



**SPECIFICATION AND SCHEDULES FOR THE SUPPLY,
INSTALLATION AND COMMISSIONING OF THE GENERAL
ELECTRICAL AND DISTRIBUTION ITEMS**

AT

**MANDELA BAY THEATRE COMPLEX
IN
GQEBERHA, EASTERN CAPE
ELECTRICAL INSTALLATIONS**

Document Issued by:



MBTC reference: MBTC-SCM/31/2025

Document prepared by:

CAdutoit
*Eastern Cape (Pty) Ltd
Consulting Engineers*

22 Shirley Street
Newton Park
Gqeberha, 6045
Eastern Cape
South Africa

e-mail: pe@cadutoitec.co.za

CAdT PROJECT NUMBER: P8058E01

SINGLE VOLUME DOCUMENT (RETURNABLE DOCUMENT)
May 2025

Contents

PART T1: TENDER DATA.....	4
T1.1 TENDER NOTICE AND INVITATION TO TENDER	4
T1.2 TENDER DATA	5
PART T2: RETURNABLE DOCUMENTS.....	11
T2.1 LIST OF RETURNABLE DOCUMENTS	11
T2.2 RETURNABLE SCHEDULES	12
PART C1: PRICING DATA	28
C1.1 PRICING INSTRUCTIONS	28
C1.2 BILLS OF QUANTITIES	29
PART C2: AGREEMENT AND CONTRACT DATA.....	48
C2.1 CONTRACT DATA	48
C2.2 FORM OF TENDER	60
PART C3: MANAGEMENT	63
C3.1 PLANNING, PROGRAMMING AND CASH FLOW	63
C3.2 SEQUENCE OF THE WORKS	64
C3.3 SOFTWARE APPLICATION FOR PROGRAMMING	64
C3.4 METHODS AND PROCEDURES	65
C3.5 QUALITY PLANS AND CONTROL	65
C3.6 TESTING, COMPLETION, COMMISSIONING, AND CORRECTION OF DEFECTS	65
C3.7 FORMAT OF COMMUNICATION	65
C3.8 WEATHER CONDITIONS	67
C3.9 KEY PERSONNEL AND SUPERVISION	67
C3.10 NORMAL WORKING HOURS	67
C3.11 MANAGEMENT MEETING	67
C3.12 ELECTRONIC PAYMENTS	68
C3.13 BONDS AND GUARANTEES	68
C3.14 PAYMENT CERTIFICATES	68
C3.15 INSURANCE PROVIDED BY THE EMPLOYER	68
C3.16 NEATNESS OF THE SITE	68
C3.17 PROTECTING THE SITE	69
C3.18 OTHER CONTRACTORS	69
C3.19 OPERATION AND MAINTENANCE MANUALS	69



PART C4:	GENERAL Electrical Specification.....	70
C4.1	INTENT OF SPECIFICATION	70
PART C5:	Project Electrical Specification	71
PART C7:	GENERAL SPECIFICATION: 350kVA ENCLOSED GENERATOR..	88
PART C8:	EQUIPMENT REQUIREMENTS: 350kVA ENCLOSED GENERATOR	92
PART C9:	TECHNICAL SPECIFICATION: 350kVA ENCLOSED GENERATOR	107
PART C10:	ANNEXURES.....	113
C10.1	ANNEXURE A - SBD4 - BIDDER'S DISCLOSURE	113
C10.2	ANNEXURE B - SBD6.1 - PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022	116
C10.3	ANNEXURE C - SBD8 - DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES	122
C10.4	ANNEXURE D - FUNCTIONALITY CRITERIA SCORESHEET	124
C10.5	ANNEXURE E - SMALL, MEDIUM, AND MICRO ENTERPRISES (SMME's)	125
C10.6	ANNEXURE F - MWA GUARANTEE FOR CONSTRUCTION	126
C10.7	ANNEXURE G - WAIVER OF LIEN	131
C10.8	ANNEXURE H - GUARANTEE FOR ADVANCE PAYMENT	132
C10.9	ANNEXURE I - MATERIALS AND GOODS STORED ON SITE	136
C10.10	ANNEXURE J - MATERIALS AND GOODS STORED OFF SITE	137
C10.11	ANNEXURE K - UNDERTAKING DESIGN RESPONSIBILITY	138
C10.12	ANNEXURE L - HEALTH & SAFETY SPECIFICATIONS	139



MANDELA BAY THEATRE COMPLEX, GQEBERHA ELECTRICAL AND GENERATOR INSTALLATIONS

PART T1: TENDER DATA

T1.1 TENDER NOTICE AND INVITATION TO TENDER

The **Client, Mandela Bay Theatre Complex**, invites tenders from electrical contractors for electrical renovation of the facility at the Mandela Bay Theatre Complex (*Formerly - Opera House*), John Kani Road, Gqeberha.

Tender documents will be issued electronically.

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

For tender and submission and commercial queries, these are to be addressed in writing to:

SCM of Mandela Bay Theatre Complex

Att: Thembela Liwani

Tel: +27 69 831 8200

Email: scm@mandelabaytheatre.co.za and bongiwe@mandelabaytheatre.co.za

All technical queries pertaining to this document are to be addressed, in the first instance and in writing to:

CA du Toit Eastern Cape (Pty) Ltd, Consulting Engineers

Att: Lance Bright

Tel: 041 585 7559

Email: lance@cadutoitec.co.za

Tenderers are required to be at a **compulsory briefing meeting**, on **Thursday, 15 May 2025, at 10H00**, at the **Nelson Mandela Theatre Complex** (*Formerly - Opera House*), John Kani Road, Gqeberha .

The duly completed and signed Tender Documentation, complete with all required and completed "returnable schedules" are to be emailed with the following subject heading.

"Tender for MBTC: Gqeberha: Electrical and Generator Installations"

and emailed to the following address: **scm@mandelabytheatre.co.za**

Tenders close on **Wednesday, 28 May 2025**, not later than 12:00.

Notes:

- Late tenders will not be accepted.
- No public opening of tenders
- Telegraphic, telephonic, telex, facsimile, postal and late tenders will not be accepted.
- Tenders may only be submitted on the tender documentation that is issued.
- Only email tenders will be accepted. No hard copies are to be delivered.
- No queries will be handled in the last seven day of the tender period,
i.e. **Last day for queries – 20 May 2025**
- No editable electronic copies will be accepted. Only .PDF versions will be accepted.



T1.2 TENDER DATA

The conditions of tender shall apply.

T1.2.1	<p>Employer</p> <p>Mandela Bay Theatre Complex (MBTC)</p> <p>Legal entity of above: Mandela Bay Theatre Complex Business registration number: Gazette No. 486/4-6-2021, Schedule 3a Public Entity VAT number: N/a Country: South Africa Postal address: Private Bag 1556, Central, Gqeberha, 6000 Physical address: Cnr John Kani & Winston Ntshona Street, Central, Gqeberha Contact person: Ms. Thembela Liwani Telephone number: 069 831 8200 Email: scm@mandelabaytheatre.co.za</p>
T1.2.2	<p>Principal Agent</p> <p>Name: The Matrix Architects Legal entity of above: The Matrix Urban Designers and Architects Practice number: Country: South Africa Postal address: PO Box 1737, Gqeberha, 6000 Physical address: Office 01, Bloomingdales Lifestyle Centre, 145 Main Road, Walmer, Gqeberha, 6065 Contact person: Prof A Herholdt Telephone number: 041 582 1073 Email: albrecht@thematrixcc.co.za</p>
T1.2.3	<p>Agent</p> <p>Discipline: Electrical Engineer Name: CA du Toit Consulting Engineers Legal entity of above: CA du Toit Eastern Cape (Pty) Ltd Practice Number: CESA: 607 Country: South Africa Postal address: 22 Shirley Street, Newton Park, Gqeberha, 6045 Physical address: 22 Shirley Street, Newton Park, Gqeberha, 6045 Contact person: Mr Lance Bright Telephone number: 041 585 7559 Email: lance@cadutoitec.co.za</p>
T1.2.4	<p>Tender Period</p> <p>Documentation will be available from Wednesday, 7 May 2025.</p>
T1.2.5	<p>Site Meeting</p> <p>Tenderers are required to be at a compulsory briefing meeting, on Thursday, 15 May 2025, at 10H00, at the Nelson Mandela Theatre Complex (Formerly - Opera House), John Kani Road, Gqeberha.</p>
T.12.6	<p>Tender Closing</p> <p>Tenderers shall ensure that tender offers are submitted before:</p> <p>Tenders close on: Wednesday, 28 May 2025, not later than 12:00</p>
T1.2.7	<p>Tender Submission</p> <p>The duly completed and signed Tender Documentation, complete with all required and completed "returnable schedules" are to be emailed with the following subject heading</p> <p>"TENDER FOR MBTC: GQEBERHA: ELECTRICAL AND GENERATOR INSTALLATIONS"</p> <p>and emailed to the following address: scm@mandelabaytheatre.co.za</p>



T1.2.8	<p>Eligibility</p> <p>The Tender is open to all contractors who comply with the requirements.</p> <p>The Tenderer shall have a valid Tax Clearance certificate</p> <p>The Tenderer shall have a valid Letter of Good Standing with the Compensation Fund issued by the Compensation Commissioner.</p> <p>Tenderers quality of work, time performance and technical experience on projects of similar value and complexity will be required. The Employer may require a due diligence investigation in this regard.</p>
T1.2.9	<p>Pricing</p> <p>Tenders offers shall be valid for 90 days from date of tender closing.</p> <p>This is a re-measurable contract.</p>
T1.2.10	<p>Employer's rights</p> <p>The employer reserves the right to accept any offer, not necessarily the lowest.</p> <p>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 comply with requirements.</p>
T2.2.11	<p>Notes to tenderers</p> <p>➤ AGREEMENT:</p> <p>The agreement shall consist of the documents as listed in Clause B4.0 of the Contract Data (Section Two hereof)</p> <p>These contract documents supersede all enquiries, proposals, agreements, negotiations and commitments, whether written or verbal, prior to the date of execution of this contract.</p> <p>Tenderers shall be deemed to have inspected and be fully acquainted with all contract documents prior to the submission of tenders.</p> <p>➤ DESCRIPTION OF THE WORKS:</p> <p>The description hereunder is a general guide only and tenderers are referred to the engineer's drawings for tender purposes. No liability shall be accepted should the information provided under this heading be considered misleading.</p> <p>The scope of work is briefly summarized as follows:</p> <ol style="list-style-type: none"> Electrical and Generator Installations of the Electrical Installations for the proposed Additions and Alteration. Install all Luminaires as per supplier's requirements to obtain full guarantee. Installation of specialised blue lights, backstage area, for a functional operation of the stage area Install trunking / wireways for reticulation of electrical power and controls. Attendance and co-ordination of all electronic services as per specification. Connection of all mechanical equipment. <p>The fixing of the electrical reticulation and distribution boards will be done under a separate contract by others.</p>



