from the City aforesaid, elect in writing to contest such a claim in the name of the City and shall be entitled to control the proceedings in regard thereto, provided that the Service Provider indemnifies the City against all and any costs (including attorney and own client costs) which may be incurred by or awarded against the City as a consequence of the defense of the claim.

21.3 **Limitation of Liability**

21.3.1 Neither Party shall be liable to the other party for loss of use of any works, loss of profit, loss of contract or for any indirect or consequential loss or damages which may be suffered by the other party in connection with this Agreement.

21.3.2 Notwithstanding anything to the contrary contained or implied in the applicable conditions of contract, and in no event, whether as a result of breach of contract, indemnity, warranty, delict (including negligence), strict liability, or any other cause arising, shall the Service Provider's total liability to the City, or its insurers, for any loss or damage arising out of, or resulting from an Order issued under this Agreement or from the performance or breach thereof, or from the Goods and/or Services furnished hereunder, exceed 100% of the specific Order value.

22 SERVICE PROVIDER'S PERSONNEL

22.1 **Liability for Criminal Acts of Employees**

The Service Provider shall be liable to the City for any loss that the City or any third party may suffer as a result of any theft, fraud or other criminal act of any employee of the Service Provider which arises within the course and scope of such employees' employment with the Service Provider.

22.2 **Character of Employees**

22.2.1 Due to the confidential nature of certain aspects of the Services and the position of trust which the Service Provider's employees will fulfil, the Service Provider hereby undertakes to use its best commercial endeavours to ensure that it only assigns to the City employees who are fit and proper persons and who display the highest standards of personal integrity and honesty and who have not, to their knowledge, being convicted of any crime.

22.2.2 The Service Provider shall, at its own cost, conduct all reasonable background checks into members of its employees prior to utilizing same to provide the Services in terms of this Agreement.

22.2.3 The City shall conduct all reasonable background checks into the Service Provider's employees from time to time, where it deems it necessary to do so.

23 STATUTORY AND EMPLOYMENT ISSUES

23.1 The Service Provider shall comply with all employment legislation

23.1.1 The Service Provider warrants that it has full knowledge of all relevant statutory, collective and other stipulations applicable to the relationship with its personnel and its relationship with the City. This includes, but is not limited to, the Labour Relations Act, the Basic Conditions of Employment Act, 1977, the Employment Equity Act, 1998 and any other applicable employment legislation currently in force.

23.1.2 The Service Provider warrants further that it is not and will not in future be in contravention of any of the provisions of any such legislation and in the event of such contravention, the Service Provider shall immediately take all steps to remedy such contravention. If the City advises the Service Provider of any contravention of such legislation in writing, the Service Provider shall, within 10 (ten) days after receipt of such notice, take all steps necessary to remedy such contravention and shall keep the City informed regarding the steps taken and the implementation and the result thereof.

23.2 No employment

The Service Provider warrants that none of its personnel shall be regarded as employees of the City. The Service Provider shall assist to defend and bear all costs in the event that the City is required to defend a claim, whether civil or employment related, instituted against it by the Service Provider's personnel should the City defend the matter, the Service Provider hereby indemnifies the City against all and any costs (including attorney and own client costs) which may be incurred by or awarded against the City as a consequence of the defense of the claim.

23.3 Occupational Health and Safety Act, 1993

The Service Provider shall be responsible for ensuring compliance with all the provisions of the Occupational Health and Safety Act, 1993 and it indemnifies the City against any claim which may arise in respect of such Act by its personnel against the City.

24 SUB-CONTRACTING

24.1 The Service Provider may not Subcontract the whole of or any portion of the Services in terms of this Agreement to any third party without the prior written consent of the City.

24.2 In the event the Service Provider wishes to Subcontract the whole of or any portion of the Services in terms of this Agreement, it shall apply to the City in writing for consent to do so.

24.3 In its application, the Service Provider shall give the name of the Subcontractor, the Subcontractor's obligations, the proposed date of commencement of the Subcontract which shall include the fees payable to the Subcontractor, and a report of the background security check on the Subcontractor's suitability, financial and otherwise.

24.4 The City may, in its sole and absolute discretion refuse consent to Subcontract. In the event the City approves the Subcontracting of the whole of or any portion of the Services in terms of this Agreement, then:

24.5 the Service Provider shall ensure that the Subcontractor's B-BBEE level is equal or better than that of the Service Provider, their price is competitive and they have the capacity to provide the Service;

24.6 such Subcontracting shall not absolve the Service Provider from responsibility for achieving the Service Levels or complying with its obligations in terms of this Agreement and the Service Provider hereby indemnifies and holds the City harmless against any loss, harm or damage which the City may suffer as a result of such Subcontracting;

24.7 the Service Provider shall at all times remain the sole point of contact for the City in respect of the acquisition of Services by the City; and

24.8 no such Subcontracting shall have any effect on the Contract Price and charges payable by the City to the Service Provider in terms of this Agreement.

25 CONFIDENTIALITY

25.1 The Service Provider acknowledge that all information relating to the City confidential business and technical information, data, documents or other information necessary or useful for the carrying on by the City of its business which shall include, but shall not be limited to operating procedures, quality control procedures, approximate operation personnel requirements, descriptions and trade names and trademarks, know how, techniques, technology, information relating to clients, customers, suppliers, relevant authorities, copyright, trade secrets and all goodwill relating to the business and any other intellectual property rights, technical data and documents in whole or in part, used by the City in respect of its business; ("**Confidential Information**"), shall remain confidential and shall not be made known unless the City has given written consent to do so.

25.2 The information provided by the City in the context of this Agreement is Confidential Information and the Service Provider shall take all reasonable measures to keep the information confidential and will only use the information for the purpose for which it was provided.

25.3 The Service Provider undertakes to not disclose any such Confidential Information. However, there will be no obligation of confidentiality or restriction on use where:

25.3.1 the information is publicly available, or becomes publicly available otherwise than by action of the receiving Party; or

25.3.2 the information was already known to the receiving Party (as evidenced by its written records) prior to its receipt under this or any previous agreement between the Parties or their affiliates; or

25.3.3 The information was received from a third Party not in breach of an obligation of confidentiality.

26 INTELLECTUAL PROPERTY RIGHTS

26.1 All Intellectual Property Rights of the Service Provider and/or third party vest in the Service Provider and/or third party, as appropriate.

26.2 All rights in the City name and logo remain the absolute property of the City.

26.3 The Service Provider warrants that no aspect of the Services provided in terms thereof will infringe any Patent, Design, Copyright, Trade Mark or trade secret or other proprietary right of any third party.

26.4 The Service Provider shall promptly notify the City, in writing, of any infringement or apparent or threatened infringement or any circumstances which may potentially give rise to an infringement, or any actions, claims or demands in relation to any Intellectual Property Rights.

26.5 In the event the City becomes aware of any such infringement, the Service Provider shall, at its cost, defend the City against any claim that the Services infringe any such third party Intellectual Property Rights, provided that the City gives notice to the Service Provider of such claim and the Service Provider controls the defence thereof. The Service Provider further indemnifies the City against, and undertakes that it will pay all costs, damages and attorney fees, if any, finally awarded against the City in any action which is attributable to such claim and will reimburse the City with all costs reasonably incurred by the City in connection with any such action.

26.6 Should any claim be made against the City by any third party in terms of clause 26.1 above, the City shall give the Service Provider written notice thereof within 3 (three) days of becoming aware of such claim to enable the Service Provider to take steps to contest it.

26.7 Should any third party succeed in its claim for the infringement of any third party proprietary rights, the Service Provider shall, at its discretion and within 30 (thirty) days of the Services having been found to infringe, at its own cost:

26.7.1 obtain for the City the right to continue using the subject of infringement or the parts thereof which constitute the infringement; or

26.7.2 replace the subject of infringement or the parts thereof which constitute the infringement with another product or service which does not infringe and which is materially similar to the subject of infringement; or

26.7.3 alter the subject of infringement in such a way as to render it non-infringing while still in all respects operating in substantially the same manner as the subject of infringement; or

26.7.4 withdraw the subject of infringement.

27 FORCE MAJEURE

27.1 For the purposes hereof, Force Majeure shall mean civil strife, riots, insurrection, sabotage, national emergency, acts of war of public enemy, rationing of supplies, flood, storm, fire or any other like forces of nature beyond the reasonable control of the party claiming Force Majeure and comprehended in the terms thereof.

27.2 If Force Majeure causes delays in or failure or partial failure of performance by a Party of all or any of its obligations hereunder, this Agreement shall be suspended for the period agreed in writing between the Parties.

27.3 In the event of circumstances arising which the other Party believes that it constitutes a Force Majeure ("the Affected Party") then such Affected Party shall send, within 5 (five) days from the interrupting circumstances, a written notice of the interrupting circumstances specifying the nature and date of commencement of the interrupting event to the other Party. The Parties shall agree, in writing, to suspend the implementation of this Agreement for a specific period ("Agreed Period").

27.4 In the event that both Parties reasonably believe that the Affected Party shall be unable to continue to perform its obligations after the Agreed Period, then either Party shall be entitled to terminate this Agreement without further notice to the other Party.

27.5 The Party whose performance is interrupted by the interrupting circumstances shall be entitled, provided that such party shall gave notice to that effect with a written notice of the interrupting circumstances as provided above, to extend the

period of this Agreement by a period equal to the time that its performance is so prevented.

28 CESSION

The Service Provider shall not be entitled to cede or assign or transfer in any other way and/or alienate its rights and obligations in terms of this Agreement without the prior written consent of the City.

29 CHANGE OF CONTROL / CIRCUMSTANCE

29.1 The Service Provider shall notify the City, in writing, of any change in the Service Provider's shareholding or membership or any change in the Service Provider's subsidiary companies or holding or its affiliates.

29.2 The Parties agree that should there be a change as envisaged in clause 29.1 above,the City shall have the opportunity to renegotiate the terms of this Agreement with the 3rd party.

29.3 The Service Provider shall further notify the City of any material changes or circumstance which might have led the City to appoint the Service Provider to Provide the Goods and/or Services. In the event that any material change or circumstance occurs and the Service Provider fails to inform the City of such a change or circumstance, the Service Provider shall be deemed to have breached a material term of this Agreement and the City shall be entitled to cancel the Agreement on 1 (one) month's prior notice.

30 BREACH

30.1 Subject to clause 29.3 above, should either Party commit a breach of any term of this Agreement ("the Defaulting Party") then the affected party ("Aggrieved Party") shall be entitled to inform the Defaulting Party in writing to remedy such failure or default within 5 (five) Business Days and should the Defaulting Party fail to remedy the breach within 5 (five) Business Days after receipt of the notice the so Aggrieved Party shall be entitled, without prejudice to any of its rights under this Agreement or law to:

30.1.1 immediately terminate this Agreement without giving written notice and claim damages (which shall include legal costs on an attorney/client scale); or

30.1.2 request specific performance and claim damages (which shall include legal costs on an attorney/client scale); or

30.1.3 impose penalties as provided for in clause 13 above.

31 EARLY TERMINATION

The City shall have the right to terminate this Agreement by giving 30 (thirty) days' notice in writing to the Service Provider of its intention to terminate the Agreement.

32 DISPUTES

32.1 Save for clause 30 above or any other clause in this Agreement which provides for its own remedy, should any dispute arise between the Parties in respect of or pursuant to this Agreement, including, without limiting the generality of the a-foregoing, any dispute relating to:

32.1.1 the interpretation of the Agreement;

32.1.2 the performance of any of the terms of the Agreement;

32.1.3 any of the parties' rights and obligations;

32.1.4 any procedure to be followed;

32.1.5 the termination or cancellation or breach of this Agreement; or

32.1.6 the rectification or repudiation of this Agreement; then any Party may give the other Party written notice of such dispute, in which event the provisions below shall apply.

32.2 Within 7 (seven) days of the declaration of such dispute, the Parties representatives or their nominated persons shall meet in the spirit of goodwill and endeavour to resolve the dispute, failing which (and without prejudice to any other alternative dispute resolution to which the Parties may agree, either prior to or concurrently with arbitration) the provisions of this clause 32 above shall apply.

32.3 If the Parties are unable to resolve the dispute within 14 (fourteen) days of the notice of the dispute (or such longer period as they may have agreed to in writing), then either Party may, on written notice to the other Party, require that the dispute be submitted to and decided by arbitration, in terms of the Arbitration Act, 42 of 1965 of South Africa (“the Arbitration Act”).

32.4 The arbitration shall be held under the provisions of the Arbitration Act provided that the arbitration shall be:

32.4.1 at any place which the Parties agree, in writing, to be mutually convenient.

32.4.2 in accordance with such formalities and/or procedures as may be settled by the arbitrator and may be held in an informal and summary manner, on the basis that it shall not be necessary to observe or carry out the usual formalities of procedure, pleadings and/or discovery or respect rules of evidence.

32.5 If the arbitration is:

32.5.1 a legal matter, then the arbitrator shall be a practicing advocate or a practicing attorney of not less than 10 (ten) years' standing;

32.5.2 an accounting matter, then the arbitrator shall be a practicing chartered accountant of not less than 10 (ten) years' standing;

32.5.3 any other matter, then the arbitrator shall be any independent person agreed upon between the parties.

32.6 Should the Parties fail to agree on an arbitrator within 14 (fourteen) days after the arbitration has been demanded, then the arbitrator shall be nominated at the request of either of the Parties, by the president for the time being of the Law Society of the Northern Provinces.

32.7 Should the Parties fail to agree whether the dispute is of a legal, accounting or other nature within 7 (seven) days after the arbitration has been demanded, then it shall be deemed to be a dispute of a legal nature.

32.8 The arbitrator may:

32.8.1 investigate or cause to be investigated any matter, fact or thing which he considers necessary or desirable in connection with the dispute and for that purpose, shall have the widest powers of investigating all documents and records of any party having a bearing on the dispute;

32.8.2 interview and question under oath the parties of any of their representatives;

32.8.3 decide the dispute according to what he considers just and equitable in the circumstances; and

32.8.4 make such award, including an award for specific performance, damages or otherwise, as he in his discretion may deem fit and appropriate. The arbitration shall be held as quickly as possible after it is requested, with a view to it being completed within 30 (thirty) days after it has been so requested.

32.8.5 The arbitrator's decision and award shall be in writing with reasons and shall be final and binding upon the Parties.

32.8.6 The arbitrators award may, on application by either Party to a court of competent jurisdiction and after due notice is given to the other Party, be made an order of court.

32.8.7 Notwithstanding the provisions of clauses 32.1, 32.2, 32.3, 32.4, 32.5, 32.6, 32.7 above, in the event of either Party having a claim against the other Party for a liquidated amount or an amount which arises from a liquid documents, or for an interdict or other urgent relief, then the other Party having such a claim shall be

entitled to institute action therefore in a court of law rather than in terms of the above clauses, notwithstanding the fact that the other Party may dispute the claim.