➤ **INFORMATION TO BE PROVIDED BY TENDERERS:**

The return of the complete tender document is advisable. The formal tender submission shall comprise the submission of the following documentation:

- Fully completed C1.1 Contract Data Part D & E (Section Two hereof) including priced alternative tender (if applicable), nomination of the method of payment and adjustment of the Preliminaries, form of security to be provided, advance payment and payment guarantee requirements.
- In the event of the tenderer being a company or other legal person, then the said company or companies or other legal person shall provide an extract of the minutes recording a resolution by its board of directors, authorising the signing of all documents in connection with the principal building agreement by their nominee.
- Full detailed costing of the Preliminaries (As necessary per chosen option) with tender submission.
- Fully completed T2 Returnable Schedules
- Fully priced C2.2 Bills of Quantities.
- Written confirmation from a recognised bank, insurance company or other acceptable financial institution, that such Institution would be prepared to bind themselves as guarantors for the security required in terms of Clauses A9.1.1 of the Preliminaries until the contractor has complied with all of his obligations in terms of the minor works agreement.
- Confirmation of insurance.
- Proposed management team that will be involved during the project, CV's and experience
- Preliminary Construction Programme

- **PRELIMINARIES:** The following clauses, with reference to the Preliminaries hereof, are highlighted and tenderers are requested to take particular note of their contents, as no claims due to the misunderstanding of the true meaning and intent thereof will be entertained.

Tenderers are to note that these clauses do not in any way reduce their liabilities and/or obligations arising from their compliance with the remainder of the contract documentation.

- DETAILS OF CHANGES TO THE PROVISIONS OF JBCC STANDARD DOCUMENTATION: Certain provisions of the JBCC Minor Works Agreement Edition 5.2 May 2018 have been changed. Details of such changes are recorded under the relevant clause numbers within the Preliminaries as contained within these bills of quantities.



	<ul style="list-style-type: none"> ○ PRICING OF PRELIMINARIES (CLAUSE C2.1) : These bills of quantities have been formulated in the conventional manner, whereby the preliminaries have been included as a separate bill in order to enable tenderers to price their site establishment costs, site management, etc. <p>Should agreement be reached on the use of option B for the method of payment of the preliminaries and / or option A for any adjustment thereof, the preliminaries bill will be amended to reflect the fixed, time and value related amounts.</p> <p>In pricing the preliminaries, tenderers are required to price the relevant items individually, as a single lump sum Preliminaries will not be accepted.</p> <p>In the event that a tenderer elects not to price the preliminaries as contained within these bills of quantities, then it will be deemed that all relevant preliminaries costs would have been included within the rates as tendered within the measured bills of quantities. Adjustment of the preliminaries will, in this instance, only be by remeasured final quantities applied to tendered rates. Tenderers acknowledge that, by pricing the Preliminaries in this way, they will forfeit any claim for the independent adjustment of the Preliminaries arising out of an extension of the contract period granted in terms of Clause A17.0.</p> <ul style="list-style-type: none"> ○ PRICING OF BILLS (CLAUSE C2.2) : Tenderers are to allow opposite each item for all costs in connection therewith. All prices to include, unless otherwise stated, for all materials, fabrication, conveyance and delivery, unloading, storing, unpacking, hoisting, labour, setting, fitting and fixing in position, cutting and waste (except where to be measured in accordance with the Standard System of Measurement) patterns, models and templates, plant, temporary works, returning of packings, duties, taxes, establishment charges, overheads, profit and all other obligations arising out of the agreement. <p>Items left unpriced will be deemed to be covered in prices against other items throughout these bills of quantities and no claim for any extras arising out of the tenderer's omission to price any item will be entertained.</p> <p>Prices for all plant, temporary works, services and other items provided shall include for the supply, maintenance, operating cost and subsequent removal and making good as necessary.</p> <p>The contractor shall execute work during "overtime" hours as necessary in order to complete the project within the agreed construction period and shall provide such resources and work such overtime hours as necessary. Costs for the execution of this work under these conditions shall be included within the contract sum.</p>
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



	<p>➤ HEALTH AND SAFETY SPECIFICATION: In order to achieve compliance with the Occupational Health & Safety Act (85/1993) as amended by Occupational Health & Safety Amendment Act (181/1993) and the Construction Regulations (July 2014), the employer requires the contractor to comply to their standard Health and Safety specification. This health and safety specification will form an integral part of the principal contract document (making up Annexure "H") and will form part of all subcontractors respective scopes of works, with both the Occupational Health & Safety Act (85/1993) as amended by Occupational Health & Safety Amendment Act (181/1993) and the Construction Regulations (July 2014) as well as for interfacing with and implementing directives issued by the safety agent/officer in terms of the aforementioned acts.</p> <p>➤ WORK PERMITS: All staff employed by the principal contractor and all his domestic and selected subcontractors shall have the necessary work permit allowing them to work legally in South Africa. The employer reserves the right to have any staff member removed from the works should he/she not comply with the above requirement.</p> <p>➤ COMPLETION / SIGNATURE OF ANNEXURES: The Annexures appended to the rear of this document, shall not be completed at the time of tender, but shall be completed in accordance with the requirements of the contract, as follows:</p> <ul style="list-style-type: none"> ○ ANNEXURE A - MWA GUARANTEE FOR CONSTRUCTION (VARIABLE): to be completed by the contractor and lodged within fifteen (15) calendar days of acceptance of the contractor's tender. ○ ANNEXURE B - WAIVER OF CONTRACTOR'S LIEN: to be completed and lodged by the contractor at the request of the employer in exchange for a MWA Guarantee for payment from the employer. ○ ANNEXURE C - GUARANTEE FOR ADVANCE PAYMENT: to be completed and lodged by the contractor where so required in the contractor's accepted tender and in the instances where the contractor makes application for the inclusion of the value of materials and goods stored off site in an interim payment certificate. ○ ANNEXURE D - APPLICATION FOR PAYMENT IN RESPECT OF MATERIALS AND GOODS STORED ON SITE: to be completed by the contractor whenever he makes application for the inclusion of the value of materials and goods on site in an interim payment certificate. ○ ANNEXURE E - APPLICATION FOR PAYMENT IN RESPECT OF MATERIALS AND GOODS STORED OFF SITE: to be completed by the contractor whenever he makes application for the inclusion of the value
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



	<p>of materials and goods off site in an interim payment certificate (to be accompanied by a Guarantee for Advance Payment and where applicable, a Waiver of Hypothec).</p> <ul style="list-style-type: none"> ○ ANNEXURE F - WAIVER OF HYPOTHEC: to be completed and lodged by the contractor in the instances where the contractor makes application for the inclusion of the value of materials and goods stored off site in an interim payment certificate and where the said materials and goods are stored in a leased facility. ○ ANNEXURE G - FORM OF INDEMNITY BY CONTRACTOR UNDERTAKING DESIGN RESPONSIBILITY: to be completed by the contractor in the instances where the contractor specifically undertakes the design of an aspect of the works. ○ ANNEXURE H - HEALTH AND SAFETY SPECIFICATION
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



MANDELA BAY THEATRE COMPLEX, GQEBERHA

ELECTRICAL AND GENERATOR INSTALLATION

PART T2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

NOTE: The tenderer must complete and/or submit the returnable documents listed hereafter. Only a tenderer who has fully completed and submitted all required tender documentation shall be considered. Failure to do so will result in the disqualification of the tender.

1	Returnable Schedules required for tender evaluation purposes:		Check
1.1	T2.2(1)	Record of Addenda to Tender Documents	
1.2	T2.2(2)	Proposed Amendments and Qualifications	
1.3	T2.2(3)	Compulsory Enterprise Questionnaire	
1.4	T2.2(4)	Certificate of authority for Signatory for (a) Companies, (b) Partnerships, (c) Sole Proprietorships (d) Joint Ventures and (e) Close Corporations	
1.5	T2.2(5)	Declaration Concerning Fulfilment of the Construction Regulations, 2014	
1.6	T2.2(6)	BBBEE Certification Details	
1.7	T2.2(7)	Certificates, etc to be provided by the Tenderer	
1.8	T2.2(8)	Certificate of Independent Bid Determination	
1.9	T2.2(9)	Declaration of Indemnity	
1.10	T2.2(10)	Schedule Of Work Satisfactorily Carried Out By The Tenderer For Private Clients Or Organs Of State	
1.11	T2.2(11)	Schedule Of Contracts Awarded To Tenderer If Greater Than R10 Million	
1.12	T2.2(12)	Contract Organogram	
1.13	T2.2(13)	Key Personnel Assigned To The Contract	
1.14	T2.2(14)	Schedule Of Particulars Of Electrical Contractor (Generator items)	
1.15	Annexure A	SBD4 - Bidder's Disclosure	
1.16	Annexure B	SBD6.1 - Preference Points Claim Form In Terms of the Preferential Procurement Regulations 2022	
1.17	Annexure C	SBD8 - Declaration of Bidder's Past Supply Chain Management Practices	
1.18	Annexure D	Functionality Criteria Scoresheet	
2	Other documents required for tender evaluation purposes:		
2.1	C2.1	Contract Data	
2.2	C2.2	Form of Tender	
2.3	C1.2	Priced Bills of Quantities / Schedule of Quantities	
3	Returnable Schedules and other documents that will be incorporated into the contract:		
3.1	T2.2(1)	Record of Addenda to Tender Documents	
3.2	T2.2(13)	Key Personnel Assigned To The Contract	
3.3	T2.2(14)	Technical Data	
3.4	C1.1	Contract Data - Part D	
3.5	C1.2	Form of Tender	
3.6	C2.2	Priced Bills of Quantities / Schedule of Quantities	



T2.2 RETURNABLE SCHEDULES

T2.2 (1) Record of Addenda to tender documents

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

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

Attach additional pages if more space is required.

Signature of Person duly authorized to sign this Tender:

Signature

Date

Name

Position

Enterprise Name



T2.2 (2): Proposed Amendments and Qualifications

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.

Page	Clause or item	Proposal

Signature of Person duly authorized to sign this Tender:

Signature

.....

Date

.....

Name

.....

Position

.....

Enterprise Name

.....



T2.2 (3) Compulsory Enterprise Questionnaire

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

Section 1: Name of enterprise:

Section 2: VAT registration number:

Section 3: CIDB registration number:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

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

- i) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- ii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iii) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signature of Person duly authorized to sign this Tender:

Signature

Date

Name

Position

Enterprise Name



**T2.2 (4) Certificate of Authority for (a) Companies;(b) Partnerships;
(c) Sole Proprietorships; (d) Joint Ventures and (e) Close Corporations**

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for the relevant category.

A Company	B Partnership	C Sole Proprietor	D Joint Venture	E Close Corporation

A Certificate for Company

I, (name), Chairperson of the Board of Directors of (name of company), hereby confirm that by resolution of the board taken on (date)....., Mr./Ms. (name), was authorized to sign all documents in connection with this tender offer and any contract resulting from it on our behalf and who will sign as follows:

As witnesses :

1. _____ Chairman: _____
2. _____ Date : _____

B Certificate for Partnership

We, the undersigned, being the key partners in the business trading as (name of business), hereby authorize Mr./Ms. (name), to sign all documents in connection with this tender offer and any contract resulting from it on our behalf and who will sign as follows:

Name	Designation	Signature	Date

NOTE : This certificate is to be completed and signed by all of the key partners upon whom rests the direction of the affairs of the Partnership as a whole



C Certificate for Sole Proprietor

I, the undersigned (*name*) hereby confirm that
I am the sole owner of the business trading as (*business name*)
.....

As witnesses :

1. _____ Signature : Sole owner : _____
2. _____ Date : _____

D Certificate for Joint Venture

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

Name of Firm	Address	Duly Authorised Signatory
Lead partner		

E Certificate for Close Corporation

We, the undersigned, being the key members in the business (*business name*)
.....

hereby authorize Mr./Ms. (*name*)

to sign all documents in connection with this tender offer and any contract resulting from it on our
behalf and who will sign as follows:

Name	Designation	Signature	Date

NOTE : This certificate is to be completed and signed by all of the key partners upon whom
rests the direction of the affairs of the Close Corporation as a whole.



T2.2 (5): Declaration Concerning Fulfilment of the Construction Regulations, 2014, in terms of the Occupational Health & Safety Act, 1993.

In terms of regulation 4 (3) of the Construction regulations, 2014 (hereinafter referred to as the Regulations), promulgated in terms of Section 43 of the Occupational Health & Safety Act, 1993 (Act No 85 of 1993) the Employer shall not appoint a contractor to perform construction work unless the contractor can satisfy the employer that his/her firm has the necessary competencies and resources to carry out the work safely and has allowed adequately in his/her tender for the due fulfilment of all the applicable requirements of the Act and the Regulations.

Tenderers shall answer the questions below:

1	I confirm that I am fully conversant with the Regulations and that my company has (or will acquire/procure) the necessary competencies and resources to timeously, safely and successfully comply with all of the Regulations:	(Tick) YES NO
2	Indicate which approach shall be employed to achieve compliance with the Regulations: 2.1 Own resources, competent in terms of the Regulations (refer to 3 below) 2.2 Own resources, still to be hired and/or trained (until competency is achieved) 2.3 Specialist subcontract resources (competent) specify:	(Tick)
3	Provide details of proposed key persons, competent in terms of the Regulations, who will form part of the contract team as specified in the Regulations (CV's to be attached):	
4	Provide details of proposed training (if any) that will be undergone:	



5	List potential key risks identified and measures for addressing risks:

6	I have fully included in my tendered rates and prices (in the appropriate payment items provided in the Schedule of Quantities) for all resources, actions, training and any other costs required for the due fulfilment of the Regulations for the duration of the construction and defects repair period:	(Tick)	
		YES	
		NO	

Signature of Person duly authorized to sign this Tender:

Signature

.....

Date

.....

Name

.....

Position

.....

Enterprise Name

.....



T2.2(6): BBBEE Certification Details

The Tenderer shall attach a certified copy of his valid BBBEE verification certificate, issued by a SANAS registered verification agency, to this page.



T2.2(7): Certificates, etc to be provided by the Tenderer

The following Returnable Certificate's, etc are to be attached to this page by the Tenderer:

- A copy of the valid Certificate of Contractor Registration issued by the CIDB or other such documentation which records the Tenderer's name, CIDB grading and CRS No. for verification by the Employer's Agent. Where a tenderer satisfies CIDB contractor grading designation requirements through joint venture formation, such tenderers must submit the above documentation in respect of each partner.
- A valid Tax Clearance Certificate issued by the South African Revenue Services.
- A copy of the Certificate of Incorporation of the company / close corporation / partnership. In the case of a joint venture between 2 or more firms, the tenderer shall attach a copy of the documents of incorporation of the joint venture.
- Registration certificate as an electrical contractor tendering, from the Department of Labour, as per the Occupational Health and Safety Act, 1993: Electrical Installation Regulation Registration 6(4): Registration of Electrical Contractor.
- Proof of employment of the registered person, as mentioned on the above registration certificate, if not the owner, director or shareholder of the company tendering.
- Company profile, showing experience in the electrical contracting field and particular reference to similar projects of this size and nature.
- Letter of Good Standing with the Compensation Commissioner.
- Proof of Registration with N.B.C.E.I. and their relevant employers.

Scanned copies are valid for tender submission, certified copies and/or originals will need to be submitted by the successful tenderer, for the contract.



T2.2(8): Certificate of Independent Bid Determination

I, the undersigned, in submitting the accompanying bid:

.....
(Project Number and Name)

In response to the invitation for the bid made by:

.....
(Name of Employer)

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 bidder)

1. I have read and I understand the contents of this certificate;
2. I understand that the accompanying bid will be disqualified if this certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - a) Has been requested to submit a bid in response to this bid invitation;
 - b) Could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - c) Provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture consortium * will not be construed as collusive bidding.



7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) Prices;
 - b) Geographical area where product or service will be rendered (market allocation)
 - c) Methods, factors or formulas used to calculate prices
 - d) The intention or decision to submit or not to submit, a bid;
 - e) The submission of a bid which does not meet the specifications and conditions of the bid; or
 - f) Bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

*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.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition act no. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the prevention and combating of Corrupt Activities Act no. 12 of 2004 or any other applicable legislation.

Signature of Person duly authorized to sign this Tender:

Signed _____ Date _____

Name _____ Position _____

Tenderer _____



T2.2(9): Declaration of Indemnity

I, , the undersigned for an on behalf of (herein referred to as "the Contractor") indemnify and safeguard the Employer and its Employees against all action, suits, proceedings, claims, demands, costs and expenses whatsoever which may be instituted, brought or sent, or may be incurred or be payable by the Employer arising out of or in connection with any damage, death or injury caused or alleged to have been caused by or as a result of any act, omission by the contractor and/or the Contractors Employees or Employees arising out of work done in connection with or arising out of the following contract.

Project number :
Project description :
:
:
:

Full name and Surname: Signature:

Place: Date:

Capacity:

For and on behalf of:

To completed by a Commissioner of Oath:

I hereby declare that the above Declaration was made before me.

Full Name and Surname of Commissioner of Oath:

ID number:

Signature:



T2.2(10) : Schedule Of Work Satisfactorily Carried Out By The Tenderer For Private Clients Or Organs Of State

(Organs of State include any Local, Provincial or National Government Authority)

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 Inclusive of VAT (Rand)	Date Completed

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 their personal knowledge and are to the best of their belief both true and correct.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2 (11) : Schedule Of Contracts Awarded To Tenderer If Greater Than R10 Million

The tenderer shall list hereunder, particulars of contracts awarded to him during the past 5 years. Any material non-compliance or dispute concerning the execution of any of these contracts must be mentioned:

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 the contract 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.

[illegible]

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 their personal knowledge and are to the best of their belief both true and correct.

Signed _____ Date _____

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

Tenderer



T2.2.(12) : Contract Organogram

The tenderer must attach to this page the organogram for the contract of the personnel he intends using. Failure to submit the organogram will result in the tenderer scoring zero for key personnel in both qualifications and experience.



T2.2(13) : Schedule Of Particulars Of Electrical Contractor

This schedule must be completed and submitted together with the bid. Should this requirement not be complied with in full, the bid may be considered invalid.

Name of Electrical Contractor: _____

*As on the registration certificate as an electrical Contractor, from the Department of Labour,
as per the Occupational Health and Safety Act, 1993: Electrical Installation Regulation
Registration 6(4): Registration of Electrical Contractor.*

Physical Address: _____



Contact Person: _____

Cell Phone Number: _____

E-Mail Address: _____

As on the registration certificate as an electrical contractor, from the Department of Labour, as per the Occupational Health and Safety Act, 1993: Electrical Installation Regulation Registration 6(4):
Registration of Electrical Contractor.

Registered Number: _____

Name of installation electrician on registration certificate:

Registration number of the above person: _____

Name of Electrical Contractor:

Signature of Electrical Contractor: Date:

MANDELA BAY THEATRE COMPLEX, GQEBERHA

ELECTRICAL AND GENERATOR INSTALLATIONS

PART C1: PRICING DATA

C1.1 PRICING INSTRUCTIONS

Preamble to The Schedule of Prices

C1.1.1 All prices or rates inserted in the Schedule of Prices shall be EXCLUDING VAT. Provision has been made in the Summary for the addition of **VAT @ 15%**.

C1.1.2 Arithmetical errors of responsive tenders will be corrected in the following manner:

- Where there is a discrepancy between an amount shown in figures, and the corresponding amount stated in words, the amount stated in words shall take preference.
- 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 to achieve the tendered total of the prices.

Should a tenderer be unwilling to make the corrections ordered by the Engineer, the tender may be disqualified.

C1.1.3 The schedule of prices shall be used to evaluate the Contractor's progress claims.

C1.1.4 A Contingency amount and Provisional Sums have been included.

C1.1.5 Tenderers shall allow for minor incidental and sundry items normally associated with construction of this nature. No claims for insignificant incidental, sundry items and poor planning and co-ordination on site shall be entertained.