32.8.8 The provisions of this clause 32 are severable from the rest of this Agreement and shall remain in effect even where this Agreement is terminated or cancelled for any reason.

33 LAWS AND JURISDICTION

33.1 This Agreement shall be governed by and interpreted according to the Law of the Republic.

33.2 Each Party submits to the exclusive jurisdiction of the South African courts in respect of any matter arising from or in connection with this Agreement including its termination. Each Party further consents to the jurisdiction of the High Court of South Africa (North Gauteng High Court (Pretoria).

34 NOTICES AND COMMUNICATIONS

34.1 The Parties choose as their respective *domicilium citandi et executandi* (hereinafter referred to as the "*domicilium*") and for the delivery of any notices arising out of this Agreement or its termination or cancellation, whether in respect of court process, notices or other documents or communications of whatsoever nature (including the exercise of any option), the address set out below:

34.1.1 **THE CITY:**

Office of the City Manager
Tshwane House
2nd Floor, Block D
320 Madiba Street
Pretoria, 0001
P O Box 440
Pretoria, 0001
Fax: 086 214 9544
Attention:
Telephone:
Email:

34.1.2 **THE SERVICE PROVIDER:**

……
……..……..
……..……
……
……
Attention:
Telephone:
Fax:
Email:

34.2 Each Party shall be entitled from time to time, by written notice to the other Party, to vary its *domicilium* to any other address which is not a Post Office Box or a Poste Restante.

34.3 Any notice given and any payment made by any Party to another Party (hereinafter referred to as "the addressee") which:

34.3.1 is delivered by hand during normal business hours of the addressee at the addressee's *domicilium*, shall be deemed, until the contrary is proved by the addressee, to have been received by the addressee at the time of delivery;

34.3.2 is posted by prepaid registered post to the addressee at the addressee's *domicilium* shall be deemed, until the contrary is proved by the addressee, to have been received on the 7th (seventh) day after the date of posting.

34.3.3 is sent by email or facsimile machine shall be deemed, until the contrary is proven by the addressee, to have been received within 1 (one) hour of transmission where it is transmitted during business hours of the receiving instrument and at noon on the following business day (excluding Saturdays) where it is transmitted outside such business hours.

34.4 Any notice or communication required or permitted in terms of this Agreement shall be valid and effective only if in writing but it shall be competent to give notice by facsimile.

34.5 Notwithstanding anything to the contrary in this Agreement a notice or communication actually received by one Party shall be an adequate notice or

communication notwithstanding that it was not sent to or delivered at the chosen *domicilium citandi et executandi*.

35 GENERAL AND MISCELLANEOUS

35.1 SOLE RECORD OF AGREEMENT

This Agreement constitutes the sole record of the agreement between the Parties with regard to the subject matter hereof. No Party shall be bound by any express or implied term, representation, warranty, promise or the like not recorded herein.

35.2 NO AMENDMENT EXCEPT IN WRITING

No addition to, variation of, or agreed cancellation of, this Agreement shall be of any force or effect unless in writing and signed by or on behalf of the Parties. Any alleged waiver of this requirement must itself be reduced to writing and signed by the relevant Party to be of any effect.

35.3 WAIVERS

No relaxation or indulgence which any party may grant to any other shall constitute a waiver of the rights of that party and shall not preclude that party from exercising any rights which may have arisen in the past or which might arise in future.

35.4 SURVIVAL OF OBLIGATIONS

Any provision of this Agreement which contemplates performance or observance subsequent to any termination or expiration of this Agreement shall survive any termination or expiration of this Agreement and continue in full force and effect.

35.5 APPROVALS AND CONSENTS

An approval or consent given by a Party under this Agreement shall only be valid if in writing and shall not relieve the other party from responsibility for complying with the requirements of this Agreement nor shall it be construed as a waiver of any rights under this Agreement except as and to the extent otherwise expressly provided in such approval or consent, or elsewhere in this Agreement. Any alleged waiver of the requirement that the approval or consent must be in writing must itself be reduced to writing and signed by the relevant Party to be of any effect.

36 EXECUTION

36.1 This Agreement may be executed in several counterparts, which shall each be deemed an original, but all of which shall constitute one and the same instrument. A facsimile shall constitute a valid counterpart for all purposes hereunder.

36.2 The signatories to this Agreement by their signature warrant their authority to enter into this Agreement and the capacity of their principal, if signing in a representative capacity, to enter into this Agreement.

Signed at _____ on this _____day of _____ 21

_____

For and on behalf of **THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY**

Duly represented by Mr. Johann Mettler **City Manager**

Signed at _____ on this _____day of _____ 21

_____

……

Duly represented by ……

……

ANNEXURE B

ENVIROMENTAL MANAGEMENT PLAN

Contents

1. GENERAL

1.1. This plan is to be adhered to by the Contractors for the life of construction operations; this includes rehabilitation of areas as and when required. The Contractors shall ensure that all construction staff, sub-contractors, suppliers, etc. are familiar with, understand and adhere to the Construction Management Plan. In addition, during construction the Contractors must ensure that all personnel are fully aware of any environmental issues relating to the construction activities that are being undertaken on site and the related environmental precautions that need to be taken. Construction supervisors and crews will be trained to recognize 'chance finds' during construction, and such finds (i) will not be disturbed, damaged or removed and (ii) will be brought to the immediate attention of the relevant authority.

1.2. The Client (Council) shall order the Contractors to suspend part or all of the works if the Contractors and/or any sub-contractors, suppliers, etc. fail to comply with the Environmental Management Plan.

1.3. Prior to construction the Contractors shall provide layout designs of the site indicating the position of all of the following: offices, ablution facilities, storage areas, workshops, batching plant, stockpile areas (i.e. soil/granular chemicals/cement fines, etc.), waste disposal facilities, hazardous substance storage area, access route, etc. This layout plan is to be submitted to the Client (Council) for acceptance prior to site establishment.

1.4. An "Environmental Site Book' should be supplied and kept on site. This book will reflect all issues, and proposed actions as noted during site visits. This site book should be in the form of a file wherein all Environmental Status Reports are kept. In addition, a separate file containing the EMP should also be kept on site. A copy of the Scoping Report, the EMP report and construction layout plan are to be available on site.

1.5. To reduce the effect of habitat loss, construction activities must be planned and implemented in a way that facilitates the restoration of plant communities. Specifications for soil preparation, endemic plant/seed mixes, fertilizer, and mulching should be provided for all areas disturbed by construction activities.

1.6. Restoration activities should be accomplished (established) within a year after construction is completed. The minimum vegetation disturbance must be permitted and the removal of vegetation must be managed and monitored to ensure a minimum exposed period. Monitoring must occur to ensure that revegetation was successful, plantings were maintained, and unsuccessful plant materials replaced.

2. ENVIRONMENTAL MANAGEMENT PLAN (CONSTRUCTION)

2.1. **Site establishment and preparation**

Management Action:

2.1.1. Limit site to existing road and/or already disturbed areas as far as possible.

2.1.2. Demarcate the boundaries of the total works site clearly for site management purposes. The preferred method of demarcation consists of steel droppers placed at regular intervals with nylon rope between the markers.

2.1.3. Fence off entire works area with 2.4m high temporary fence.

2.1.4. The Contractors shall maintain the demarcation line and ensure that materials used for construction on site do not blow or move outside the site and environs, or pose a threat to animals.

2.1.5. The Contractors shall restrict construction activities to within these boundaries. This extends to ensuring that all construction personnel and equipment remain within the demarcated construction site at all times.

2.1.6. Routes for temporary access and haul roads are to be located within the approved demarcated areas and vehicle movement is to be confined to these roads.

2.1.7. Movement of vehicles outside the designated working areas is not permitted.

2.1.8. Clearly indicated which activities are to take place in which areas within the site e.g. the mixing of cement, stockpiling of materials, etc. Limit these activities to single sites only, preferably on the existing road or otherwise on an already disturbed area.

2.1.9. Remove all markers when the construction phase comes to an end.

2.1.10. Fully rehabilitate (e.g. clear and clean area, rake, pack branches, etc.) the disturbed areas and protect them from erosion.

2.1.11. The Contractor shall only prune or remove vegetation where absolutely necessary. No large trees shall be removed. Topsoil should be stockpiled for later use in revegetation efforts.]

2.2. **Construction staff**

Management Action:

2.2.1. Demarcate the boundaries of the construction staffs' eating and storage areas by means of a 1.5m diamond mesh fence.

2.2.2. Adequate ablutions must be erected on site for construction staff. It is critical that the services (water and sewerage) be properly monitored to ensure that these services are not overused or overloaded. Adequate provision for water shall be made for construction, drinking and washing.

2.2.3. Construction staff (emergency only) may only be accommodated on site once all the necessary services (water, sewerage and waste) are in place.

2.2.4. Dry chemical toilets must be made available on site.

2.2.5. Chemical toilets shall be cleaned and serviced regularly.

2.2.6. A designated place for food preparation and eating must be established.

2.2.7. An adequate number of refuse bins shall be provided.

2.2.8. No pets allowed on site.

2.2.9. All staff to be identifiable through identity badges.

2.2.10. No explosives (with the exception of blasting requirements) or firearms to be permitted on site.

2.2.11. No open fires will be allowed.

2.3. **Vegetation clearing**

Management Action:

2.3.1. While bush will have to be undertaken in some areas, the areas needing to be cleared and the degree of clearing required will be determined and demarcated prior to construction. Ancillary activities, such as stockpiles, and storage yards, will be demarcated to areas already disturbed or where they will cause minimal disturbance.

2.3.2. Identify areas to be affected by construction and secure plant species/habitat in these areas. Prevent unnecessary harvesting, destruction, and removal of plant material.

2.3.3. No large trees (with trunk diameter exceeding 200mm) are to be removed.

2.3.4. Consider the selective trimming of branches to allow for free vehicle movement before opting to remove any trees.

2.3.5. Remove alien/exotic vegetation, and monitor regularly.

2.3.6. Ensure no exotic vegetation is introduced into the surrounding natural habitat.

2.3.7. All sites disturbed by construction activities shall be monitored for colonization by invasive alien plant species.

2.3.8. The collection of firewood for cooking and other uses is strictly prohibited.

2.3.9. The Contractors may not deface, paint or otherwise mark and/or damage natural feature/vegetation on the site. Any features/vegetation defaced by the Contractors shall be restored.

2.4. **Conservation of topsoil**

Management Action:

2.4.1. The Contractors are required to strip topsoil (as defined in this specification) together with grass/groundcover from all areas where permanent or temporary structures are located, construction related activities occur, and access roads are to be constructed, etc.

2.4.2. Topsoil is to be handled twice only – once to strip and stockpile, and secondly to replace, level, shape and scarify.

2.4.3. Topsoil is to be replaced along the contour.

2.4.4. Topsoil is to be replaced by direct return where feasible (i.e. replaced immediately on the area where construction is complete), rather than stockpiling it for extended periods.

2.4.5. Topsoil stockpiles are not to exceed 1,5m in height and should be protected by a mulch cover. This mulch cover must not contain alien vegetation/seeds.

2.4.6. Topsoil stockpiles are to be maintained in a weed free condition.

2.4.7. Topsoil should not be compacted in any way, nor should any object be placed or stockpiled upon it.

2.4.8. Topsoil, which is to be stockpiled for periods exceeding 4 months, is to be vegetated. A groundcover or grass seeding may be specified.

2.5. **Access roads**

Management Action:

2.5.1. All disturbed areas along the fringes of the road must be rehabilitated once the road is complete.

2.5.2. Contractors will be required to submit a delivery timetable. Strict control is to be exercised over entering and exiting traffic and delivery procedures.

2.5.3. Special attention will be paid to limit the number of deliveries as far as possible.

2.5.4. Any damage caused by the construction activities to the access roads must be rehabilitated completely upon completion of the works.

2.5.5. Proactively protect steep access roads and cuttings against erosion. Mitre drains, Reno mattresses, extended concrete drifts, drainage pipes, etc. should be considered for this.

2.5.6. Any cement and gravel spillage on the roads is to be cleared up completely.

2.5.7. Construction staff should only use authorised paths and roads.

2.5.8. Construction access roads should not be wider than necessary with a maximum of 3m.

2.5.9. If two-way traffic is to take place, passing bays are to be used to prevent access/detours into the surrounding areas, unless otherwise stated. The drivers delivering construction materials to site are to be made aware of this and are to be forced to utilise the passing bays. They may not drive off the road in order to allow another vehicle to pass.

2.5.10. During the contract period, the Contractors shall ensure that all existing water attenuation and drainage structures are maintained in a state in which they can optimally perform their function.

2.5.11. Vehicles used during construction or to transport material or staff on site, should have the minimum impact on the environment (trees, roads or other) or other road users. The size, height and weight of vehicles must be kept in mind; the access route will determine the type of vehicle that can be used.

2.5.12. Construction vehicles are to be maintained in an acceptable state of repair and cleanliness when leaving the site. Sand, dust and spillages from these vehicles that inevitably fall on the main roads should be cleared on a regular basis.

2.5.13. Drivers of all vehicles on site are to be licensed.

2.5.14. Upon completion of the construction period, the Contractors shall ensure that the access roads are returned to a state no worse the prior to construction commencing.

2.5.15. Continual use of dirt access roads by heavy machinery and increased transport loads means they will have to be carefully monitored and regularly graded as soon as potholes or rutting occurs.

2.5.16. Traffic speeds on the site need to be reduced to a maximum of 25km/hour and regular application of water on gravel road surfaces may be required to prevent high dust disturbance.

2.6. **Excavation, backfilling and trenching**

Management Action:

2.6.1. Excavation of sand to solid ground to be done carefully and appropriate drainage incorporated i.e. sand and debris need to be removed and solid rock preferably exposed to ensure proper binding with concrete material.

2.6.2. Construction must preferably be extended over rocky substrate to give maximum anchoring opportunity.

2.6.3. Blasting operations, if required, to be planned by competent specialists, with due regard to adjacent land users. Blasting t be programmed in cooperation with adjacent land owners to result in the most impact limiting operation.

2.6.4. Record to be kept of infrastructure and facility conditions prior to and after the blasting operations.

2.6.5. Consider using any excess rocks or boulders that were excavated from the construction site for any erosion protection work which is required on site. Consider removing the rocks for the packing of gabions at other soil erosion sites.

2.6.6. If need be, spread the rocks in as natural a manner as possible in the veld along the access roads. This should be considered as the last option only and only if a few excess rocks remain.

2.6.7. Similarly, excess sand as a result of excavation activities is not to be dumped along the roadsides.

2.6.8. Removed soil is to be used to backfill areas where required and excess is to be landscaped into natural looking banks that fit the surrounding topography.