C1.1.6 **PLEASE NOTE:** CA du Toit will **not** be held responsible for any calculation errors on the Excel spreadsheet. It is the responsibility of the contractor to check the Excel calculations.

C1.2 BILLS OF QUANTITIES

C 1.2.1. Bills Of Quantities General Notes

The Tender Price must exclude VAT. All rates, provisional sums, etc. in these Bills of Quantities must be nett with VAT calculated and added to the total value thereof in the Final Summary.

1. This Bill of Quantities form part of and must be read in conjunction with the Specifications and must be submitted, duly completed, on the closing date of tenders.
2. Tenderer's must complete the Bill of Quantities and detail the unit rate and total amount of each item. The "Total" shall constitute the tender price for adjudication.

NOTE:

Tenderers are advised to check their item extensions and total additions as arithmetical errors occurring in the priced Bill of Quantities cannot be considered.

3. No alterations, erasure or addition is to be made in the text of the Bill of Quantities. Should any alteration, erasure or addition be made it will not be recognised but the original wording of the Bills of Quantities will be adhered to.
4. The Engineer will check the completed Bill of Quantities and reserves the right to adjust any individual price and to rectify any discrepancy whilst the total tender price as quoted remains unaltered.
5. The quantities given in the Bills for cannot be regarded as exact as this is a provisional bill and will be re-measurement on site after completion of the service and adjustments will be made according to the unit rates given in the Bill

CHECKING OF CABLE LENGTHS:

Notwithstanding the fact that the length of cables as given in the Bill of Quantities have been measured from scaled drawings, the Contractor shall check such lengths on site before ordering the cable as he will not be paid for excess cable after the completion of the service. Any allowance for off-cuts shall be made in the unit rate. The final measurement shall be based on the nett route length of the cables concerned.

6. Where alternative prices for equipment of different manufacture is quoted the lowest alternative price for equipment to the specification must be quoted against the relevant item in the Bill of Quantities. The remaining alternative price must be furnished separately.
7. The unit prices quoted in the Bill of Quantities must include for such small installation materials as are required for the complete installation in accordance with the Specification.



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 1 - PRELIMINARY AND GENERAL ITEMS**



P8058E01-3

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount	
					R	C
1	Preliminary and General Items, pertaining specifically to the Electrical Installation.					
1.1	Nett price for site establishment and compliance with the conditions of contract, including storage, insurance and other overheads.	Sum	1	R	R	
1.2	Insurance and Guarantee	Sum	1	R	R	
1.3	Allowance for liaising with MBTC technical for electrical connections and switching of the power when required.	Sum	1	R	R	
1.4	Liaison with Main Contractor and for attendance for the checking of Builders' and other Sub-contractors' work pertaining to the Electrical Installation.	Sum	1	R	R	
1.5	Liaison with the HVAC sub-contractor for timeous connection of their equipment and assisting with checking phase rotation and their electrical connections. Also, making sure a electrical CoC is received for the portion of the electrical installation.	Sum	1	R	R	
1.6	Nett price to comply with all the requirements of the Health & Safety specifications of the main contractor.	Sum	1	R	R	
1.7	Site supervision and reporting according to the Health and Safety Specifications.	Sum	1	R	R	
1.8	Supplying or hiring, erection & dismantling of complete mobile cranes, scissor jacks and cherry pickers, including access ladders, warning and safety signs as required for the installation for the duration of the contract.	Sum	1	R	R	
1.9	Profit and management for SMME's packages, Minimum of 30% of the total contract value must be allocated to subcontracting with registered Small, Medium, and Micro Enterprises (SMME's), adhering to the Preferential Procurement Regulations, selected with Mandela Bay Theatre Complex, Supply Chain Management, with approved SMME's from the ward area, in compliance with NMBM and MBTC policies, to be selected at time of award of contract.	Sum	1	R	R	
1.10	All labour, testing and issuing of the appropriate COC's. with regards to the Electrical Installation	Sum	1	R	R	
1.11	Compilation of detail Operating and Maintenance Manuals, as-built drawings and documentation as specified and to the satisfaction of the Engineer. 1-off printed copy and 2 x electronic versions on memory stick.	Sum	1	R	R	
TOTAL FOR BILL NO. 1 : PRELIMINARY AND GENERAL ITEMS (CARRIED FORWARD TO FINAL SUMMARY)						
AMOUNT CARRIED FORWARD					R	



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 2 - ELECTRICAL DISTRIBUTION INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount	
					R	C
2	Electrical Distribution					
2.1	Cables Supply, install, terminate and commissioning the following Cable 600/1000V, PVC/PVC/SWA/ECC/PVC, copper cable as specified,.					
	Supply					
2.1.1	35mm ² x 2-Core + ECC.	m	60	R	R	
2.1.2	25mm ² x 2-Core + ECC.	m	50	R	R	
2.1.3	6mm ² , Surfex 4-core & Earth	m	200	R	R	
2.1.4	4mm ² , Surfex 4-core & Earth	m	300	R	R	
	Install					
2.1.5	35mm ² x 2-Core + ECC.	m	60	R	R	
2.1.6	25mm ² x 2-Core + ECC.	m	50	R	R	
2.1.7	6mm ² , Surfex 4-core & Earth	m	200	R	R	
2.1.8	4mm ² , Surfex 4-core & Earth	m	300	R	R	
2.2	Distribution Boards Supply and Install in position the distribution boards, complete with trays, labels, conduit and trunking terminations as required and all other necessary items.					
	Supply					
2.2.1	Moving of the Main Stage Distribution board and installation of new DB to included all existing circuits and supplies.	Allowance			R	65 000.00
2.2.2	Profit and attendance on item 2.2.1 above	%		R 65 000.00	R	
2.2.3	Additional circuit breakers to be installed in the 3 change room DB's, and testing & issuing the relevant CoC: The Following is to be added to each DB: 2 x C.B.I. - ELU-63A-Isol 4 x Circuit Breaker - 20A-1P 4 x Circuit Breaker - 10A-1P	No.	1	R	R	
2.2.4	Testing and issuing of CoC for Basement distribution board	No.	1	R	R	
2.2.5	Testing and issuing of CoC for Sound room distribution board	No.	1	R	R	
2.2.6	Testing and issuing of CoC for Barn distribution board	No.	1	R	R	
2.2.7	Testing and issuing of CoC for Barn distribution board	No.	1	R	R	
Carried Forward to next Page					R	



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 2 - ELECTRICAL DISTRIBUTION INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
2.2.8	(Supply - continued) Checking and testing main distribution board and assisting with the connection of the generator into the existing system	Allowance			R 125 000.00
2.2.9	Profit and attendance on item 2.2.8 above	%		R 125 000.00	R
2.2.10	Install Additional circuit breakers to be installed in the 3 change room DB's, and testing & issuing the relevant CoC: The Following is to be added to each DB: 2 x C.B.I. - ELU-63A-Isol 4 x Circuit Breaker - 20A-1P 4 x Circuit Breaker - 10A-1P	No.	1	R	R
2.3	Welded Wire Mesh medium duty cable tray Supply and install brackets, cross arms and Welded Wire Mesh galvanised medium duty wire cable tray complete with hangers brackets, covers and threaded rods, couplers etc.				
	Supply				
2.3.1	Welded Wire Mesh MD cable tray - 300mm wide	m	60	R	R
2.3.2	Welded wire mesh 90° Horizontal Elbow, internal or external , 300mm	No.	6	R	R
2.3.3	Tee Piece - 300mm	No.	2	R	R
2.3.4	Welded Wire Mesh MD cable tray - 150mm wide	m	60	R	R
2.3.5	Welded wire mesh 90° Horizontal Elbow, internal or external , 150mm	No.	4	R	R
2.3.6	Tee Piece - 150mm	No.	3	R	R
	Install				
2.3.7	Welded Wire Mesh MD cable tray - 300mm wide	m	60	R	R
2.3.8	Welded wire mesh 90° Horizontal Elbow, internal or external , 300mm	No.	6	R	R
2.3.9	Tee Piece - 300mm	No.	2	R	R
2.3.10	Welded Wire Mesh MD cable tray - 150mm wide	m	60	R	R
2.3.11	Welded wire mesh 90° Horizontal Elbow, internal or external , 150mm	No.	4	R	R
2.3.12	Tee Piece - 150mm	No.	3	R	R
Carried Forward to next Page					R



MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 2 - ELECTRICAL DISTRIBUTION INSTALLATION



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
2.4	PVC Conduit and PVC trunking PVC conduit and accessories. Conduit applied and installed, including couplings, cutting, reaming, bending, fixing, etc. as per specification.				
	Supply				
2.4.1	20 mm diameter	m	100	R	R
2.4.2	25 mm diameter	m	100	R	R
	Install				
2.4.3	20 mm diameter	m	100	R	R
2.4.4	25 mm diameter	m	100	R	R
2.5	Design Refinement				
2.5.1	To be used at the discretion of the Electrical Engineer for design refinement of the general electrical and electronic services.	Prov. Sum	1	R 35 000.00	R 35 000.00
2.5.2	Profit and attendance on item 2.5.1 above	%		R 35 000.00	R
2.6	Conduit boxes for PVC Conduit Outlet boxes, round 65mm diameter x 25mm deep, complete with covers and screws, with conduit ends .				
	Supply				
2.6.1	Round box and lid for 20mm conduit	No.	10	R	R
2.6.2	Round box and lid for 25mm conduit	No.	5	R	R
2.6.3	100 x 50 x 50 Box - Recessed or Surface	No.	5	R	R
2.6.4	100 x 100 x 50 Box - Recessed or Surface	No.	5	R	R
	Install				
2.6.5	Round box and lid for 20mm conduit	No.	10	R	R
2.6.6	Round box and lid for 25mm conduit	No.	5	R	R
2.6.7	100 x 50 x 50 Box - Recessed or Surface	No.	5	R	R
2.6.8	100 x 100 x 50 Box - Recessed or Surface	No.	5	R	R
2.7	Conductors PVC insulated 600/1000V Copper conductors, including earth, drawn into circuit. Mainly to be used to correct the earthing of the various system and interconnection the earth between the various distribution board, sound desk and lighting controllers.				
	Supply				
2.7.1	1.5 mm ² - (House Wire)	m	100	R	R
2.7.2	2.5 mm ² - (House Wire)	m	100	R	R
2.7.3	4 mm ² - (House Wire)	m	500	R	R
2.7.4	6 mm ² - (House Wire)	m	1 000	R	R
Carried Forward to next Page					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 2 - ELECTRICAL DISTRIBUTION INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
2.7.5	Install 1.5 mm ² - (House Wire)	m	100	R	R
2.7.6	2.5 mm ² - (House Wire)	m	100	R	R
2.7.7	4 mm ² - (House Wire)	m	500	R	R
2.7.8	6 mm ² - (House Wire)	m	1 000	R	R
TOTAL FOR BILL No. 2 : ELECTRICAL DISTRIBUTION (CARRIED FORWARD TO FINAL SUMMARY)					
AMOUNT CARRIED FORWARD					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 3 - GENERAL ELECTRICAL INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount	
					R	C
3	General Electrical					
3.1	Cables Supply, install, terminate and commissioning the following.					
	Supply					
3.1.1	4mm ² , Surfex 4-core & Earth	m	200	R	R	
3.1.2	2.5mm ² , Surfex 2-core & Earth	m	500	R	R	
3.1.3	1.5mm ² , Surfex 2-core & Earth	m	600	R	R	
	Install					
3.1.4	4mm ² , Surfex 4-core & Earth	m	200	R	R	
3.1.5	2.5mm ² , Surfex 2-core & Earth	m	500	R	R	
3.1.6	1.5mm ² , Surfex 2-core & Earth	m	600	R	R	
3.2	Trunking Supply and install the P8000 and P2000 trunking complete with hangers brackets, covers and threaded rods, purpose made bends and offsets as indicated on the drawings.					
	Supply					
3.2.1	P8000 trunking, complete with splices & pvc covers	m	90	R	R	
3.2.2	End cap for P8000	No.	8	R	R	
3.2.3	Elbow, 90° bend for P8000	No.	6	R	R	
3.2.4	T-Piece for P8000	No.	2	R	R	
3.2.5	Internal or external riser for P8000	No.	20	R	R	
3.2.6	Distribution outlet for P8000	No.	2	R	R	
3.2.7	P2000 trunking, complete with splices & pvc covers	m	120	R	R	
3.2.8	End cap for P2000	No.	5	R	R	
3.2.9	Elbow, 90° bend for P2000	No.	4	R	R	
3.2.10	T-Piece for P2000	No.	2	R	R	
3.2.11	Internal or external riser for P2000	No.	8	R	R	
	Install					
3.2.12	P8000 trunking, complete with splices & pvc covers	m	90	R	R	
3.2.13	End cap for P8000	No.	8	R	R	
3.2.14	Elbow, 90° bend for P8000	No.	6	R	R	
3.2.15	T-Piece for P8000	No.	2	R	R	
3.2.16	Internal or external riser for P8000	No.	20	R	R	
Carried Forward to next Page					R	



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 3 - GENERAL ELECTRICAL INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
	(Install - continued)				
3.2.17	Distribution outlet for P8000	No.	2	R	R
3.2.18	P2000 trunking, complete with splices & pvc covers	m	120	R	R
3.2.19	End cap for P2000	No.	5	R	R
3.2.20	Elbow, 90° bend for P2000	No.	4	R	R
3.2.21	T-Piece for P2000	No.	2	R	R
3.2.22	Internal or external riser for P2000	No.	8	R	R
3.3	Welded Wire Mesh medium duty cable tray Supply and install brackets, cross arms and Welded Wire Mesh galvanised medium duty wire cable tray complete with hangers brackets, covers and threaded rods, couplers etc.				
	Supply				
3.3.1	Welded Wire Mesh MD cable tray - 150mm wide	m	78	R	R
3.3.2	Welded wire mesh 90° Horizontal Elbow, internal or external , 150mm	No.	4	R	R
	Install				
3.3.3	Welded Wire Mesh MD cable tray - 150mm wide	m	78	R	R
3.3.4	Welded wire mesh 90° Horizontal Elbow, internal or external , 150mm	No.	4	R	R
3.4	PVC Conduit and PVC trunking PVC conduit and accessories. Conduit applied and installed, including couplings, cutting, reaming, bending, fixing, etc. as per specification.				
	Supply				
3.4.1	20 mm diameter	m	800	R	R
3.4.2	25 mm diameter	m	400	R	R
3.4.3	20 mm diameter - Flexible conduit (Sprague)	m	100	R	R
	Install				
3.4.4	20 mm diameter	m	800	R	R
3.4.5	25 mm diameter	m	400	R	R
3.4.6	20 mm diameter - Flexible conduit (Sprague)	m	100	R	R
3.5	Conduit boxes for PVC Conduit Outlet boxes, round 65mm diameter x 25mm deep, complete with covers and screws, with conduit ends .				
	Supply				
3.5.1	Round box and lid for 20mm conduit	No.	95	R	R
3.5.2	Round box and lid for 25mm conduit	No.	40	R	R
Carried Forward to next Page					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 3 - GENERAL ELECTRICAL INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
	(Supply- continued)				
3.5.3	100 x 50 x 50 Box - Recessed or Surface	No.	30	R	R
3.5.4	100 x 100 x 50 Box - Recessed or Surface	No.	40	R	R
3.5.5	Install Round box and lid for 20mm conduit	No.	95	R	R
3.5.6	Round box and lid for 25mm conduit	No.	40	R	R
3.5.7	100 x 50 x 50 Box - Recessed or Surface	No.	30	R	R
3.5.8	100 x 100 x 50 Box - Recessed or Surface	No.	40	R	R
3.6	Conductors PVC insulated 600/1000V Copper conductors, including earth, drawn into circuit.				
	Supply				
3.6.1	1.5 mm ² - (House Wire)	m	4 500	R	R
3.6.2	2.5 mm ² - (House Wire)	m	6 500	R	R
3.6.3	4 mm ² - (House Wire)	m	1 000	R	R
	Install				
3.6.4	1.5 mm ² - (House Wire)	m	4 500	R	R
3.6.5	2.5 mm ² - (House Wire)	m	6 500	R	R
3.6.6	4 mm ² - (House Wire)	m	1 000	R	R
3.7	Power Skirting Power skirting, OBO, white, 2 tier, complete with covers, end caps and all accessories.				
	Supply				
3.7.1	2 tier Power Skirting, OBO White, complete with covers, splices etc.	m	72	R	R
3.7.2	Internal Corners for Power Skirting - 2 Tier	No.	8	R	R
3.7.3	End caps for Power Skirting - 2 Tier	No	48	R	R
3.7.4	16A SSO, 164-1, skirting type complete with covers and cradles (Normal)	No	62	R	R
3.7.5	16A, SSO, 164-2 (Euro) with switch skirting type complete with, switch, covers and cradles (Normal)	No.	62	R	R
	Install				
3.7.6	2 tier Power Skirting, OBO White, complete with covers, splices etc.	m	72	R	R
3.7.7	Internal Corners for Power Skirting - 2 Tier	No.	8	R	R
3.7.8	End caps for Power Skirting - 2 Tier	No	48	R	R
Carried Forward to next Page					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 3 - GENERAL ELECTRICAL INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
	(Install - continued)				
3.7.9	16A SSO, 164-1, skirting type complete with covers and cradles (Normal)	No	62	R	R
3.7.10	16A, SSO, 164-2 (Euro) with switch skirting type complete with, switch, covers and cradles (Normal)	No.	62	R	R
3.8	Switched socket outlets Supply, install and connect recessed 16 A, switched socket outlet complete with cover plate. Onesto Matrix manufacturer, black switches and outlets and silver cover.				
	Supply				
3.8.1	Double Switched Socket Outlet, 50 x 100 (2x4) 1 x std old RSA SSO 164-1 & 1 x new std RSA SSO 164-2. Onesto Matrix Range	No.	25	R	R
3.8.2	Switched Socket Outlet, 100 x 100 (4x4) 1 x std old RSA SSO 164-1 & 3 x new std RSA SSO 164-2. Onesto Matrix Range	No.	20	R	R
3.8.3	Single Switched Socket Outlet - 50x100, dedicated, shaved earth, red. Onesto Matrix Range - red outlets and red cover	No.	5	R	R
3.8.4	Single SSO - Weather proof - S15	No.	3	R	R
3.8.5	Blank 100x100 cover for mech wiring/controls	No.	32	R	R
	Install				
3.8.6	Double Switched Socket Outlet, 50 x 100 (2x4) 1 x std old RSA SSO 164-1 & 1 x new std RSA SSO 164-2. Onesto Matrix Range	No.	25	R	R
3.8.7	Switched Socket Outlet, 100 x 100 (4x4) 1 x std old RSA SSO 164-1 & 3 x new std RSA SSO 164-2. Onesto Matrix Range	No.	20	R	R
3.8.8	Single Switched Socket Outlet - 50x100, dedicated, shaved earth, red. Onesto Matrix Range - red outlets and red cover	No.	5	R	R
3.8.9	Single SSO - Weather proof - S15	No.	3	R	R
3.8.10	Blank 100x100 cover for mech wiring/controls	No.	32	R	R
Carried Forward to next Page					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 3 - GENERAL ELECTRICAL INSTALLATION**