2.6.9. During excavation, topsoil is to be conserved.

2.6.10. Excavated material is to be stockpiled along a pipeline trench within the working servitude, unless otherwise authorised.

2.6.11. Deficiency of backfill material shall not be made up by excavation in the protected area. Where backfill material is deficient, it should ideally be made up by importation from an approved borrow pit.

2.6.12. The Contractors shall backfill in accordance with the requirements of progressive reinstatement. 'Progressive reinstatement' is defined as: reinstatement of disturbed areas to topsoil profile on an ongoing basis, immediately after selected construction activities (e.g. backfilling of trench) are completed. This allows for passive rehabilitation (i.e. natural re-colonisation by vegetation) to commence.

2.6.13. The following trenching specification shall apply:

2.6.13.1. The trench will be excavated to a depth of 1m where possible. Where shallow bedrock makes this impractical the trench should only then be excavated to the maximum depth possible.

2.6.13.2. Care will be taken to remove the topsoil and then the subsoil and to stockpile these separately.

2.6.13.3. The pipeline/cable should be placed on a 200mm bed of river sand to protect it.

2.6.13.4. The subsoil will then be backfilled.

2.6.13.5. The topsoil will then be replaced and the entire length of the trench compacted.

2.6.13.6. The trench should be compacted to 90-93% AASHTO.

2.6.13.7. Sections of the trench that are excavated in a roadway should be compacted to 98% AASHTO.

2.6.14. Contract personnel at all levels to be made aware of potential archaeological and/or paleontological artefacts/occurrences.

2.6.15. Any discovery of artefacts to be reported immediately to SAHRA.

2.6.16. Works in areas where artefacts are discovered are to cease immediately until the area has been investigated and a go-ahead has been obtained from SAHRA.

2.7. **Levelling**

Management Action:

2.7.1. Excess sand and soil resulting from levelling activities of the work area should be stored in low heaps either on the access road or already disturbed area.

2.7.2. Excess topsoil is to be spread evenly over the area in a manner that blends in with the natural topography.

2.7.3. Excess stockpiled building material is to be removed completely and the areas levelled.

2.7.4. Once heavy machinery has cleared the bulk of these material stockpiles, the disturbed areas should be levelled and cleared of any foreign material manually. It is unacceptable to leave foreign material behind with the knowledge that it will become hidden amongst the rejuvenating vegetation with time.

2.7.5. Regular inspections must be undertaken to monitor and audit the effects and impacts of such removals.

2.8. **Stockpiling of building materials**

Management Action:

2.8.1. Limit to demarcated sites only.

2.8.2. Single sites should be a priority. This may not always be possible for example heaps of topsoil, but should definitely be the case for activities such as the mixing of cement.

2.8.3. Stockpiles of expensive materials such as bags of cement should be such that they can easily be removed from the site over weekends or during rainy weather.

2.8.4. Specific sites should be allocated for waste e.g. empty cement bags, discarded planks, etc. A low temporary fence should possibly be erected around such a site in order to contain the waste and assist the effective removal thereof from the site.

2.8.5. A specific site should be allocated for the storage and handling of diesel, grease, oils, solvents and soap, which create cleaning and disposal issues. This area should be banded, and thus should take place in the area allocated for permanent storage of such materials.

2.8.6. Fuels required during construction shall be stored in a central depot at the construction camp. This storage area must be banded.

2.8.7. Rehabilitate the sites as required.

2.9. **Materials handling and storage**

Management Action:

2.9.1. Tanks containing fuel shall have lids, which are to remain firmly shut.

2.9.2. Fuel stores shall be placed on a concrete, or similar, base surrounded by a brick bund.

2.9.3. The bund shall have a volume of 30% of the volume of the largest tank in the storage area plus 10% of the volume of all other tanks.

2.9.4. The slab shall be sloped towards a sump to enable any spilled fuel and water to be removed.

2.9.5. Any wastewater collected at the sump shall be disposed of as hazardous waste.

2.9.6. Gas and liquid fuel shall not be stored in the same storage area.

2.9.7. No smoking shall be allowed inside the stores or within 3m of a bund.

2.9.8. The Contractors shall ensure that there is adequate fire-fighting equipment at the fuel stores.

2.9.9. Do not store fuels and chemicals under trees.

2.9.10. Exercise extreme care with the handling of diesel and other toxic solvents so that spillage is minimised.

2.9.11. Excess concrete from mixing shall be deposited in a designated area awaiting removal to an appropriate landfill site. Liquid wastes to be treated at an approved facility.

2.9.12. The Contractors shall ensure that all operations that involve the use of cement and concrete are carefully controlled.

2.9.13. Concrete mixing shall only take place in the construction camp or in agreed specific areas on site.

2.9.14. Concrete shall not be mixed directly on the ground. No mixed concrete shall be deposited directly onto the ground prior to placing. A board or other suitable platform/surface is to be provided onto which the mixed concrete can be deposited whilst it waits placing.

2.9.15. All visible remains of excess concrete shall be physically removed immediately and disposed of as waste.

2.9.16. Timber products should be treated off-site prior to use in construction.

2.9.17. Periodic on-site application of timber treatment products (for maintenance purposes) should take place with due care for the nature of the product (toxicity) and for potential spillages that may occur. Areas where timber is to be treated should have secondary containment measures instituted, such as the placement of plastic layer (some form of covering) over soils, beneath the timber structures to prevent contamination of the soil surface.

2.10. **Servicing and refueling of construction equipment**

Management Action:

2.10.1. The Contractors shall ensure that servicing and/or refuelling of vehicles and equipment takes place within the construction camp.

2.10.2. Should construction vehicles have to serviced on site, it must be done in a designated area with a concrete floor and drain system that will prevent oils and fuels from contaminating the environment.

2.10.3. The ground under the servicing and refuelling areas shall be protected against pollution caused by spills and/or tank overfills (bunded/lined).

2.10.4. All water run-off from these areas shall be collected, contained on site and stored in water-tight containers prior to disposal off-site as hazardous waste

2.10.5. All equipment that leaks shall be repaired immediately or shall be removed from site.

2.10.6. The Contractors shall only change oil or lubricant at agreed and designated locations, except if there is a breakdown or emergency repair, and then any accidental spillages must be cleaned up/removed immediately.

2.10.7. In such instances the Contractors shall ensure that he has Drizit pads or similar, and/or drip trays available to collect any oil or fluid.

2.10.8. The only permitted method of refuelling and refilling lubricants is by means of a pump.

2.11. **Solid waste management**

Management Action:

2.11.1. If construction workers are to eat on site other than at the construction camp, the Contractors shall designate specific areas for eating and shall provide adequate steel refuse bins at al places. The refuse bins shall be cleaned on a daily basis.

2.11.2. The bins shall be provided with lids and an external closing mechanism to prevent their contents blowing out and shall be scavenger-proof.

2.11.3. The Contractors shall supply steel waste bins/skips throughout the site at locations where construction personnel are working

2.11.4. The Contractors shall not dispose of any waste and/or construction debris by burning, or by burying.

2.11.5. The Contractors shall ensure that all personnel immediately deposit of waste in waste bins for removal by the Contractors.

2.11.6. All waste shall be disposed of off-site at an approved landfill site.

2.11.7. Remove loose building materials and waste from the site and dispose of them at an appropriate waste disposal site.

2.11.8. Old cement mixing bags shall be placed in wind and spill proof containers as soon as they are empty. The Contractors shall not allow closed, open or empty bags to lie around the site.

2.11.9. All waste, which includes cigarette butts, cable ties, paper, plastic, tin, glass, organic waste like fruit pips and peels, planks, wire, tins of grease, etc. must be transported in an appropriate manner (e.g. plastic rubbish bags) to an appropriate waste site.

2.12. **Liquid waste management**

Management Action :

2.12.1. Construction water refers to all water affected by construction activities.

2.12.2. The Contractors may discharge 'clean' silt laden water overland and allow this water to filter into the ground. However, they shall ensure that they do not cause erosion as a result of any overland discharge.

2.12.3. All washing of plant/equipment/concreting equipment etc. shall take place within the construction camp.

2.12.4. Water from washing operations shall be collected in a conservancy tank removed from site and disposed of in the agreed manner.

2.12.5. The Contractors are encouraged to recycle dirty wash water to minimise the amount to be removed off-site.

2.12.6. Trucks delivering concrete shall not be washed on site.

2.12.7. All washing operations shall take place off-site at a location where wastewater can be disposed of in an acceptable manner.

2.12.8. Adequate ablution facilities to be provided on site, conveniently located near to work areas to avoid localised water pollution from camp sewerage.

2.12.9. Neither the river nor any other natural watercourse is to be used for cleaning of tools or any other apparatus. This includes for purposes of bathing, or washing of clothes etc.

2.12.10. A drainage diversion system is to be installed to divert runoff from areas of potential pollution, e.g. batching area, vehicle maintenance area, workshops, chemical and fuel stores, etc.

2.12.11. No spills may be hosed down into a storm water drain or sewer, or into the surrounding natural environment.

2.12.12. Discard construction waste at a registered waste management facility/landfill site, particularly those wastes or products that could impact on surface or groundwater quality by leaching into or coming into contact with water.

2.12.13. Construction vehicles are to be maintained in an acceptable state of repair and cleanliness when leaving site. Sand, dust and spillages from these vehicles that inevitably fall on the main roads should be cleared on a regular basis.

2.12.14. All soil contaminated, for example by leaking machines, refuelling spills, etc., is to be excavated to the depth of contaminant penetration, placed in 200 litre drums and removed to an appropriate landfill site.

2.12.15. The Contractors shall contain wash water from cement mixing operations, by directing the water into a sump for collection. The material contained in the sump shall be removed to an appropriate landfill site.

2.12.16. Water and slurry from concrete mixing operations shall be contained to prevent pollution of the ground surrounding the mixing points.

2.12.17. All visible remains of excess concrete shall be physically removed immediately and disposed as waste. Washing the visible signs into the ground is not acceptable. All excess aggregate shall also be removed.

2.12.18. Where, due to construction requirements, pollution of a water body may potentially occur, the Contractors are to ensure adequate measures (e.g. attenuation/settlement dams/oil absorbent products) are in place to prevent pollution. A method statement is to be provided to this effect.

2.12.19. Exercise extreme care with the handling of diesel and other toxic solvents so that spillage is minimised.

2.12.20. The Contractors shall take reasonable precautions to prevent the pollution of the ground and /or water resources on and adjacent to the site as a result of his activities.

2.12.21. Such pollution could result from the release, accidental or otherwise, of chemicals, oils, fuels, sewage and waste products, etc.

2.12.22. The Contractor shall obtain Drizit pads or similarly designed products or materials to soak up oil, petrol and diesel.

2.12.23. These materials shall be readily available for use wherever construction equipment is working, fuel and lubricants are being offloaded and stored and equipment is filled and serviced.

2.12.24. The Contractors shall ensure that he is familiar with the correct use and disposal of any materials designed to soak op petroleum products.

2.12.25. The Contractors shall ensure that no oil, petrol, diesel, etc. is discharged onto the ground.

2.13. **Hazardous materials**

Management Action:

2.13.1. The Contractors shall comply with all national, regional and local legislation with regard to storage, transport, use and disposal of petroleum, chemical, harmful and hazardous substances and materials.

2.13.2. The Contractors shall obtain the advice of the manufacturer with regard to the safe handling of such substances and materials.

2.13.3. The Contractors shall provide a list of all petroleum, chemical, harmful and hazardous substances and materials on site, together with storage, handling and disposal procedures for these materials.

2.13.4. The Contractors shall furthermore be responsible for the training and education of all personnel on site who will be handling the material about its proper use, handling and disposal.

2.13.5. Storage of all hazardous material is to be safe, tamper proof and under strict control.

2.13.6. Petroleum, chemical, harmful and hazardous waste throughout the site shall be stored in enclosed bunded areas. The bunded areas shall be clearly marked. Such waste shall be disposed of off site at a hazardous waste disposal site.

2.13.7. The bunded area is to be sufficiently large to contain a spillage equivalent to the volume of one container of the substances stored.

2.13.8. Temporary fuel storage tanks and transfer areas also need to be located on an impervious surface adequately bunded to contain accidental spills. Appropriate run-off containment measures must be in place.

2.13.9. All products to be dispensed from 200 litre drums shall be done with appropriate equipment, and not dispensed by tipping of the drum.

2.13.10. Any accidental chemical/fuel spills to be corrected immediately.

2.13.11. Fuels, solvents and other wastes will be stored in vessels equipped with secondary containment structures and will be removed from the concession area and the park being disposed of in compliance with national and local requirements

2.13.12. The containers in which the products are kept should, in compliance with hazardous material management procedures, be removed from the site once empty. Hazardous products should otherwise be stored on adequately bunded surfaces in the designated hazardous material storage areas.

2.14. **Erosion protection work**

Management Action:

2.14.1. Correct any cause of erosion at the onset thereof trough the most appropriate mechanism.

2.14.2. Soils should not be stripped when they are wet. This can lead to compaction and loss of soil structure.

2.14.3. During construction the Contractors shall protect all areas susceptible to erosion by installing all the necessary temporary and permanent drainage works as soon as possible and by taking such other measures as may be necessary to prevent surface water being concentrated in water sources and from scouring the slopes, banks or other areas.

2.14.4. In essence soil erosion protection is about reducing the velocity of water run-off in the disturbed areas. There are many appropriate methods, depending largely upon the size and topography of the area to be protected against erosion.

2.14.5. The stabilisation of disturbed areas, access roads and/or steep cuttings is very site specific and could include:

2.14.5.1. Mitre drains;

2.14.5.2. Drainage pipes;

2.14.5.3. Reno mattresses (biodegradable material, upon which soil and rocks are packed which then keeps it in place to bind the soil);

2.14.5.4. Benches (consisting of sand bags);

2.14.5.5. Gabions;

2.14.5.6. Gabion mattresses;

2.14.5.7. Scarifying (ripping) areas along the natural contours; or

2.14.5.8. Packing branches and rocks in small gullies and disturbed areas.

2.14.6. Drainage of access routes and mitre drains to be maintained and kept open and functional.

2.14.7. Block off access to gravel pits and temporary routes so as to prevent them being used as 'roads' at a later stage.

2.14.8. Surface erosion protection measures shall be required to prevent erosion where slopes are steeper than 1:8 on all soil types.

2.14.9. Erosion protection measures required should include all or some of the below, as specified by the Engineer:

2.14.9.1. Use of groundcover or grass, retention of as much of the indigenous vegetation as possible;

2.14.9.2. Construction of cut off berms (earth and/or rock pack) – these are to be angled across the contour and normally would approximate an angle of 30° from the bisector of the contour;

2.14.9.3. Placing of brush wood on bare surface;

2.14.9.4 Hard landscaping, e.g. gabions etc.

2.14.10. Scour chambers are to be fitted with energy dissipaters, or the jet of water directed onto a protected (i.e. grouted stone pitching/rock pack/Reno mattress) area to dissipate water velocity and to control and prevent erosion.