P8058E01

Reference: MBTC-SCM/02/2025



Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
3.9	Isolators				
	Supply				
3.9.1	20 A double pole isolator complete, flush or surface, 100x50.	No.	5	R	R
3.9.2	Weather Proof, Surface 32A double pole isolator complete.	No.	6	R	R
3.9.3	Weather Proof, Surface 32A triple pole/3PH isolator complete.	No.	2	R	R
	Install				
3.9.4	20 A double pole isolator complete, flush or surface, 100x50.	No.	5	R	R
3.9.5	Weather Proof, Surface 32A double pole isolator complete.	No.	6	R	R
3.9.6	Weather Proof, Surface 32A triple pole/3PH isolator complete.	No.	2	R	R
3.10	Switching units				
	Supply, install and connect recessed 16 A, switches complete with cover plate. Onesto Matrix manufacturer, black switches and silver cover.				
	Supply				
3.10.1	16 A , 1-lever , 1-way - 100x100, Onesto matrix Range	No.	20	R	R
3.10.2	16 A , 1-lever , 1x2-way - 100x100, Onesto matrix Range	No.	8	R	R
3.10.3	16 A , 2-lever , 2x1-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.4	16 A , 2-lever , 1x1-way & 1x2-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.5	16 A , 2-lever , 2x2-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.6	16 A , 3-lever , 3x2-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.7	16 A , 1-lever, 1x1way, Weatherproof - IP65	No.	1	R	R
3.10.8	Recessed single-load 360deg PIR Room Occupancy Sensor Glo Electrical: GL 10S41	No.	22	R	R
3.10.9	Photocell, 16A, Daylight Switch Spectrum 16A QS16T	No.	4	R	R
Carried Forward to next Page					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 3 - GENERAL ELECTRICAL INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
3.10.10	Install 16 A , 1-lever , 1-way - 100x100, Onesto matrix Range	No.	20	R	R
3.10.11	16 A , 1-lever , 1x2-way - 100x100, Onesto matrix Range	No.	8	R	R
3.10.12	16 A , 2-lever , 2x1-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.13	16 A , 2-lever , 1x1-way & 1x2-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.14	16 A , 2-lever , 2x2-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.15	16 A , 3-lever , 3x2-way - 100x100, Onesto matrix Range	No.	1	R	R
3.10.16	16 A , 1-lever, 1x1way, Weatherproof - IP65	No.	1	R	R
3.10.17	Recessed single-load 360deg PIR Room Occupancy Sensor Glo Electrical: GL 10S41	No.	22	R	R
3.10.18	Photocell, 16A, Daylight Switch Spectrum 16A QS16T	No.	4	R	R
3.11	Luminaires Supply, install, connect and commission the following luminaires.				
	Supply				
3.11.1	Type A Light Fitting: Stage blue light, mounted to the wall, replacing existing fittings. Mesmerize: ML-JFL-10W-B	No	18	R	R
3.11.2	Type B Lamp: Lamp, 12W, LED Filament, stick type, 3000K, B22, Radiant Lighting: 6009513094678	No	75	R	R
3.11.3	Type C Light Fitting: Splash/dust proof LED fitting, with integral LED controller, 1200mm Rubicon Lighting: Saxa Triproof, 36W, 3000K	No	35	R	R
3.11.4	Type D Light Fitting: Linear Light, Surface, 2880mm, 3000K, White body. Rubicon Lighting: LF80-112W-3000K	No	1	R	R
3.13.5	Type E Light Fitting: Bulkhead, round, UV Stabilized High Impact Acrylic, black, complete with integral LED gear and board, ±15W, IP65. Rubicon Lighting: MED-15W-4K-BLK	No	30	R	R
3.13.6	Type F Light Fitting: Wall Light, Up/Down, Powder Coated aluminium diffuser, tempered glass, black, complete with integral LED gear and board, ±15W, IP65. Rubicon Lighting: CORT152-16W-3K-BLK	No	18	R	R
Carried Forward to next Page					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 3 - GENERAL ELECTRICAL INSTALLATION**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
3.13.7	(Supply- continued) Type G Light Fitting: Downlight, ±72-C/O, 10W, 3000K, White body. Rubicon Lighting: LUCIA-10W-3000K-WHT	No	35	R	R
3.13.8	Type J Light Fitting: Surface fitting, round, GU10 3000K, Black body. Rubicon Lighting: RAEGAN-GU10-BLK	No	24	R	R
3.13.9	Type K Light Fitting: Pendant light, Round, 35W, Black, 30deg, 3000K Rubicon Lighting: CRAFT-35W-30D-3K-BLK	No	12	R	R
3.13.10	Type L : Lamp, GU10, 12W, 38deg, 3000K	No	45	R	R
Install					
3.13.11	Type A Light Fitting	No	18	R	R
3.13.12	Type B Light Fitting	No	75	R	R
3.13.13	Type C Light Fitting	No	35	R	R
3.13.14	Type D Light Fitting	No	1	R	R
3.13.15	Type E Light Fitting	No	30	R	R
3.13.16	Type F Light Fitting	No	18	R	R
3.13.17	Type G Light Fitting	No	35	R	R
3.13.18	Type J Light Fitting	No	24	R	R
3.13.19	Type K Light Fitting	No	12	R	R
3.13.20	Type L Light Fitting	No	45	R	R
TOTAL FOR BILL No. 3 : GENERAL ELECTRICAL (CARRIED FORWARD TO FINAL SUMMARY)					
AMOUNT CARRIED FORWARD					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 4 - GENERATOR INSTALLATION**

P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount	
					R	C
4.1	General Items, pertaining specifically to the Generator installation.					
4.1.1	Nett price to comply with all the requirements of the Health & Safety specifications.	Item	1	R	R	
4.1.2	Nett price for provision of "As Built" drawings as per specification	Item	1	R	R	
4.1.3	Log book to be supplied and installed in generator rooms in a appropriate box mounted on the wall.	No.	1	R	R	
4.1.4	Scanned copy on Memory Stick of all items above.	Item	2	R	R	
4.2	EARTHING OF GENERATOR					
4.2.1	Supply and install earthing system as required by Regulations.	Sum	1	R	R	
4.3	EMERGENCY STANDBY GENERATOR					
4.3.1	Supply of standby Generator complete as specified for the 350 kVA Diesel/Alternating Generator Enclosed (3Ph)	No.	1	R	R	
4.3.2	Deliver and Install of standby Generator complete as specified for the 350 kVA Diesel/Alternating Generator Enclosed (3Ph) (Including first fill of all lubrication, oils and diesel)	Sum	1	R	R	
4.4	DISTRIBUTION BOARDS & SWITCH GEAR					
4.4.1	Supply & installation of distribution boards as per specification	No.	1	R	R	
4.4.2	Generator Control, Protection Circuit Breaker and change over.- for 350kVA unit	No.	1	R	R	
4.5	EXHAUST SILENCER - Sound Attenuated					
4.5.1	Design supply and install the stainless steel exhaust	No.	1	R	R	
4.6	LOUVRES AND SOUND ATTENUATING					
4.6.1	Design supply and install the ducting, sound attenuation and louvre to suite the air-flow required for the generator, for 350kVA generator	No.	1	R	R	
4.7	DUMMY LOAD AND CONTROL SYSTEM					
4.7.1	Supply and install a dummy load control system (rated as per generator suppliers specifications) ensuring the machine always runs under load conditions as per the specification., for 350kVA generator	Sum	1	R	R	
Carried Forward to next Page					R	



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 4 - GENERATOR INSTALLATION**



P8058E01-3

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
4.8	WARNING NOTICES				
4.8.1	Supply and Install warning notices on the container as specified and as per as per SANS and OHS specifications.	Item	2	R	R
4.9	INSTALLATION - CRANAGE				
4.9.1	Cost for obtaining the services of a crane or crane truck, to install an lower the generator into place, as shown on site.	Item	1	R	R
4.10	MANUALS				
4.10.1	Compilation of Maintenance, operational and technical manuals to the client satisfaction	No.	2	R	R
4.11	FACTORY ACCEPTANCE TEST (F.A.T.)				
4.11.1	Cost for the F.A.T. take place in presence of the Electrical Engineers and manufacturer in the Nelson Mandela Metropole area. If the manufacturer is outside the Nelson Mandela Metropolitan area, then the cost to fly, accommodate and transport the electrical engineer must be included.	No.	1	R	R
4.11	TEST AND COMMISSION				
4.11.1	Test and Commission to delivery of a fully operational generating set to the client and engineers satisfaction	Item	1	R	R
4.11.2	On site after completion of the installation	Item	1	R	R
4.11.3	Cost for fuel for testing and commissioning and for handover to the client	Item	1	R	R
4.11.4	Training of operators and maintenance personal of the client at time of site handover, at completion of the entre project.	Item	1	R	R
4.12	MAINTENANCE				
4.12.1	12 Month maintenance as per the specification. Quarterly (4) service of the plant as per the manufacturer's requirements.	Item	1	R	R
4.13	PADLOCKS				
4.13.1	Supply and install A82 padlocks. These are to include 3-sets of keys for the padlocks	No.	4	R	R
Carried Forward to next Page					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 4 - GENERATOR INSTALLATION**

CAduTbit
Eastern Cape (Pty) Ltd
Consulting Engineers

P8058E01-3

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount
Brought Forward from previous Page					R
4.14	CABLE For PVC/PVC/SWA/ECC/PVC cables,				
4.14.1	Supply: 185 mm ² , 4-core	m	80	R	R
4.14.2	Install: 185 mm ² , 4-core	m	80	R	R
4.15	CABLE TERMINATIONS For PVC/PVC/SWA/ECC/PVC cables, including armour glands, shrouds, lugs, connections, insulation tape, cadmium plated bolts, nuts, spring-washers, etc.				
4.15.1	Supply: 185 mm ² , 4-core	No.	4	R	R
4.15.2	Install: 185 mm ² , 4-core	No.	4	R	R
TOTAL FOR BILL No. 4 : GENERATOR INSTALLATION (CARRIED FORWARD TO FINAL SUMMARY)					
AMOUNT CARRIED FORWARD					R



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL 5 - PROVISIONAL AMOUNTS**



P8058E01

Reference: MBTC-SCM/02/2025

Item	Description	Unit	Qty	Rate	Amount	
					R	C
5	Sum Values and Allowances					
5.1	Allowance for helping with electronic generator installation and connection into the existing distribution system.	Prov Sum	1	R 35 000.00	R	35 000.00
5.2	Profit and attendance on item 5.1 above	%		R 35 000.00	R	
5.3	Allowance for demolition and removing of existing electrical items in areas where construction is taking place, and making safe the electrical installation.	Prov Sum	1	R 45 000.00	R	45 000.00
5.4	Profit and attendance on item 5.3 above	%		R 45 000.00	R	
5.5	Allowance for helping with electronic services, and any other client equipment installations	Prov Sum	1	R 35 000.00	R	35 000.00
5.6	Profit and attendance on item 5.5 above	%		R 35 000.00	R	
5.7	Allowance for Architectural lighting and entrance exterior lighting	Prov Sum	1	R 110 000.00	R	110 000.00
5.8	Profit and attendance on item 5.7 above	%		R 110 000.00	R	
5.9	Allowance for Lightning protection, to have it fixed and corrected according compliance.	Prov Sum	1	R 125 000.00	R	125 000.00
5.10	Profit and attendance on item 5.9 above	%		R 125 000.00	R	
5.11	Allowance for the modification to the existing plinth, and any other infrastructure to get the unit in the building/area provided	Prov Sum	1	R 65 000.00	R	65 000.00
5.12	Profit and attendance on item 5.11 above	%		R 65 000.00	R	
TOTAL FOR BILL No. 5 : PROVISIONAL AMOUNTS (CARRIED FORWARD TO FINAL SUMMARY)						
AMOUNT CARRIED FORWARD					R	



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
INFORMATION SCHEDULE**

P8058E01



Reference: MBTC-SCM/02/2025

Item	Description	Trademark/Manufacturer
1	Cable Tray, Wire basket and trunking	
2	Cable manufacturer	
3	PVC Conduit and accessories	
4	Circuit Breakers	Must be C.B.I - Due to Cascading
5	PVC-insulated conductors	
6	Cable Tray, Wire basket and trunking	
7	Power Skirting	
8	PVC Conduit and accessories	
9	Galvanised conduit and accessories.	
10	PVC-insulated conductors	
11	Plugs and switches	
12	Lighting Supplier	

Note: The Generator schedule of information is part of tender document part T2.2(14)



**MBTC REFURBISHMENT: ELECTRICAL & GENERATOR INSTALLATION:
BILL SUMMARY**

P8058E01



Reference: MBTC-SCM/02/2025

FINAL SUMMARY OF QUANTITIES

The price for the complete installation in working order is in accordance with Part 3 of the Specification and brought forward from the Bill's and is made up as follows:

1.1	Subtotal Bill No: 1 - Preliminary and General	R
1.2	Subtotal Bill No: 2 - Electrical Distribution	R
1.3	Subtotal Bill No: 3 - General Electrical	R
1.4	Subtotal Bill No: 4 - Generator	R
1.5	Subtotal Bill No: 5 - Provisional Amounts	R

Note: All rates and prices above exclude VAT.

Sub Total	R
Contingency - 10%	R
Sub Total	R
15% VAT	R
Total	R

(To be carried forward to the Tender

NOTES TO BE READ IN CONJUNCTION WITH THE TENDER PRICE.

- The amount given as the "Total Tender Price" and carried to the amounts official tender form will be regarded as including the amounts shown in the Bill and no adjustments will be made for any failure by Tenderer's to include these amounts in the total appearing on the official form.
- All Material covered by this Specification should, wherever possible, be of South African manufacture. In the adjudication of Tenders, preference will be given to items manufactured in the Republic of South Africa from South African materials.

Name of Electrical Contractor

.....

Signature of Electrical Contractor:

.....

Date:

.....

COMPANY STAMP



PART C2: AGREEMENT AND CONTRACT DATA

C2.1 CONTRACT DATA

- | | |
|----------|----------------------|
| Clause A | Project information |
| Clause B | Contract information |
| Clause C | Tender closing |
| Clause D | Tenderers' selection |

A PROJECT INFORMATION

A 1.0 Works [1.1]

Project name	MANDELA BAY THEATRE COMPLEX, GQEBERHA ELECTRICAL AND GENERATOR INSTALLATIONS
Reference number	P8058E01
Works description	<p>The description hereunder is a general guide only and tenderers are referred to the engineer's drawings for tender purposes. No liability shall be accepted should the information provided under this heading be considered misleading.</p> <p>The scope of work is briefly summarized as follows:</p> <ul style="list-style-type: none"> a) General Electrical: <ul style="list-style-type: none"> i) Electrical and Generator Installations of the Electrical Installations for the proposed Additions and Alteration. ii) Install all Luminaires as per supplier's requirements to obtain full guarantee. iii) Installation of specialised blue lights, backstage area, for a functional operation of the stage area iv) Install trunking / wireways for reticulation of electrical power and controls. v) Attendance and co-ordination of all electronic services as per specification. vi) Connection of all mechanical equipment. b) Electrical Distribution: <ul style="list-style-type: none"> i) Complete Electrical testing of all the distribution boards in the complex. ii) Testing of all LV cable reticulation to the existing sub-Distribution Boards. iii) Replacement of the Main Stage distribution board. iv) Assistance with the connection of the new generator power. v) Labelling and new legends for all the existing distribution boards. c) Supply and install New 350kVA Generator. <ul style="list-style-type: none"> i) Fully enclosed, outdoor unit, super silent, compete with relevant protection. ii) Built un fuel tank. iii) Supply and install fully automatic change-over. iv) Cable to main distribution board from the generator, with the relevant communication cables and connection/terminations. v) Supply and install all interfaces to existing Distribution board. vi) Programme, Test, commissioning and hand over full working system <p>The fixing of the electrical reticulation and distribution boards will be done under a separate contract by others.</p>



A 2.0 Site [1.1]

Erf / stand number	
Township / Suburb	Central, Gqeberha
Site address	Cnr John Kani & Winston Ntshona Street, Central, Gqeberha, 6001
Local authority	Nelson Mandela Bay Municipality

A 3.0	[1.1]	Employer	
		Name:	Mandela Bay Theatre Complex (MBTC)
		Legal entity of above:	Mandela Bay Theatre Complex
		Business registration number:	Gazette No. 486/4-6-2021, Schedule 3a Public Entity
		VAT number:	N/a
		Country:	South Africa
		Postal address:	Private Bag 1556, Central, Gqeberha, 6000
		Physical address:	Cnr John Kani & Winston Ntshona Street, Central, Gqeberha
		Contact person:	Mr. B Molefe
		Telephone number:	061 255 4380
		Email:	buyani@mandelabaytheatre.co.za

A 4.0	[1.1]	Principal agent	
		Name:	The Matrix Architects
		Legal entity of above:	The Matrix Urban Designers and Architects
		Practice number:	
		Country:	South Africa
		Postal address:	PO Box 1737, Gqeberha, 6000
		Physical address:	Office 01, Bloomingdales Lifestyle Centre, 145 Main Road, Walmer, Gqeberha, 6065
		Contact person:	Prof A Herholdt
		Telephone number:	041 582 1073
		Email:	albrecht@thematrixcc.co.za

A 5.0	[1.1; 6.2]	Agent	
		Discipline:	Architect/s
		Name:	The Matrix Architects
		Legal entity of above:	The Matrix Urban Designers and Architects
		Practice number:	
		Country:	South Africa
		Postal address:	PO Box 1737, Gqeberha, 6000
		Physical address:	Office 01, Bloomingdales Lifestyle Centre, 145 Main Road, Walmer, Gqeberha, 6065
		Contact person:	Prof A Herholdt
		Telephone number:	041 582 1073
		Email:	albrecht@thematrixcc.co.za



A 6.0	[1.1; 6.2]	Agent	
		Discipline:	Quantity Surveyor/s
		Name:	BTKM Quantity Surveyors PE (Pty) Ltd
		Legal entity of above:	Company
		Practice number:	64749202 (ASAQS)
		Country:	South Africa
		Postal address:	PO Box 40052, Walmer, 6065
		Physical address:	84 Cape Road, Mill Park, Port Elizabeth, 6001
		Contact person:	Mr. C Scott
		Telephone number:	041 373 9127
		Email:	clements@btkm.co.za
A 7.0	[1.1; 6.2]	Agent	
		Discipline:	Electrical Engineer
		Name:	CA du Toit Consulting Engineers
		Legal entity of above:	CA du Toit Eastern Cape (Pty) Ltd
		Practice number:	CESA: 607
		Country:	South Africa
		Postal address:	22 Shirley Street, Newton Park, Gqeberha, 6045
		Physical address:	22 Shirley Street, Newton Park, Gqeberha, 6045
		Contact person:	Mr Lance Bright
		Telephone number:	041 585 7559
		Email:	lance@cadutoitec.co.za



B CONTRACT INFORMATION

B 1.0 Definitions [1.1]

Bills of quantities: System/Method of measurement	Re-measurable Contract
----------------------------------------------------------	------------------------

B 2.0 Law, regulations and notices [2.0]

Law applicable to the works , state country [2.1]	South Africa
-----------------------------------------------------------------	--------------

B 3.0 Offer and acceptance [3.0]

Currency applicable to this agreement [3.2]	South African Rand
----------------------------------------------------	--------------------

B 4.0 Documents [4.0]

The original signed agreement is to be held by the principal agent [4.2], if not, indicate by whom	Employer
Number of copies of the construction information issued to the contractor at no cost [4.5]	One
Documents comprising the agreement	Page numbers
The JBCC® Minor Works Agreement, Edition 5.2 May 2018	1 to 19
The JBCC® Minor Works Agreement - Contract Data, Edition 5.2 May 2018	1 to 11
The JBCC® General Preliminaries for use with the JBCC® Minor Works Agreement, Edition 5.2 May 2018	1 to 7
The priced tender document	BOQ – Complete, Included
Annexures "A" to "G"	Included
Annexure "H" – Health and Safety Specification	Separate Document



B 5.0 Employer's Agent [5.0]

[6.0]	Employer's agents	
[6.2]	Authority is delegated to the following agents to issue contract instructions and perform duties for specific aspects of the works	Principal Agent (Refer A 4.0)
[6.3]	Principal agent's and agent's interest or involvement in the works other than a professional interest	None

B 6.0 Insurances [8.0]

Insurances by Employer			Amount including tax	Deductible amount including tax
Contract works insurance:				
	New work [8.2.1] (contract sum or amount)			
or	Works with alterations and additions [8.2.1] (reinstatement value of existing structures with or including new works)		Contract sum plus 20%	To be determined by contractor
	Direct contractors [13.0] where applicable, to be included in the contract works insurance			
	Free issue [10.1.12] where applicable, to be included in the contract works insurance			
	Escalation, professional fees and reinstatements cost if not included above		N/A	N/A
Total of the above contract works insurance amount			Contract sum plus 20%	
Supplementary insurance [8.2.2]				To be determined by contractor
Public liability insurance [8.2.3]			R 10,000,000-00	To be determined by contractor
Removal of lateral support insurance [8.2.4]			N/A	
Other insurances [8.2.5]				
Yes/No?	No	If yes, description 1		
Yes/No?	No	If yes, description 2		



B 7.0 Obligations of the employer [10.1]