2.14.11. Storm water drainage measures shall be required on site to control runoff and prevent erosion.

2.15. **Use and rehabilitation of gravel pits**

Management Action:

2.15.1. The extent of the borrow area (envelope area) is to be clearly explained to the contractors prior to the commencement of gravel extraction activities. This gravel area is not to be increased.

2.15.2. Topsoil is to be stockpiled separately and used to recover and rehabilitate the pits after use.

2.15.3. Plan to reuse the soil, as soon as possible; the biological components will deteriorate over long periods of storage.

2.15.4. Do not stockpile in large piles. Store in low heaps no more than one or two metres high to best retain the organic components in good condition.

2.15.5. The stockpiles should be located where they will not be disturbed by activities within the gravel pit. Disturbing the topsoil can further damage the soil structure prior to final reuse.

2.15.6. Soils should not be stripped when wet. This can lead to compaction and loss of structure of the soil.

2.15.7. The stripping of the gravel pit to solid bedrock with no chance for rehabilitation should be avoided. Such areas within the gravel pit should be rehabilitated immediately.

2.15.8. The natural slopes in the area, which have evolved as a result of natural erosion processes, should be studied and used as a guideline to determine the inclination of the reconstructed slopes. Obviously, the size of the area to be rehabilitated is a major consideration.

2.15.9. Slopes should be designed to reduce the velocity of the run-off as the catchment area of the increases. Where the area of the site limits formation of the stable slope profile, contoured benches or similar erosion control methods may be required. Slopes with an overall convex profile should always be avoided.

2.15.10. Where the size of the slope area to be rehabilitated is small, benches consisting of sandbags can be considered. These temporary structures should under no circumstances be left in a place beyond their projected life, as they will deteriorate in a very short period of time.

2.15.11. Benches are best located in the middle of the slope. Where long spaces cannot be avoided several benches may be required. In such cases the slope and run-off characteristics must be considered.

2.15.12. The site must be surveyed to maintain the contours. Where banks are graded to direct run-off to specific draw points ensure that run-off is dissipated or properly controlled.

2.15.13. Topsoil will commonly not adhere to slopes that are steeper than 27 degrees. The maximum slope for mechanically spreading topsoil is approximately 19 degrees.

2.15.14. Depending on the characteristics of the site, such as geology, the nature of the soils and other site specific topographical features, more gentle slopes may be necessary.

2.15.15. When contouring, always rip and scarify precisely along the contour. This prevents inadvertently creating down slopes channels.

2.15.16. The contour line should be surveyed and marked by posts, if necessary.

2.15.17. The ripping should normally be as deep as is possible depending on the material, the equipment that is available and the sub-surface conditions. However, some subsoil conditions (e.g. where boulders are present) may not permit ripping to these depths.

2.15.18. The spacing of the lines when ripping or scarifying should be such that they overlap each other.

2.15.19. When soil conditions are wet, soil will not break up so avoid ripping and scarifying under wet conditions.

2.15.20. Water discharge from small retention structures (e.g. earth embankments and artificially created pits that hold water) should be implemented. Where practical, it can be controlled via corrugated metal or plastic pipe/s that drain the water through the retention structures into a safe discharge area (i.e. one, which does not promote erosion or the creation of another artificial water pit).

2.15.21. These temporary structures should under no circumstances be left in place beyond their projected life, as they will deteriorate in a very short period of time.

2.15.22. The siting of any disposal sites for waste rock, within a specific borrow pit should be considered in the earliest plans. In many cases the filling and rehabilitation of any artificial water pits within the gravel pit could be considered. The site is covered by at least 0,5m of local gravel and then the available topsoil.

2.15.23. Access point to the borrow pit site is closed when not in use.

2.16. **Run-off from construction camps**

Management Action:

2.16.1. Pumps and other machinery requiring oil, diesel, etc., which are to remain in one position for longer than two days shall be placed on drip trays. The drip trays shall be watertight and shall be emptied regularly and the contaminated water disposed off-site at a facility capable of handling such waste liquid. Drip trays shall be cleaned before any possible rain events that may result in the drip trays overflowing.

2.16.2. A drainage diversion system is to be installed to divert runoff from areas of potential pollution, e.g. batching area, vehicle maintenance area, workshops, chemical and fuel stores, etc.

2.16.3. Contaminated runoff and wastewater is to be directed into a collection system (e.g. sump, attenuation dam, PVC porta-ponds, etc.) for treatment or collection and disposal. The final collection point (e.g. sump) is to be PVC lined.

2.16.4. Collected contaminated runoff/wastewater is to be pumped out of the final collection point and disposed of at an appropriate waste disposal site. Sump liners are to be treated in the same manner.

2.17. **Fire**

Management Action:

2.17.1. The Contractors shall take all the necessary precautions to ensure that fires are not started as a result of activities on site.

2.17.2. No open fires for heating or cooking shall be permitted on site.

2.17.3. Closed fires or stoves shall only be permitted at agreed designated safe sites in the construction camp.

2.17.4. Adequate suitable fire fighting equipment shall be provided at each fireplace or stove.

2.17.5. The Contractors shall be responsible for providing the necessary basic fire-fighting equipment.

2.17.6. All equipment shall be maintained in good operating order.

2.17.7. The Contractors shall supply all site offices, kitchen areas, workshop areas, material stores and other areas identified with suitable, tested and approved fire fighting equipment.

2.17.8. Workers are to be provided with gas for cooking and shall be prevented from burning fires.

2.17.9. No open fires shall be allowed anywhere on site.

2.17.10. The Contractors shall ensure he has the necessary fire fighting equipment on site in terms of SANS 1200. This shall include at least rubber beaters when working in 'veld' areas. A minimum requirement for construction in a high fire risk area shall be a water bowser/cart (minimum 5 000 litres) equipped with pump and hose (min 30m) which shall be permanently on site.

2.17.11. The construction site must also be protected against fire, and a sufficient fire break must be constructed, around the construction site.

2.17.12. A road to be constructed along the entire boundary of the site.

2.17.13. A firebreak to be made along the site boundary road.

2.18. **Accidents**

Management Action:

2.18.1. The Contractors shall comply with the Occupational Health and Safety Act.

2.18.2. The Contractors shall be responsible for establishing an emergency procedure for dealing with spills or releases of petroleum.

2.19. **Storm and wind conditions**

Management Action:

2.19.1. Special care will be taken during rainy periods to prevent the contents of sumps from overflowing.

2.19.2. The Contractors shall set up a procedure for rapidly emptying any collection points to prevent their filling with rainwater.

2.19.3. The Contractors shall ensure that rainwater does not run off areas containing pollutants and thus result in a pollution threat.

2.19.4. Stockpiles of the fine material such as sand, topsoil material, cement, etc. must also be protected from runoff and wind.

2.20. **Dust**

Management Action:

2.20.1. At all times the Contractors shall control dust on site.

2.20.2. Dust control shall be sufficient so as not to have significant impacts in terms of the biophysical and social environments. These impacts include visual pollution on gravel and earth roads.

2.20.3. A dust abatement program shall be used. Standard dust abatement measures include watering or otherwise stabilizing soils, covering haul trucks, employing speed limits on unpaved roads, minimizing vegetation clearing, and promptly revegetating after construction is completed.

2.20.4. Revegetation plans should be developed for areas impacted by construction activities. Salvaged vegetation, rather than new planting or seeding, should be used to the extent possible.

2.20.5. Efforts to reduce dust and soil loss are to be undertaken, as appropriate, for all excavation, grading, construction, and other dust-generating and soil-disturbing activities.

2.21. **Noise**

Management Action:

2.21.1. Machinery and vehicle silencer units are to be maintained in good working order. Offending machinery and/or vehicles shall be banned from use on site until they have been repaired.

2.21.2. Noise levels shall e kept within acceptable limits for a protected area, and shall not be of such nature as to detract from the natural experience of other visitors to the protected area.

2.21.3. Music and other social noise to be controlled on site so as to not impose on others.

2.21.4. The Contractors shall at all times use equipment that is appropriate to the task in order to minimise the extent of damage to the environment and minimise noise levels.

2.21.5. Construction work will take place during the day as far as possible.

2.21.6. Work will only be undertaken at night in the case of emergencies.

2.21.7. Work hours will be from approximately 07:00 to 17:00

2.22. **Visual**

Management Action:

2.22.1. The type and colour of roofing and cladding materials are to be selected to reduce reflection.

2.22.2. Security lighting (both temporary and permanent) and lighting required for specific work activities must be placed such that it is not a nuisance to residents, visitors and the general public. Shields may be required to prevent lights from being visible from other parts of the area.

2.22.3. Construction will only take place at night during emergency situations and not as common practice.

2.22.4. Care will be taken when positioning the lights to ensure the least visual impact, while still providing a safe work environment for construction staff.

2.23. **Loitering**

2.23.1. The contractors shall ensure that loitering around the construction sites is not permitted. This includes job seekers, socialisers, food vendors, squatters, etc.

2.24. **Site clean up**

Management Action:

2.24.1. The Contractors shall ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project.

Contract: EED 05-2022.23

TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300 MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS

SCHEDULE

MINISTERIAL DETERMINATION NO: 3: EXPANDED PUBLIC WORKS PROGRAMMES

Index

1. Definitions

1.1 In this determination -

"expanded public works programme" means a programme to provide public or community assets or services through a labour intensive programme initiated by government and funded from public resources.

1.2 Without limiting subsection (1), the following programmes constitute Expanded Public Works Programmes:

(a) Environment and Culture Sector Programmes including Working for Water, Working on Fire, Working for Wetland, People and Parks, Working for Energy, Working for Woodlands, Working for the Coast, Landcare, Working on Waste, Working for Tourism, Investing in Culture Programmes

(b) Infrastructure Sector Programmes and Projects declared par of EPWP which may include the construction, rehabilitation and maintenance of: rural and low-volume roads, storm-water drains, water reticulation, basic sanitation, footpaths, sidewalks, bicycle paths, schools and clinics.

(c) Social Sector Programmes including Early Childhood Development, Home, Community Base Care, Community Safety and other community-based programmes

(d) All projects and programmes accessing the EPWP wage incentive including those implemented by non-Governmental organisations (NGO) and Community Based Organisation (CBO) and the Community Works Programme

(e) Any other programme deemed to be part of the EPWP as determined by the Department of Public Works

2. Application

This Determination applies to all employers and employees engaged in expanded public works programmes.

3. The following provisions of the Basic Conditions of Employment Act do not apply to public works programmes –

3.1	Section 10(2)	[Overtime rate]
3.2	Section 14(3)	[Remuneration required for meal intervals of longer than 75 minutes]
3.3	Section 29(h) to (p)	[Written particulars of employment]
3.4	Section 30	[Display of employee's rights]
3.5	Section 41	[Severance pay]
3.6	Section 37	[Notice of termination]
3.7	Section 51 - 58	[Sectoral Determinations]

4. Conditions

As set out in the ANNEXURE:

ANNEXURE

CONDITIONS OF EMPLOYMENT FOR EXPANDED PUBLIC WORKS PROGRAMMES

1. Introduction

1.1 This document contains the standard terms and condition for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions o NOT apply to persons employed in the supervision and management of a SPWP.

1.2 In this document –

(a) "department' means any department of the State, implementing agent or contractor;

(b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;

(c) "worker" means any person working in an elementary occupation on a EPWP;

(d) "elementary occupation" means any occupation involving unskilled or semi-skilled word\k;

(e) "management" means any person employed by a department or implanting agency to administer or execute an EPWP;

(f) "task" means a fixed quantity of work;

(g) "task-based work" means work in which a worker is paid to fixed rate for performing a task;

(h) "task-rate worker" means a worker paid on the basis of the number of tasks completed;

(i) "time-rate worker" means a worker paid on ths basis of the length of time worked.

2. Terms of Work

2.1 Workers on an EPWP are employed on a temporary basis or contract basis.

3. Normal Hours of Work

3.1 An employer may not set tasks or hours of work that require a worker to work –

(a) more than forty hours any week;

(b) on more than five days in a week; and

(c) for more than eight hours on any day.

3.2 Any employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.

3.3 A task-rated worker may not work more than a total of 55 hours in a week to complete the tasks allocated (based on a 40-hour week) to that worker.

4. Meal Breaks

4.1 A worker may not work for more than five hours without taking a meal brake of at least thirty minutes duration.

4.2 An employer and worker may agree on longer meal brakes.

4.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal brake if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

4.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

5. Special Conditions for Security Guards

5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

5.2 A security guard who works more than ten hours per day must have a meal break at least one hour or two breaks of at least 30 minutes each.

6. Daily Rest Period

Every worker is entitled to a daily rest period of at least twelve consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

7. Weekly Rest Period

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

8. Sick Leave

8.1 Only workers who work more than 24 hours per month have the right to claim sick-pay in terms of this clause.

8.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.

8.3 A worker may accumulate a maximum of twelve days' sick leave in a year.

8.4 Accumulated sic-leave may not be transferred from one contract to another contract.

8.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

8.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

8.7 An employer must pay a worker sick pay on the worker's usual payday.

8.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the work is –

(a) absent from work for more than two consecutive days; or

(b) Absent from work on more than two occasions in any eight-week period.

A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

8.9 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

9. Maternity Leave

9.1 A worker may take up to four consecutive months' unpaid maternity leave.

9.2 A worker is not entitled to any payment or employment-rated benefits during maternity leave.

9.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.

9.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.

9.5 A worker may begin maternity leave –
(a) four weeks before the expected date of birth; or

(b) on an earlier date –

(i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or

(ii) if agreed to between employer and worker; or

(iii) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.

9.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

10. Family responsibility leave

10.1 Workers, who work for at lease four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances –

(a) when the employee's child is born;

(b) when the employee's child is sick;

(c) in the event of a death of –

(i) the employee's spouse or life partner;

(ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

11. Statement of Conditions

11.1 An employer must give a worker a statement containing the following details at the start of employment –

(a) the employer's name and address and the name of the EPWP;

(b) the tasks or job that the worker is to perform; and

(c) the period for which the worker is hired or, of this is not certain, the expected duration of the contract;

(d) the worker's rate of pay and how this is to be calculated;

(e) the training that the worker will receive during the EPWP.

11.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

11.3 An employer must supply each worker with a copy of these conditions of employment.

12. Keeping Records

12.1 Every employer must keep a written record of at least the following –
(a) the worker's name and position;
(b) copy of an acceptable worker identification
(c) in the case of a task-rated worker, the number of tasks completed by the worker;
(d) in the case of a time-rated worker, the time worked by the worker;
(e) payments made to each worker.

12.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

13. Payment

13.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

13.2 A worker may not be paid less than the minimum EPWP wage rate of R63.18 per day or per task. This will be adjusted annually on the 1st of November in-line with inflation (available CPI as provided by StatsSA six (6) weeks before implementation).

13.3 A task-rated worker will only be paid for tasks that have ben completed.

13.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.

13.5 A time-rated worker will be paid at the end of each month.

13.6 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

13.7 Payment in cash or by cheque must take place –
(a) at the workplace or at a place agreed to by the worker;
(b) during the worker's working hours or within fifteen minutes of the start or finish of work;

(c) in a sealed envelope which becomes the property of the worker.

13.8 An employer must give a worker the following information in writing –
(a) the period for which payment is made;
(b) the numbers of tasks completed or hours worked;
(c) the worker's earnings;
(d) any money deducted from the payment;
(e) the actual amount paid to the worker.

13.9 If the worker is paid n cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

13.10 If a worker's employment is terminated, the employer must pay all monies owing to the worker within one month of the termination of employment.

14 Deductions

14.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

14.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

14.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.

14.4 An employer may not require or allow a worker to –

(a) repay any payment expect an overpayment previously made by the employer by mistake;

(b) state that the worker receive a grater amount of money than the employer actually paid to the worker; or

(c) pay the employer or any other person for having been employed.

15. Health and Safety

15.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

15.2 A worker must –

(a) work in a way that does not endanger his/her health and safety or that of any other person;

(b) obey any health and safety instruction;

(c) obey all health and safety rules to the EPWP;

(d) use any personal protective equipment or clothing issued by the employer;

(e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manger.

16. Compensation for Injuries and Diseases

16.1 It is the responsibility of the employers (other than a contractor) to arrange for all personal employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

16.2 A worker must report any work-related injury or occupational disease to their employer or manager.

16.3 The employer must report the accident or disease to the Compensation Commissioner.

16.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

17. Termination

17.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

17.2 A worker will not receive severance pay on termination.

17.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.

17.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

17.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

Certificate of Service

18.1 On termination of employment, a worker is entitled to a certificate stating -

(a) the worker's full name;

(b) the name and address of the employer;

(c) the EPWP on which the worker worked;

(d) the work performed by the worker;

(e) any training received by the worker as part of the EPWP;

(f) the period for which the worker worked on the EPWP;

(g) any other information agreed on by the employer and worker.

1. OCCUPATIONAL HEALTH AND SAFETY

General Notification

This document forms an integral part of the Contract Specification and, in particular, shall constitute the Client's (City of Tshwane.) Occupational Health & Safety Specification, as required by the Construction Regulations, 2014, as promulgated under the Occupational Health and Safety Act (Act no. 85 of 1993).

This 'Health and Safety Specifications' document is governed by the "Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as 'The Act'. Notwithstanding this, cognizance should be taken of the fact that no single Act or its set of Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a documented specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is required that the entire scope of the Labour legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this requirement is limited to all health and safety issues pertaining to the site of the project as referred to here-in. Due to the wide scope and definition of construction work, every project activity and site will be different, and circumstances and conditions may change even on a daily basis. Therefore, due caution is to be taken by the Principal Contractor when drafting the Health and Safety Plan based on these Health and Safety Specifications. Prior to drafting the Health and Safety Plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to identify and determine the scope and details of any risk associated with any hazard at the site, in order to identify the steps needed to be taken to remove, reduce or control such hazard. This Risk Assessment and the steps identified will be the basis or point of departure for the Health and Safety Plan. The Health and Safety Plan shall include documented 'Methods of Statement' (see definitions under Construction Regulations) detailing the key activities to be performed in order to reduce as far as practicable, the hazards identified in the Risk Assessment.

1.1. Overview on OHS specification framework and contractor management process

1.1.1. Definition of Terms

I. Client-Means any person for whom construction work is performed and or undertaken (City of Tshwane for the purposes of this project)

II. Construction site means a workplace where a construction work is being performed

III. Construction supervisor means a competent person responsible for supervising construction activities on a construction site.

IV. Competent person means a person who –

a) Has in respect of the work or task to be performed the required knowledge, training and experience and where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provision of the National Qualification Framework Act 2000 (Act 67 of 2000), those qualifications and that training must be regarded as the required qualification and training and

b) Is familiar with the Act.

V. Principal Contractor-Means an employer, as defined by Section 1 of the OHSACT who performs construction work and is appointed by the client to be in overall control and management of the construction site and works

VI. Agent-Means a competent person who acts as a representative for a client in this case MIH Projects.

VII. Occupational Health and Safety Specification- Means a documented specification of all Health and Safety requirements pertaining to the associated works on a construction site so as to ensure the health and safety of persons working ,visiting, passing, staying and working close to the construction site and or other applicable areas such as the site camp

VIII. Risk-means the probability that injury or damage may occur

IX. Hazard-means a source of or exposure to danger

1.1.2. Introduction

In terms of the Construction Regulation 5 (1) of the OHS ACT, the client is required to compile an Occupational Health and Safety Specification for an intended project. This specification has an objective to ensure that the principal contractor entering into a contract with the client achieves and maintain an acceptable level of Occupational Health and Safety performance and compliance.

This document forms an integral part of the contract between the client and the principal contractor.

The Principal Contractor and its Contractors shall furthermore implement any reasonable practicable means to ensure compliance to this Occupational Health and Safety Specification and any other applicable legislation on their organization and/or activities performed by or for them

Compliance with this document does not absolve the principal contractor from complying with any other minimum legal requirement and the principal contractor remains responsible for the health and safety of his employees, those of his mandatories as well as any person coming on site or on adjacent properties as far as it relates to the protect activities.

1.1.3. City of Tshwane's commitment to Occupational Health and Safety Management

City of Tshwane is committed to responsible occupational health, safety management. This commitment is essential to protect the environment, employees, mandatories, visitors and provide a work environment conducive to health and safety. Principal Contractors and their Contractors shall demonstrate their commitment and concern by:

- Ensuring that decisions and practices affecting occupational health and safety performance are consistent with the issued specification;
- Ensuring adequate resources are made available for the effective implementation of occupational health and safety control and mitigation measures;
- Participating in hazard identification and risk assessments and design safety reviews;

- Communicating occupational health and safety management processes, strategies and control measures with all levels of employees, contractor and/or visitors;
- Ensuring visible leadership at all sites;
- Promoting and enforcing the use of correct types of Personal Protective Equipment (PPE);
- Reporting and investigation of incidents and accidents and ensuring actions are identified and implemented to prevent similar types of incidents reoccurring;
- Participating in Client audits and meetings and ensuring required actions are implemented within reasonable time frames on the site/project;
- Recognizing and commending safe work practices and coaching employees who require guidance;
- Applying and enforcing consequence management from deviations and transgressions of/from compliance to this OHS Specification noted and/or observed, where applicable;
- Carrying out safety observations, implement corrective and preventative actions and giving immediate feedback;
- Encouraging employee participation in the formulation of work instructions and safety rules.

1.1.4. Scope

This is a project specific Occupational Health and Safety Specification that addresses the reasonable and foreseeable, risks, exposures and aspects of Occupational Health and safety as affected by the TENDER TO PROVIDE A SERVICE PROVIDER TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA FOR THE CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THREE (3) YEARS

The specification will provide the requirements that the principal contractor and other contractors will have to comply with in order to reduce the risk associated with the above-mentioned project and that may lead to incidents causing injury and/or ill health to a level as low as reasonable practicable and possible.

1.1.5. Omissions from OHS Specification

Where any omission from the OHS Specification is identified, applicable legal requirements will constitute the minimum standard for compliance to the relevant omission. The responsibility will be on the Principal Contractor to provide assurance to City of Tshwane on compliance to the applicable legal requirements related to the activity / task / process.

1.1.6. Change or Review of Specifications

Any changes identified or need of review of this OHS specification either by the Client or the Specification, approved changes and revisions will be done after communication between the two parties. A cost analysis on the implementation of the proposed changes / revisions will be calculated through a collaborative processes between City of Tshwane and the Principal Contractor – where the approved changes and/or revisions has no cost implication for the Principal Contractor the Principal Contractor will be required to accept the approved changes / revisions and ensure implementation within the OHS Plan .

1.1.7. Preparation and Submission of safety file

The Principal Contractor will prepare a safety file containing the processes / procedures and templates to be applied during the project period for the scope of work. The Principal Contractor will be evaluated during the contract period against the submitted safety file. At a minimum the safety file shall contain the following documentation:

1. Scope of work to be performed;
2. Public Liability
3. Personnel list (Principal Contractor employees);
4. OH&S Policy and other procedures;
5. Updated copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations.
6. Updated copy of the Compensation for Occupational Injuries and Diseases Act (Act no. 130 of 1993) and its Regulations;
7. Proof of valid registration and good standing with the Compensation Commissioner or another licensed Insurer;
8. OHS Plan agreed with City of Tshwane.

9. Agreement with Mandatory in terms of Section 37(1) &2 of the OHS Act.
10. Approved risk assessments, review and monitoring plans and safe work procedures (method statements);
11. A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work being done by each contractor;
12. Designs and/or drawings;
13. All written designations and appointments for project scope of work (CV and competency copies);
14. Management structure (inclusive of OH&S responsibility & meeting structure);
15. Induction training and site OHS rules;
16. Occupational health and safety training matrix / plan;
17. Arrangements with contractors and/or mandatories;

18. The following registers (as applicable to contract scope of work):
    - Accident and/or incident notifications, investigation & control register;
    - Occupational health and safety representatives inspection register;
    - Construction vehicles and mobile plan inspections;
    - Daily inspections templates of vehicles, plant and other equipment by the operator, driver and/or user;
    - Daily inspections templates of excavations by competent person;
    - Toolbox talks pro-forma;
    - Designer’s inspections and structures record template;
    - Inspection template of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
    - First-aid box content template;
    - Record of first-aid treatment template;
    - Fire equipment inspection and maintenance template;
    - Record of hazardous chemical substances template kept and used on site;
    - Machine safety inspections template (including machine guards, lock-outs etcetera);
    - Inspection templates for lifting machines and –tackle (including daily inspections by drivers/operators);

- Inspections templates of structures;
- Templates of issuing of Personal Protective Equipment;
- Monthly reporting and recording of statistics templates;
- Keeping of any other record in terms of applicable legislation falling within the scope of OHS Legislation applicable to the project and the Principal Contractor / Contractor's activities and organization.
- Emergency preparedness and response programmes;

1.1.8. Evaluation of Safety file

City of Tshwane will conduct an initial inspection and evaluation of the Principal Contractor's OHS file for approval purposes to commence work. The Principal Contractor is required to submit the OHS file within 5 days after receiving the induction training from City of Tshwane. City of Tshwane will allocate 3 days to evaluate the file and to give feedback on the evaluation report of the file to the contractor. If the file has not been approved, the contractor shall ensure that the outstanding documents are submitted in the file for re-evaluation within 3 working days. If the OHS file cannot be approved, a report will be submitted to the evaluation committee for re-evaluation. The approval letter from City of Tshwane must be kept in the OHS file and any letter issued concerning the evaluation of the file.

Principal Contractors are required to achieve at least 80% (Eighty Per cent) compliance on the entire safety file documentation to obtain approval by City of Tshwane

1.1.9. Principal Contractor engagement phase

The Principal Contractor shall commence with the construction work after approval of the safety file. The following processes will be applied to the Principal Contractors on a monthly basis for the duration of the contractual period:

- Monthly Compliance Assessments;
- Site Inspections;
- Progress meetings;
- Contractor forum meetings held at City of Tshwane
- Incident Investigations (where applicable).

1.1.10. Project close-out and submission of consolidated Health & Safety File

On completion of each project the Principal Contractor shall submit all documentation required for the consolidated safety file to City of Tshwane in an auditable format within 5 days of project completion. It is the responsibility of the Principal Contractor to deliver the consolidated safety file to the relevant City of Tshwane offices. At a minimum, the safety file will contain the following records:

1. Approval letter by City of Tshwane on contents of Health and Safety file including Health and Safety Management plan:
2. Scope of work performed;
3. OH&S Policy and other procedures;
4. Copy of the Occupational Health and Safety Act (Act no. 85of 1993) and its Regulations;
5. Proof of registration and good standing with the Compensation Commissioner or another licensed Insurer;
6. OHS plan agreed with City of Tshwane including the underpinning risk assessment(s) and method statements;
7. A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work done by each contractor;(if applicable)
8. Notifications of new projects /extension of scope received;
9. Designs and/or drawings;
10. Occupational health and safety committee meeting agenda and minutes;
11. Copies of written designations and appointments (CV and competency copies);
12. Management structure (inclusive of OH&S responsibility & meeting structure);
13. Induction training conducted and site OH&S rules;
14. Occupational health and safety training provided;
15. Arrangements with contractors and/or mandatories;
16. Description of security measures;
17. Occupational health and safety rules and procedures applied during contract period;
18. The following registers:

- Accident and/or incident register;
- Occupational health and safety representatives inspections;
- Construction vehicles and mobile plan inspections;
- Daily inspections of vehicles, plant and other equipment by the operator, driver and/or user;
- Daily inspections of excavations by competent person;
- Toolbox talks conducted;
- Designer's inspections and structures records;
- Inspections of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
- First-aid box content inspections;
- Record of first-aid treatment;
- Fire equipment inspection and maintenance records;
- Record of hazardous chemical substances kept and used on site;
- Ladder inspections;
- Daily safety harness inspection and form part of toolbox talk;
- Machine safety inspections (including machine guards, lock-outs etcetera);
- Inspections for lifting machines and –tackle (including daily inspections by drivers/operators);
- Issue registers for Personal Protective Equipment;
- Monthly reporting and recording of statistics reports;
- Keeping of any other record in terms of applicable legislation falling within the scope of OHS Legislation applicable to the project and the Principal Contractor / Contractor's activities and organization.
- All other applicable records;
- Emergency preparedness and response programmes;
- Investigation and reporting of incidents and/or accidents (internal to Client and Department of Labour / Compensation Commissioner).

1.2. OHS Specification Requirements

1.2.1. General Requirements of Health and Safety Plan

1.2.1.1. General

Construction Regulation 7 (1) stipulates that the principal contractor must provide and demonstrate to the client a suitable sufficiently documented and coherent site specific health and Safety Plan, based on the client's documented Health and Safety Specification contemplated in Regulation 5(1) (b), which plan must be applied from the date of commencement of and for the duration of the construction and which must be reviewed and updated by the principal contractor as work proceeds.

It will be expected from the Contractor to include in his safety plan method statements on how to accomplish the requirements relating to the Construction Regulations, 2014 and related incorporated standards and regulations.

Contractors should describe how their safety management systems will work and what control procedures they plan on using to ensure safety on the construction site

The following generic aspects should be covered in the Safety plan:

- What administrative procedures the Contractor envisages to use in the implementation and maintenance of the safety plan with reference to the construction site
- How continuous assessment of the safety plan will be assessed and implemented with respect to construction site
- What control systems the Contractor envisages to implement on site to support his safety program
- How the Contractor will ensure that he adheres to the construction regulations in respect of competent persons for appointments
- What external resources the Contractor envisages on using to ensure successful implementation and sustainability of the safety plan
- What training to employees the Contractor envisages and how he would go about to execute it
- The Contractor should indicate which competent persons he plans on employing

The Principal Contractor shall supply a detailed Health and Safety Plan for review by the Client, prior to site mobilization, to ensure compliance with the Construction Regulations, 2014. Mobilization shall be dependent upon the acceptance and approval of the Contractor's Health and Safety Management Plan by the Client.

1.2.2. Outline of Health and Safety Plan

The Contractor's Health and Safety Plan prepared in accordance with this specification shall consist of at least the following sections and sub-sections:

1. Purpose and Scope of Plan,
2. Risk Assessment,
    a. Forms of Risk Assessment,
    b. Methodology of Risk Assessment,
    c. Elements of Risk Assessment,
        i. Scope of assessment,
        ii. Risks Identified,
        iii. Risk Analysis,
        iv. Risk Evaluation,
        v. Risk Treatment(safe working procedures)
        vi. Monitoring and reviewing,
3. Resources,
    a. Health and Safety Staffing Organogram,
    b. Supervisors, Inspectors and Issuers,
    c. Employees,
    d. Subcontractors inclusive of their scope of work and their core resources,
    e. Training,
    f. Plant,
    g. Vehicles,
    h. Equipment
4. Materials,
    a. Temporary Materials
    b. Permanent Materials
5. Categories of Work
6. Implementation of Health and Safety Plan,
    a. Administrative systems,

   b. Training,
   c. Reporting,
   d. Monitoring,
   e. Inspections,
7. Auditing,
   a. Internal audits,
   b. Follow-up audits,
8. Financial Aspects,
9. Emergency procedures and response

1.2.3. Risk Assessment

1.2.3.1. General

This section of the specification provides guidelines for the Contractor in preparation of risk assessments in order to ensure compliance with Regulation 9 of the Construction Regulations, 2014. According to SANS 31000:2009, Risk is the overall process of risk identification, risk analysis, and risk evaluation. This section highlights the principles related to the preparation of suitable and sufficient risk assessments. Contractor Staff intending to prepare risk assessments should be trained and suitably experienced in the application envisaged.

A suitable and sufficient risk assessment is an assessment which:

- Accounts for risks that are likely to arise during the construction of the Works,
- Enables the development and implementation of systems to manage the risks,
- Remains valid for a reasonable period of time,
- Provides a basis for training of employees, and
- Improves working procedures and introduce long term controls.

The requirements of the Construction Regulations will not be satisfied by a single risk assessment exercise that holds good for all time. The risk assessment process on the Works is an ongoing process.

The objectives of risk assessments are to:

- Identify the risks that are mostly in need of reduction,
- Identify the various options for achieving such reduction,
- Identify the risks that require careful ongoing management, and
- Identify the nature of the required ongoing attention.

1.2.3.2. Forms of Risk Assessment

In order to ensure compliance with the Construction Regulations, the Contractor will be required to carry out the following three forms of risk assessment:

1.2.3.3. Risk assessments

The Contractor will be required to carry out a risk assessment before the commencement of construction activities on the Works. This “baseline” or “datum” risk assessment will form part of the Contractor’s Health and Safety Plan. The risks and hazards to which persons, plant, vehicles and facilities may be exposed during the construction of the Works should be identified and evaluated. Measures to reduce or control these risks or hazards should be defined during this assessment. The effectiveness of the measures defined and the baseline risk assessment prepared shall be monitored and reviewed from time to time to ensure that it remains relevant and accurate.

1.2.3.4. Issue based risk assessments

The Contractor will be required to carry out separate risk assessments during construction of the Works when methods and procedures are varied, for example when:

- Designs are amended,
- New machines are introduced,
- Plant is periodically cleaned and maintained,
- Plant is started-up or shut-down,
- Systems of work change or operations alter,
- Incidents or near-misses occur, or
- Technological developments invalidate prior risk assessments.

1.2.3.5. Continuous risk assessments

The Occupational Health and Safety Act specifically requires that employers shall provide and maintain working environments that are safe and without risk to health. The general awareness of hazards needs to be raised as work ethic to maintain a safe and risk free environment on an ongoing basis. This is achieved by continuous risk assessments, the most important form of risk assessment that takes place as an integral part of day-to-day management. Examples of continuous risk assessments include:

- Regular audits,
- Maintaining general hazard awareness,
- Pre-work risk assessment

1.2.3.6. Methodology for the Preparation of Risk Assessments

The Contractor shall in the preparation of risk assessments, follow the following general principles:

- Employ a team of suitably qualified individuals with appropriately varied and relevant experience in risk assessment,
- The appointed risk assessor shall lead the risk assessment,
- Provide the team with background data, scope of work, potential hazards and underlying causes, and
- Where necessary employ experts for complex risk assessments and aspects of risk assessments that require experiential judgment,
- Institute an ongoing system of identifying aspects of the work that require risk assessment, and
- Conduct risk assessments in workshops of the team or by individual members of the team under guidance of the leader as appropriate to the situation.

1.2.3.7. Elements of a Risk Assessment

General

The process of carrying out a risk assessment consists of a number of well-defined steps. These steps improve decision-making by providing a greater understanding of the risks and their impacts. The main steps or elements of the risk assessment process are as follows:

1) Consider scope and nature or risks involved, determine purpose and physical and legal bounds of assessment and define risk evaluating criteria,
2) Systematically identify risks,
3) Analyze risks with regard to causes, likelihood of occurrence and possible consequences against the background of existing controls and its effectiveness,
4) Evaluate risks in terms of pre-established criteria to determine need and priority for attention,
5) Treat risks through a process of risk elimination, substitution, controlling risk at source, risk mitigation such as training and as far as risk remains, provide personal protective equipment (PPE),
6) Monitor and review progress and performance in terms of management system, and
7) Communicate and consult.

The following items form the continuing process of the risk assessment as indicated in Figure 1, below.

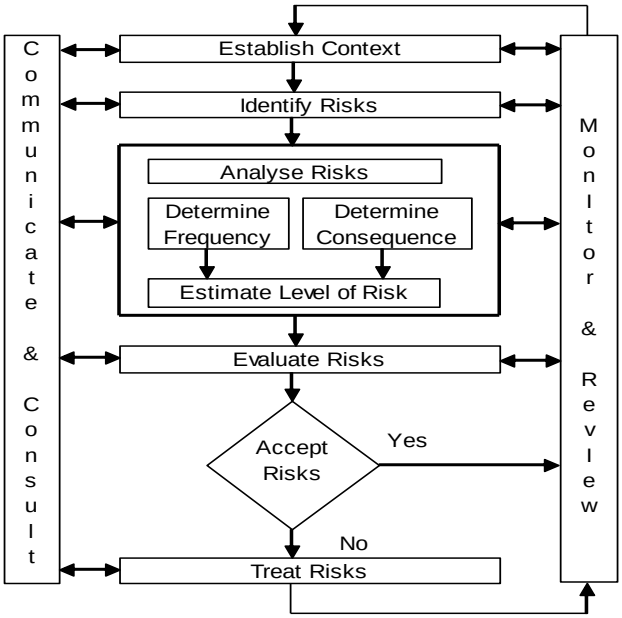


Figure 1: Risk Management Process

The Contractor shall ensure that the risk assessment compiled as part of his Health and Safety Plan contains at least these items. Refer to Baseline Risk Assessment for more clarity.

1.2.3.8. Risk Identification

The Contractor should regard this step of the risk assessment as the most important. Subsequent analysis and evaluation of risks and the development of risk control measures are wasted if the risks or hazards on the Works are not carefully identified.

The Contractor should bear the following principles in mind when identifying the risks:

i) Systematically address all risks or hazards on the Works,
ii) Review all aspects of the work, but consider only those that have a potential to cause harm,
iii) Rank the risks identified in order of importance and then use appropriately advanced techniques to deal with major risks,
iv) Deal mainly with major risks and don't obscure these with unimportant information, especially minor risks,
v) Address what actually happens in the workplace during the work activity
vi) Consider all persons that may be affected,
vii) Highlight those groups and individuals who may particularly be at risk, and
viii) Review the adequacy and effectiveness of existing safety controls and measures

1.2.3.9. Risk Analysis

In this step, the Contractor will be required to analyze the risks identified by determining each risks frequency and magnitude or severity of the consequence of the risk or hazard.

The frequency of occurrence of a hazard may be expressed as the number of times that it may occur in year, decade, lifetime, century, or longer period, according to comparative human experience. The magnitude of the likely consequence of a hazard may be expressed in terms of the degree of incapacitation, number of people or costs involved. The frequency of occurrence of a hazard and the magnitude of its consequence may be compounded as the risk that it poses as shown in the “risk matrix” in Figure 2 below.

Frequency of Occurrence of Hazard	Severity of Consequences of Potential Hazard					
	1 Medically treatable injury	1 Compensable injury	10 Compensable injuries	1 Permanently disabling injury	1 Fatality	10 Fatalities
Frequent; 1 or more occurrences per year	Medium	High	Very high	Severe	Severe	Severe
Several times during a career; 0.1 occurrences per year	Medium-low	Medium	High	Very high	Severe	Severe
Unlikely, but possible during a career; 0.01 occurrences per year	Low	Medium-low	Medium	High	Very high	Severe
Very unlikely during a career; 0.001 occurrences per year	Low	Low	Medium-low	Medium	High	Very high
Barely credible; 0.0001 occurrences per year	Low	Low	Low	Medium-low	Medium	High

Figure 2: Compounded Risk Matrix

The columns in the table represent the likely consequence of the hazard and the rows, the frequency of occurrence. The scales for both quantities represent consistent progressions, able they qualitative. The risks evidently range from low to severe. Note that diagonals in the matrix represent the risks of the identified hazards, taking the effectiveness of controls into consideration.

The table represents a typical risk matrix that need not necessarily be adopted by the Contractor. The Contractor may use an alternative risk matrix provided that it is approved as part of his Health and Safety Plan.

1.2.3.10. Risk Evaluation

In this step the Contractor will be required to compare the risks found during the analysis process with similar risks previously experienced for the purpose of deciding how to treat the risk. A useful systematic approach for this purpose is as follows:

- If the assessed risk exceeds similar risks that have occurred in the past and that are considered to be unacceptable, the assessed risk would require treatment depending upon its magnitude as discussed in Section 4.4.5, or
- If the assessed risk exceeds similar historical risks that are acceptable, treatment of the assessed risk will depend on the extent by which it exceeds the historical risks, or
- If the assessed risk is less than historical risks that are unacceptable, treatment of the assessed risk will depend on the extent by which it is less than the historical risks, or
- If the assessed risk is less than historical risks that are acceptable, the assessed risk would also be acceptable and would not require any treatment.

1.2.3.11. Risk Treatment

The contractor must select one or more options of modifying risks, and implementing those options. The option(s) selected must be covered in the safety plan and be followed as prescribed. Reference can be made to SANS31000:2009 for different risk treatment options. SANS 31000:2009, clause 5.5.3 may be consulted in preparing and implementing risk treatment plans.

1.2.3.12. Reporting and Recording

The Contractor shall ensure that the risk assessment process is recorded in the form of a report and included in his Health and Safety Plan. The report should be easily accessible to the Contractor’s employees, their representatives, to inspectors, the Employer or his Safety Agent and the Engineer. The essential contents of the report should be as follows:

- Objectives and expected outcomes,
- Description of the Works under assessment,
- Summary of context of study
- Composition of risk assessment team, (including qualifications and relevant experience),
- Approach used to systematically identify risks,
- Identified risks (ranked in order of priority),
- Method adopted for assessing frequencies and consequences of risks,

- Consequences (ranked in order of magnitude),
- Identification of individuals and groups who may be affected by major hazards and risk and who may especially be at risk,
- Basis for defining safety standards to be achieved,
- Contractor's resources devoted to risk assessment,
- Actions proposed to reduce unacceptably high risks,
- Review effectiveness of existing safety measures to control risks, and
- Implementation of programme of selected treatments (including controls to manage unacceptably high risks).

1.2.3.13. Monitoring and Review

The contractor must indicate in the safety plan the monitoring and review plan to be used during the project

1.2.3.14. Communication and Consultation

The Contractor will be required to communicate and consult with internal and external stakeholders during each step of the risk assessment process. Stakeholders will include the Employer and his Safety Agent, the Engineer and the Contractor's employees and consultants.

1.2.4. Resources

1.2.4.1. General

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health and Safety Act, 85 of 1993 and all its Regulations and related incorporated standards with regards to the resources and facilities intended for use on the project

The Contractor shall provide in his Health and Safety Plan his intended Staffing Organogram for the construction work. The organogram should include those inspectors, supervisors and issuers as envisaged in the Construction Regulations, 2014 required for the construction work and any additional supervisory staff members as the Contractor (having taken the scope into account) considers necessary.

Copies of the supervisory staffs' curriculum vitae or portfolio of evidence and their appointment letters should be appended to the Contractor's Health and Safety Plan.

The Contractor's Health and Safety Plan should in addition cover at least the following aspects:

- The number of unskilled, semi-skilled and skilled (including Foreman, Charge hands, Artisans, Operators, Drivers, Clerks, Store man and Team Leaders) employees he intends employing on the Works,
- The health and safety training to be provided to the Contractor's employees,
- The programmed of the health and safety training,
- Systems for the review of the effectiveness of the training provided, and
- Systems to determine further training requirements throughout the construction period.

Pro-forma letters of appointment for the various inspectors, supervisors and issuers as contemplated in the Construction Regulations, 2014 are included in Annexure 1 to this specification for use by the Contractor. The Contractor shall ensure that he includes in his Health and Safety Plan the appointment letters for all his inspectors, supervisors and issuers appointed for the Works.

The Contractor may make other additional legal appointments that are applicable to the project.

1.2.5. Subcontractors

The Contractor shall with reference to the use of subcontractors on the Works and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- The steps intended to ensure that his Subcontractors prepare, implement and maintain Health and Safety Plans,
- How health and safety information will be made available to his Subcontractors when changes are brought about to the design,
- How he intends determining that his Subcontractors are registered and in good standing with the compensation fund or with a licensed compensation insurer prior to the commencement of the Works,
- How he intends determining if his Subcontractors have made provision in their tenders for the cost of health and safety measures during the construction of the Works,
- How he intends satisfying himself on the competencies and resources of Subcontractors he intends appointing, and
- How he intends ensuring that his Subcontractors perform risk assessments prior to commencing their respective portions of the Works.

1.2.6. Competencies

The Contractor shall establish if a person is competent to perform a certain duty or be appointed in a certain capacity by requesting all candidates to supply the required certificates of competency. Where certificates of competencies cannot be delivered, the Contractor shall request a portfolio of evidence from the respective candidates.

Contractors should do enquiries at the South African Qualifications Authority (SAQA) relating to the qualifications required for appointment of competent persons.

1.2.7. Physical and Psychological Fitness

Where required by the Occupational Health & Safety Act and its regulations the contractor shall ensure that his employees are in possession of a valid medical certificate of fitness to work in such an environment.

In terms of the Construction Regulations 2014, Regulation 7(8) stipulates that the Contractor shall ensure that all his or her employees have valid medical certificate of fitness specific to the work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

1.2.8. Plant, Vehicles and Equipment

1.2.8.1. Cranes

This section of the specification shall be read in conjunction with the provisions of the Driven Machinery Regulations, 1988.

The Contractor shall with reference to Regulation 22: Cranes, of the Construction Regulations, 2003 and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How will environmental factors be taken into account in respect to the use of cranes,
- What systems he intends using to ensure the safety of all cranes in use,
- How he intends maintaining cranes in use,
- What tests will be performed to establish the safety of all cranes in use,
- What safety procedures and precautions are envisaged to ensure the safe operation of all cranes in use,
- How he will document the design, testing, maintenance and inspections of all cranes in use, and

- The contractor shall proof compliance of the Driven Machinery Regulation, 1988, with reference to the lifting machinery and tackle being used.

1.2.8.2. Construction vehicles and mobile plant

The Contractor shall with reference to Regulation 23: Construction vehicles and mobile plant of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends ensuring that construction vehicles and mobile plant are:
  - Of acceptable design and construction,
  - Maintained and in good working order,
  - Used according to design specifications, and
  - Are protected from falling into excavations, water or areas lower than the working surfaces,
- How he intends ensuring that workers are trained, authorised and physically fit to operate construction vehicles and mobile plant,
- What traffic arrangements and safety precautions will be implemented to ensure safe operation of construction vehicles and mobile plant on the Works, and
- How he intends safeguarding employees against construction vehicles and mobile plant moving on the site.

1.2.9. Electrical Installation and Machinery on project sites

This section of the specification shall be read in conjunction with the provisions contained in the Electrical Installation Regulations, 1992.

The Contractor shall with reference to Regulation 24: Electrical Installation and machinery on construction sites of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends safeguarding employees against electrical cables or apparatus under, over or on site, and
- How he will ensure that electrical installations are of adequate strength to withstand working conditions on a construction site.

1.2.10. Ladders

The Contractor shall with reference to Regulation 13A of the General Safety Regulations and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends ensuring that ladders used are safe and constructed of materials approved for its intended use, and
- What precaution will be made to ensure the stability of ladders in use?
- How he intends to ensure that the Ladders are maintained

1.2.11. Materials

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health and Safety Act, 1993 and all its regulations and related incorporated standards with regards to the design, supply, storage and erection of materials used for the temporary and permanent Works.

1.2.12. Personnel Safety Equipment and Facilities

The Contractor shall comply with Section 2 of the General Safety Regulations, and shall in particular provide all necessary personnel protective equipment for his personnel for the duration of the project period. To this end the Contractor shall without limiting his obligations indicate in his Health and Safety Plan:

- Identify training requirements in the Contractors Training plan in the use and maintenance of personal protective equipment,
- The type of personnel safety equipment he will provide,
- How he intends issuing it to his employees, and
- How he will maintain the personnel safety equipment issued.

1.2.13. First Aid, Emergency Equipment and Procedures

The Contractor shall comply with Section 3 of the General Safety Regulations regarding first aid, emergency equipment and procedures.

1.2.14. Hazardous Chemical Substances

The Contractor will be required to adhere to the Regulations for Hazardous Chemical Substances 1995 as amended in the handling and storage cement of and other hazardous chemical substances.

The Contractor must discuss the following in detail in his safety plan in respect of each hazardous chemical substance that will be used in the works:

- Storage of substance
- Handling of substance
- Protective clothing and other devices to be used while handling the substance
- Medical surveillance.

1.2.15. Earthworks

The Contractor shall, without limiting his obligations, cover at least the following matters in his Health and Safety Plan under this category of work:

1.2.16. Excavation work

Contractors will be required to adhere to Construction Regulation 13: Excavation work, of the Construction Regulations, 2014.

The Contractor must discuss the following in detail in his safety plan:

- How will the Contractor establish the stability of ground prior to excavations,
- What steps will the Contractor follow to ensure that bolstering, shoring and bracing is sufficient to ensure the safety of the excavation, and
- What steps will the Contractor follow to ensure the equipment used to safeguard an excavation is sufficient and safe?
- What steps will he implement in case of emergency(e.g. to prevent people from being buried under the trench if it falls)

1.2.17. Implementation of Contractors' Health and Safety Plan

The Contractor shall describe in his Health and Safety Plan how he intends implementing his plan.

The Contractor shall indicate the methods he intends using to ensure accurate record keeping of all critical elements identified in his risk assessment and covered in his Health and Safety Plan.

The Contractor shall indicate how inspections will be carried out, how shortcomings will be addressed, how he intends to review the safety plans, how he would train staff and how he would implement the findings and recommendations of audits or inputs of employees.

1.2.18. Administrative Systems

The Contractor shall comply with Section 9 of the General Administrative Regulations, 1996. The Contractor's administrative system shall without limiting his obligations, cover the following:

- Up keep of a safety file on site,
- Maintenance of his Health and Safety plan,
- Procedures to follow for the appointment of competent persons,
- Procedures to follow for notifications,
- Injury on duty [IOD] administration,
- Recording of minutes of safety meetings,
- Recording of checklists,
- Safe keeping of checklists, and
- Inspections.

The Contractor shall in particular ensure that at least one copy of the Occupational Health and Safety Act, 1993 and its Regulations as amended is available on site for every 20 employees employed.

Incident Management

The Contractor shall develop an incident management procedure that will address how he intends to manage the incident/accidents on site. The procedure must explain how will the reporting, recording and investigation will be done and provide templates of forms and documentation to be used. The procedure must be in compliance with General Administrative Regulations, of Occupational Health and Safety Act.

1.2.19. Reporting Systems

All incidents must be reported to the Client/Safety agent and to the Labor Inspector. The Contractor shall comply with Section 8 of the General Administrative Regulations of the OHS Act

1.2.20. Recording and investigation

All incidents must be recorded in the form of annexure 1 and be kept for a period of at least three years. All incidents must be investigated and investigated within 7 days from the date of the incident. The Contractor shall comply with Section 9 of the General Administrative Regulations of the OHS Act

1.2.21. Training

The Contractor shall train all his employees in accordance with the requirements of section 13 of the Occupational Health and Safety Act, 1993. The Contractor shall ensure that every employee is informed of the following:

- The hazards of any work he has to perform or plant machinery or equipment he is permitted to use, and
- The precautionary measures which should be taken regarding the above.

The Contractor shall, without limiting his obligations, indicate in his Health and Safety Plan how he intends:

- Identifying the training needs of the personnel he intends employing, and
- Implementing the training identified
- What proof of induction training will be carried by his employees (e.g. laminated type identification card).

1.2.22. General induction Training

All members of the contractor's management as well as all the people appointed as responsible for Occupational Health and Safety in terms of the OHS Act, Construction Regulations and other Regulations are required to attend a general safety Induction.

All employees of the principal contractor and other contractors must be in possession of proof of Induction Training.

All subsequent and newly appointed employees must also be subjected to the Induction Training as soon as possible after the appointment but prior to start work on site.

1.2.23. Site Specific Induction Training

The principal contractor will be required to prepare the Task based Induction training based on the risk assessment for the contract work and train all employees who will be involved in the selected task. All employees must have a proof of such training and copies in the Safety File

1.2.24. Other Training

1. All operators, drivers and users of construction vehicles and mobile plants must be in possession of a valid proof of training and where applicable licenses and proof of competency
2. All employees in jobs requiring training in terms of the OHS Act and Regulations must be in possession of valid proof of training.
3. Awareness must be done in a form of Toolbox Talks for all employees in order to promote safety culture

1.2.25. Notices and Signs

The following notices and signs are, where applicable, compulsory on the construction site as well as the contraction yards.

Area/Activity where construction sign is needed	**Notice or sign required in**
Display of notices and signs	General Safety Regulation 2b
Entry	General Safety Regulation 2 (c)
First Aid	General Safety Regulation 3 (6)
Toilets and Change rooms	Facilities Regulation 2(5).4 (2) (f)
Hazardous and Chemical Storage area	General Safety Regulation 4 (8) (i) and (ii)
Machinery	General Machinery Regulation 9
Prohibition of smoking and eating or drinking at workplaces where high risk substances are stored or handled	Facilities Regulation 7

1.2.26. Safety Meetings

The Contractor shall conduct at least one formal safety meeting in 3 month with his employees to ensure safety awareness and shall maintain appropriate records of attendance and meeting content. Such records shall be included in the safety file. Such meetings shall address at least the following:

- Accident / safety incidents
- Hazardous conditions
- Hazardous materials / substances
- Job or work projections
- Work procedures
- Protective clothing / equipment
- Housekeeping
- General safety topics

1.2.27. Inspections and Monitoring

The Contractor shall be required to inspect each workplace prior to works commencing to ensure that all protective equipment is in place and that by entering the workplace no person will be exposed to any hazard which could affect his health or safety. The Contractor shall without limiting his obligations, indicate the following in his Health and Safety Plan:

- The inspection and monitoring procedures he intends employing to determine the safety of workplaces, and
- Who will be responsible for the checking of each workplace at the commencement of each shift.

The Contractor shall include in his Health and safety Plan all the checklists he intends using during the inspection and monitoring of the implementation of his Health and Safety Plan.

The Contractor can expect inspections of the works by any of the following parties:

- The Client or his Safety Agent,
- Department of Labor Inspector

In addition to site inspections performed by the Client or his safety agent they shall also do audits and asses the safety situation at the works and investigate incidents. Follow-up inspections will be performed to ensure compliance to recommendations done.

The Client, Safety Agent or his representative may stop the work at any time under the following conditions:

- If the Contractor is not compliant with his Health and Safety Plan
- Imminent threat to the health and safety of any person on site
- Continuous non-conformance to corrective action requests.

Inspections by the Labor Inspector or his representative will be random and the purpose would be to investigate complaints received by the Inspector or to investigate serious incidents.

Labor Inspector may issue prohibition notices to stop the activities at the works until the situation investigated has been resolved or he may issue an improvement notice whereby the Contractor will have a period to rectify any hazard identified by the inspector.

1.2.28. Auditing

Audits by Client or Safety agent

The audits contemplated in regulation 5 of the Construction Regulations, 2014 will be carried out by the client or its representative

The Contractor will ensure that the same arrangement detailed above be implemented with his Sub Contractors to ensure his compliance with the Construction Regulations.

The audits described above only constitutes part compliance by the Employer or the Safety Agent with regulation 5.(1)(o) of the Construction Regulations, 2014.

The Client or Safety Agent will be entitled to carry out audits or follow-up audits, as the case may be, at any time during the project period provided that:

i) The audit or follow-up audit are carried out during ordinary working hours, and
ii) The Employer or Safety Agent gives the Contractor at least 24 hours' notice of his intention to carry out such audits.

The Contractor's employees indicated in Section 9.1 will be present during any audit carried out by the Client or his Safety Agent.

ANNEXURE 1 LEGAL APPOINTMENTS TEMPLATES

Attention: (***Assistant Construction Manager's Name)***

APPOINTMENT OF THE ASSISTANT CONSTRUCTION MANAGER IN TERMS OF CONSTRUCTION REGULATION 8(2)

I, **(*contractor's name)*** hereby appoint you **(*assistant construction manager's name)*** as the assistant manager responsible for **(*site address)*** to carry out the construction work of ***(description of construction work and area of responsibility)*.**

In terms of this appointment you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work.
2. That all persons are aware and understand the hazards attached to the work being carried out.
3. That the required risk assessments are carried out.
4. That precautionary measures are identified and implemented.
5. That discipline is always enforced at the construction site.
6. That all identified statutory requirements are met, and
7. That any other interest in terms of health and safety with respect to the responsible area is met.
8. You will accept the duties of the Construction manager in his absence.

You are required to report any deviations of the above-mentioned instruction to **(*construction manager's name)*** and in his absence to the contractor's representative.

This appointment is valid from ***(date)*** to the completion of the stipulated construction work.

You shall submit a written weekly report or any non-compliance with the Construction Regulations, 2014.

_____ _____ _____

Contractor's Representative full name Signature Date

……

Kindly confirm your acceptance of this appointment by completing the following:

I, ***(assistant construction manager)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ _____ _____

Assistant construction Manager Signature Date

Attention: ***(Safety Officer's Name)***

APPOINTMENT OF THE CONSTRUCTION HEALTH AND SAFETY OFFICER IN TERMS OF CONSTRUCTION REGULATION 8(5)

I, **(*contractor's name)*** hereby appoint **(*safety officer's name)*** as the Construction Health and Safety Officer responsible for **(*site address)*** to manage all the health and safety issues as required in terms of the Act by establishing a health and safety program with elected health and safety Representatives.

You shall ensure that all the requirements in terms of the Act and in particular in terms of the Construction Regulations, 2014 are met. You shall also ensure that all appointed sub-contractors comply with the requirements as stipulated in the Construction Regulations, 2014.

You shall further ensure that all records, registers and required lists are maintained and shall stop construction work upon identifying any non-compliance by any contractor; this includes stopping any work should the competency of the person carrying out such work be questionable.

This appointment is valid from (***date)*** to the completion of the stipulated construction work.

_____ _____ _____

Contractor's Representative full name Signature Date

……

Kindly confirm your acceptance of this appointment by completing the following:

I, **(*construction health and safety officer's name)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ _____ _____

Construction Health & Safety Officer's full name Signature Date

Attention: ***(Construction Vehicle and Mobile Plant Inspector)***

APPOINTMENT OF THE CONSTRUCTION VEHICLE AND MOBILE PLANT INSPECTOR IN TERMS OF CONSTRUCTION REGULATION 23(1) (d)

I, **(*contractor's name)*** hereby appoint (***construction vehicles and mobile plant inspector's name)*** as the construction vehicles and mobile plant inspector responsible for (***site address)*** to inspect on a daily basis all construction vehicles and mobile plant, as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to construction vehicles and mobile plant that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2014 are at all times met. This appointment is valid from (***date)*** to the completion of the stipulated construction work.

_____ _____ _____

Contractor's Representative full name Signature Date

……

Kindly confirm your acceptance of this appointment by completing the following:

I, **(*construction vehicles and mobile plant inspector's full name)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ _____ _____

Construction vehicles and mobile plant Signature Date

Inspector's full name

Attention: ***(Sub-Contractor's Name)***

APPOINTMENT OF SUB-CONTRACTOR IN TERMS OF THE CONSTRUCTION REGULATION 7(c)

I, ***(contractor's name)*** hereby appoint ***(sub-contractor's name)*** as the sub-contractor responsible for ***(site address)*** to carry out the construction work of ***(description of construction work)***.

You shall ensure that you meet all the requirements in terms of the Act and in particular in terms of the section 37(2) agreement and the Construction Regulations, 2014. You shall also ensure that all contractors appointed by yourself and reporting to you comply with the requirements as stipulated in the Construction Regulations, 2003.

You shall also ensure that all the information and specifications to ensure that the construction work is carried out in a safe manner are carried over to all contractors appointed and reporting to you.

You shall further ensure that all records, registers and required lists are maintained and that all persons appointed to carry out tasks as stipulated by these regulations are competent and have the necessary resources to complete their tasks effectively in such a manner that health and safety is not in any manner compromised.

This appointment is valid from (***date)*** to the completion of the stipulated construction work.

You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

_____ _____ _____

Contractor's Representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, (***sub-contractor's name)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ _____ _____

Sub-Contractor's Representative full name Signature Date

Attention: ***(Construction Manger's Name)***

APPOINTMENT OF THE CONSTRUCTION MANAGER IN TERMS OF CONSTRUCTION REGULATION 8(1)

I, ***(contractor's name)*** hereby appoint ***(construction manager's name)*** as the Manager responsible for ***(site address)*** to carry out the construction work of ***(description of construction work and area of responsibility)***. In terms of this appointment you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work.
2. That all statutory appointments have been completed;
3. That, where required, health and safety committees are established and that meetings are accordingly held.
4. That all persons are aware and understand the hazards attached to the work being carried out.
5. That the required risk assessments are carried out.
6. That precautionary measures are identified and implemented.
7. That discipline is always enforced at the construction site.
8. That all identified statutory requirements are met, and
9. That any other interests in terms of health and safety with respect to the responsible area is met.
10. You will in writing delegate your duties to the Assistant Construction Supervisor while absent from site.

You are required to report any deviations of the above-mentioned instructions to **(*contractor's name)***. This appointment is valid from ***(date)*** to the completion of the stipulated construction work. You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

_____	_____	_____
Contractor's Representative full name	Signature	Date

Kindly confirm your acceptance of this appointment by completing the following:

I, ***(construction manager)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____	_____	_____
Construction Manager's full name	Signature	Date

Attention: ***(Excavation Work Supervisor's Name)***

APPOINTMENT OF THE EXCAVATION WORK SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 13 (1)(a)

I, ***(contractor's name)*** hereby appoint ***(excavation work supervisor's name)*** as the excavation work supervisor responsible for ***(site address)*** to supervise and carry out all the necessary inspections in terms of all excavation work as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to excavation work that that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations are at all times met.

This appointment is valid from ***(date)*** to the completion of the stipulated construction work.

_____ _____ _____

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(*excavation work supervisor's full name)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ _____ _____

Excavation Work Supervisor full name Signature Date

Attention: ***(Ladder Inspector's Name)***

APPOINTMENT OF THE LADDER INSPECTOR IN TERMS OF THE GENERAL SAFETY REGULATION 13(A)

I, ***(contractor's name)*** hereby appoint (***ladder inspector's name)*** as the ladder inspector responsible for **(*site address*)** to manage ladders on site. You should inspect the ladders as per the checklist at least once a week.

You shall ensure that when becoming aware of any health and safety hazards in respect to ladders that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2003 are at all times met.

This appointment is valid from ***(date)*** to the completion of the stipulated construction work.

_____ _____ _____

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(*ladder inspector's full name)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ _____ _____

Ladder inspector's full name Signature Date

Attention: ***(Risk Assessor's Name)***

APPOINTMENT OF THE CONSTRUCTION SITE RISK ASSESSOR IN TERMS OF CONSTRUCTION REGULATION 9(1)

I, ***(contractor's name)*** hereby appoint ***(risk assessor's name)*** as the construction site risk assessor responsible for ***(site address)*** to carry out risk assessments prior to the commencement of construction work and any other risk assessment that may be required for the duration of the construction work.

You shall ensure that all risks are identified and analyzed and that safe working procedures are drafted and implemented to reduce, mitigate or controls the hazards that were identified.

You will at least use the risk evaluation program with the provided checklists.

This appointment is valid from ***(date)*** to the completion of the stipulated construction work.

_____ _____ _____

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(*construction site risk assessor's name)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ _____ _____

Construction site Risk Assessor Signature Date

Attention: ***(Stacking and Storage Supervisor's Name)***

APPOINTMENT OF THE STACKING AND STORAGE SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 28 (a)

I, ***(contractor's name)*** hereby appoint ***(stacking and storage supervisor's name)*** as the stacking and storage supervisor responsible for ***(site address)*** to manage all stacking and storage on site.

You shall inspect all new stacking and thereafter as often as needed according to the checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to stacking and storage that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations are at all times met. On identifying any shortfalls or hazards convey such information in writing to the construction supervisor.

This appointment is valid from ***(date)*** to the completion of the stipulated construction work.

_____	_____	_____
Contractor's Representative full name	Supervisor	Date

Kindly confirm your acceptance of this appointment by completing the following:

I, ***(stacking and storage supervisor's full name)*** understand the implications of the appointment as detailed above and confirm my acceptance.

_____	_____	_____
Stacking and Storage Supervisor's	Signature	Date

Attention: ***(First Aider)***

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993), GENERAL SAFETY REGULATIONS 3(4) – FIRST AIDER

I, **_____,** having been appointed as contemplated in Section 16(2) of the Occupational Health and Safety Act (85 of 1993), hereby appoint you, _____, as First Aider for the **_____.**

RESPONSIBILITIES

1. Ensure you inspect the contents of the first aid box at least once per month.
2. Ensure all dressing undertaken is recorded on the treatment register.
3. Ensure deviations noted are reported to your supervisor.
4. Ensure the necessary signage is placed to define first aid box placement and responsible first aider's name.

Kindly confirm your acceptance of this appointment and understanding of the duties involved by signing this legal appointment.

Yours faithfully

_____

SECTION 16 (2) APPOINTEE

I accept the appointment as set out above and confirm my understanding of the duties involved.

Signed: _____ Date: _____

Attention: ***(Safety Representative)***
OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993)

SECTION 17 – HEALTH AND SAFETY REPRESENTATIVE

I, _____, having been appointed as contemplated in Section 16(2) of the Occupational Health and Safety Act (85 of 1993), hereby appoint you, _____, as Health and Safety Representative, as contemplated in Section 17 of the Occupational Health and Safety Act (85 of 1993).

You are hereby appointed from _____ until _____ as a Health and Safety Representative for the following project:
_____

RESPONSIBILITIES

1. Review the effectiveness of the Health and Safety measures within your area of responsibility;
2. Assess the potential hazards to the Health and Safety of the employees at the workplace;
3. Investigate the causes of incidents and all complaints from the employees relating to their Health and Safety;
4. Inspect the workplace and report on such inspection, and the aspects mentioned in (1), (2) and (3) above, to the employer;
5. Participate in the investigations into incidents, in your designated area as contemplated in Section 18 of the Occupational Health and Safety Act (85 of 1993).

Kindly confirm your acceptance of this appointment and understanding of the duties involved by signing this legal appointment.

Yours faithfully

_____

SECTION 16 (2) APPOINTEE
I accept the appointment as set out above and confirm my understanding of the duties involved.

Signed: _____ Date: _____

ANNEXURE 2 IDENTIFIED HEALTH AND SAFETY HAZARDS

Identified Hazards

In terms of Regulation 9 (1) (a) of the Construction Regulations 2003 the following hazards anticipated with the scope of work have been identified.

NOTE: The list of potential hazards is by no means intended to be all inclusive and is not limited to this list, and it remains the responsibility of the Contractor to identify all possible hazards with regards to his scope of work and to put measures in place to mitigate, reduce or control these hazards.

Potential Hazards

1. Commissioning of new installations
2. Confined space entry
3. Demolition/breaking into existing structures
4. Excavation shoring / brazing
5. Excavations been flooded during rainy season
6. Explosives
7. Hazardous material handling / storage / management
8. Heat stress
9. Loading and off-loading vehicles
10. Manual handling of materials
11. Plant and equipment integrity
12. Public and traffic safety
13. Requirements for plant isolations
14. Safe usage and storage of Oxygen, Acetylene and LPG cylinders
15. Scaffolding
16. Stacking and storage of equipment / materials
17. Tie-ins into existing equipment
18. Usage of compressed air and equipment
19. Working in operational areas
20. Working on live electrical installations / sub-stations / MCC rooms
21. Working on moving equipment.

ANNEXURE 3
ACKNOWLEDGEMENT OF RECEIPT OHS SPECIFICATION

Acknowledgement of receipt of OHS Specification:

Name of Designer/Contractor

I, the undersigned, hereby acknowledge that I have obtained copies of OHS Specification and confirm full compliance to the conclusion of project or construction work.
Signed at ……on this …….. Day of……20……

--- ---
Signature of Designer /Contractor Manager Date

--- ---
Signature of Contractor Supervisor Date

Witness 1 ……. Witness 2 …….

CITY OF TSHWANE IGNITING EXCELLENCE	**City of Tshwane: Energy and Electricity Division**
	Baseline Risk Assessment document

PROJECT INFORMATION:

CONTRACT NR:	**LOCATION: Tshwane Wide**	**SCOPE OF WORK: EED 05 2022.23: TENDER TO PROVIDE A SERVICE TO REPAIR 33KV, 132KV AND 275KV FROM 5MVA UP TO 300MVA CITY OF TSHWANE POWERLINES AND STRUCTURES ON AN AS AND WHEN REQUIRE BASIS FOR A PERIOD OF THREE (3) YEARS.**

RISK RATING AND ABBREVIATIONS:

Risk Rating	Abbreviations
15-25 EXTREME	O= OCCUPATIONAL
8 - 14 HIGH	H = HEALTH
4 – 7 MEDIUM	S=SAFETY
1 - 3 LOW	

RISKS CONSEQUENCES AND PROBIBILITY:

RISKS		CONSE-QUENCES	PROBIBILITY				
			Almost Certain	Likely	Possible	Unlikely	Almost Impossible
			5	4	3	2	1
OHS	Multiple fatalities, or significant irreversible effects to >50 persons Serious, long term environmental impairment of ecosystem function Very serious impact on quality of product/service. Definite loss of customer or discontinuation of contract with service provider	5	25	20	15	10	5

RISKS		CONSE-QUENCES	PROBIBILITY				
			Almost Certain	Likely	Possible	Unlikely	Almost Impossible
			5	4	3	2	1
OHS	Single fatality and/or severe irreversible disability to one or more persons Serious medium term environmental effects Serious impact on quality of product / Probable loss of customer or discontinuation of contract with service provider	4	20	16	12	8	4
OHS	Moderate irreversible disability or impairment (<30%) to one or more persons. Moderate, short-term effects but not affecting ecosystem function Moderate impact on quality of product / Possible loss of customer or discontinuation of contract with service provider	3	15	12	9	6	3

RISKS		CONSE-QUENCES	PROBIBILITY				
			Almost Certain	Likely	Possible	Unlikely	Almost Impossible
			5	4	3	2	1
OHS	Objective but reversible disability requiring hospitalization Minor effects on biological or physical environment Minor impact on quality of product / Minor impact on relationship with customer or service provider	2	10	8	6	4	2
OHS	No medical treatment required. Limited damage to minimal area of low significance Limited impact on quality of product / Minimal impact on relationship with customer or service provider	1	5	4	3	2	1

PROJECT BASELINE RISK ASSESSMENT:

No:	Task	Step in Process	Tool and Equipment use:	Hazards in Carrying out this Step:	Risk (Harm):	Risk Analyses:				Risk Reducing Control Measures:
						OHS	Consequence	Probability	Risk Rating:	
1	Supply, delivery and installation	Transport the material to site, to the service provider's factory and installation.	Vehicles: 1. Trucks 2. Cranes 3. Cherry picker 4. Back-actor	Worn out tyre, not road worthy vehicles, wrong handling of material Non-compliance of personnel	Accident, material and falling off the vehicles,	OHS	4	4	16	Vehicles must be inspected, the load must be correctly fastened on the truck, and training must be conducted on handling of the material. First aid kit must be available on site
2	On-loading and offloading lattices, conductor and steel equipment	On-loading and offloading of products on and off the truck	Vehicles: 1. Trucks 2. Cranes	wrong handling of material Not certified crane Non-compliance of personnel	Accident, material falling off the vehicles,	OHS	4	4	16	Vehicles must be inspected, Crane must be certified and training must be conducted on handling of the material. First aid kit must be available on site

No:	Task	Step in Process	Tool and Equipment use:	Hazards in Carrying out this Step:	Risk (Harm):	Risk Analyses:				Risk Reducing Control Measures:
						OHS	Consequence	Probability	Risk Rating:	
3	Installation of lattices and conductor	Levelling of the ground with back – actor and compactors, Working in confined spaces	Vehicle :back-actor Driven machinery: compactor Hand tools	Exposure noise of the driven machinery, stacking of steel structure, falling of steel structures, working on road reserves and working at elevated places working in a limited space	Ear irritation from the noise. Steel structures falling on personnel and public property. Personnel falling from elevated places Personnel being involved in car accidents on the road Suffocation and reaction from inhalation of dust	OHS	5	4	20	Proper personal protective clothing must be worn by all personnel. Personnel must be trained to work with elevated structures. Road traffic must be controlled A qualified crane operator must be appointed to raise the structure First aid kit must be available on site

No:	Task	Step in Process	Tool and Equipment use:	Hazards in Carrying out this Step:	Risk (Harm):	Risk Analyses:				Risk Reducing Control Measures:
						OHS	Consequence	Probability	Risk Rating:	
4	Climbing on the structure to top or cross arm. Working on structure/towers	Establishing an safe anchor point to escalate to top of-tower Connecting the equipment to the electricity network	Use the correct safety body harness Proper hoist to lift equipment and tools to and from worker Cherry picker	Fall in the process of anchor the harness Connecting the conductor to the electricity network. Stringing of a conductor from tower to tower.	Exposure to loose balance and fall. Falling of the high structure. Falling off a crane bucket	OHS	5	3	15	Proper personal protective clothing must worn by all personnel. Training must be issued to personnel on working on heights. Training must be issued to personnel on working on elevated conditions. First aid kit must be available on site