Existing premises will be in use and occupied [10.1.3]		Yes/No?	Yes
If Yes, description	Prior to the award of the contract and following a detailed review of the contractor's proposed method statement for the works, the contractor shall provide the principal agent with a plan indicating his proposed layout of plant and establishment on site, delivery routes, workmen's access, public access to and into the existing building, etc.		
Restriction of working hours [10.1.3]		Yes/No?	Yes
If Yes, description	All work inside production areas is dependent on the Employer's production schedule when no work will be permitted. Planned after-hours/weekend work shall be arranged well in advance (monthly schedule) taking the employer's production programme into consideration. MBTC would only be able to confirm on a Friday morning prior to any weekend can be approved. Time available on a weekend will typically be between Saturday 10:00 and Sunday 17:00, giving 24 available hours. Consideration to be given to have multiple working shifts on a weekend to utilize the available time.		
Natural features and known services to be preserved by the contractor [10.1.4]		Yes/No?	Yes
If Yes, description	<p>EXISTING ROADS AND BUILDINGS</p> <p>The contractor acknowledges that the existing services, roads and buildings as marked on the drawing will be retained and that all works are to be carried out in such a manner as not to damage the services.</p> <p>It shall be the explicit responsibility of the contractor to maintain appropriate protection of the existing buildings, roads and services.</p> <p>Prior to the award of the contract and following a detailed review of the contractor's proposed method statement for the works, the contractor shall provide the principal agent with a plan indicating his proposed protection measures for approval.</p>		
Restrictions to the site or areas that the contractor may not occupy [10.1.5]		Yes/No?	Yes
If Yes, description	<p>The contractor will be restricted to occupy only that portion of the site as agreed with the Principal Agent and he shall on no account be allowed to extend his operations beyond the defined areas without the written approval of the Principal Agent.</p> <p>Within the defined restrictions and constraints, the contractor will be responsible for the location of his site establishment. Any required relocation thereof to meet the requirements of the programme / constraints of the site, will be for the contractor's account. Access to the site for all construction vehicles will be restricted to entry and exit points to be agreed with the principal agent.</p>		
Supply of free issue [10.1.12]		Yes/No?	No
If Yes, description			



B 8.0 Direct Contractors [13.0]

Extent of work [10.1.13]	Civil and Builders works, External Works, Electrical supply only.
Extent of work [10.1.13]	Any other related contractors and Direct Contractors as would be required for this project.
Extent of work [10.1.13]	
Extent of work [10.1.13]	
Extent of work [10.1.13]	

B 9.0 Possession of site [10.1.6] practical completion [15.0;17.0] and penalties [18.0]

Practical Completion for the works as a whole	Intended date of possession of the site [10.1.6]	Period for Inspection by the principal agent [15.3]	Date for practical completion [15.1.1]	Penalty [18.1]
	Date	working days	Date	Penalty amount per calendar day (excl. VAT)
	23 June 2025	7	Provisional: 23 October 2025	R 7,500.00

Criteria to achieve practical completion not covered in the definition of practical completion	
1.	All works as per the B.O.Q and the drawings executed complete.
2.	General areas on site left in the state that it was before starting with the works for those areas where no work was executed by the contractor.
3.	All works as per the Principal Agents approval.
4.	Commissioning Certificate for the Generator.
5.	Electrical certificate of Compliance for the relevant distribution boards and general electrical installations.

B 10.0 Payment [19.0]

Date of the month for issue of regular payment certificates [19.2]	20 th of each Month
---------------------------------------------------------------------------	--------------------------------

B 11.0 Dispute resolution [22.0]

Adjudication [22.5.1] Name of nomination body	Construction Adjudication Association of South Africa
Applicable rules for adjudication [22.5.2]	By Agreement between parties
Arbitration [22.6.4] Name of nomination body	The Association of South African Arbitrators.
Applicable rules for arbitration [22.6.5]	By Agreement between parties



B 12.0 JBCC® General Preliminaries - selections

Provisional bills of quantities [P2.2]		Yes/No?	Yes	
Availability of construction information [P2.3]		Yes/No?	No	Construction information for the works is incomplete and will be completed during the construction period.
Previous work - dimensional accuracy - details [P3.1]		The contractor shall ensure that previous works are checked for accuracy and or purposes of setting out the works. The Contractor shall be responsible for final site measurements and any clashes shall be timeously identified and resolved with the Principal Agent.		
Previous work - defects - details [P3.2]		N/A		
Inspection of adjoining properties - details [P3.3]		N/A		
Handover of the site in stages - specific requirements [P4.1]		Yes		
Enclosure of the works - specific requirements [P4.2]		Health and Safety requirements to be met.		
Geotechnical and other investigations - specific requirements [P4.3]		No		
Existing premises occupied - details [P4.5]		Yes		
Services - known - specific requirements [P4.6]		TBA		
Water [P8.1]	By contractor	Yes/no?	No	
	By employer	Yes/no?	Yes	
	By employer - metered	Yes/no?	No	
Electricity [P8.2]	By contractor	Yes/no?	No	
	By employer	Yes/no?	Yes	
	By employer - metered	Yes/no?	No	
Ablution and welfare facilities [P8.3]	By contractor	Yes/no?	Yes	
	By employer	Yes/no?	No	
Communication facilities - specific requirements [P8.4]		To be arranged by the contractor himself. Adequate provision for e-mail and cell phone contact to be available for contract communication between all parties to the contract.		
Protection of the works - specific requirements [P11.1]		<p>The contractor shall provide for the protection of all work for which a certificate of practical completion has not yet been issued and which is liable to be damaged from any cause, which protection shall, inter alia, include:</p> <ul style="list-style-type: none"> the protection of the works from inclement weather, exposure to the sun and the removal of water from whatever source from the works (keeping excavations free of water separately measured). 		



	<ul style="list-style-type: none"> the provision and maintenance of all necessary temporary protection of finished and/or existing work liable to be damaged during the progress of the works by properly covering up, isolating, etc., as required. The contractor shall be responsible for any damage which may occur and shall make good at his own expense.
Protection / isolation of existing works and works occupied in sections - specific requirements [P11.2]	This is an existing site with buildings that fully occupied. As such due care must be taken to protect the works and work in a methodical way to ensure no damage occurs to buildings or production losses.
Disturbance - specific requirements [P11.5]	Refer to working hours
Environmental disturbance - specific requirements [P11.6]	Noise to be limited as far as possible

B 13.0 Changes made to JBCC® documentation

Reference may be made to other documents forming part of this agreement
Where standard clauses or alternatives are not entirely applicable to this agreement such amendments, modifications, corrections or supplements as will apply are given under each relevant clause heading in Section Three Bill No 1 (Preliminaries, JBCC MWA Edition 5.2) and such amendments, modifications, corrections or supplements shall take precedence.



C TENDER CLOSING

Tender closing date	Wed, 27 May 2025	Time	12h00
Tender submission address	As per Tender Notice and Invitation to Tender (T1.1). Tenders only to be submitted via email, no delivery/hard copies to be submitted.		
Tender may be submitted by e-mail	yes/no?	Yes	E-mail scm@mandelabytheatre.co.za

Public tender opening	yes/no?	No	If yes	N/A	
Alternative offer considered	yes/no?	Yes	Only if original tender submitted	yes/no?	Yes

D TENDERERS' SELECTION

D 1.0 Securities [9.0]

Guarantee for construction: Select Option A or B

☐

Option A **Fixed Guarantee for construction** by **contractor** [9.1.1]

Option B **Payment reduction** (Fixed) [9.1.2]

Guarantee for payment by employer [9.2] Amount N/A

Advance payment, subject to **guarantee for advance payment** [9.4] Amount Yes

D 2.0 Contractor's annual holiday periods during the construction period

Year 1 contractor's annual holiday period	start date	N/A	end date	N/A
Year 2 contractor's annual holiday period	start date	N/A	end date	N/A
Year 3 contractor's annual holiday period	start date	N/A	end date	N/A

D 3.0 Payment of preliminaries [19.0]

Contractor's selection

Select Option A or B

☐

Where the **contractor** does not select an option, Option A shall apply

Option A	The preliminaries shall be paid in accordance with an amount prorated to the value of works executed at the same ratio as the amount of preliminaries to the contract sum , which contract sum shall exclude the amount of preliminaries . Contingency sum(s) and any provision for cost fluctuations shall be excluded for the aforesaid ratio.
----------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Option B	The preliminaries shall be paid in accordance with an amount agreed by the principal agent and the contractor in terms of the priced document to identify an initial establishment charge, a time-related charge and a final de-establishment charge. Payment of the time-related charge shall be assessed by the principal agent and adjusted from time to time as may be necessary to take into account the rate of progress of the works
----------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Lump sum contract

Where the total amount of **preliminaries** is not provided it shall be taken as 7.5% (seven and a half percent) of the **contract sum**, excluding contingency sum(s) and provision for cost fluctuation.

D 4.0 Adjustment of preliminaries [20.6.3]

Contractor's selection

Select Option A or B

☐

Where the **contractor** does not select an option, Option A shall apply

Provision of particulars

The **contractor** shall provide the particulars for the purpose of the adjustment of **preliminaries** in terms of his selection. Where completion in **sections** is required, the contractor shall provide an apportionment of **preliminaries** per **section**

Option A	An allocation of the preliminaries amounts into Fixed, Value-related and Time-related amounts as defined for adjustment method Option A below, within fifteen (15) working days of the date of acceptance of the tender
----------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Option B	A detailed breakdown of the preliminaries amounts within fifteen (15) working days of possession of the site . Such breakdown shall include, inter alia, the administrative and supervisory staff, the use of construction equipment , establishment and dis-establishment charges, insurances and guarantees, all in terms of the programme
----------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Adjustment methods

The amount of **preliminaries** shall be adjusted to take account of the effect which changes in time and/or value have on **preliminaries**. Such adjustment shall be based on the particulars provided by the **contractor** for this purpose in terms of Options A or B, shall preclude any further adjustment of the amount of

preliminaries and shall apply notwithstanding the actual employment of resources by the **contractor** in the execution of the **works**

Option A	<p>The preliminaries shall be adjusted in accordance with the allocation of preliminaries amount to be provided by the contractor, apportioned to sections where completion in sections is required</p> <p>Fixed – An amount which shall not be varied</p> <p>Value-related - An amount varied in proportion to the contract value as compared to the contract sum. Both the contract sum and the contract value shall exclude the amount of preliminaries, contingency sum(s) and any provision for cost fluctuations</p> <p>Time-related - An amount varied in proportion to the number of calendar days extension to the date of practical completion to which the contractor is entitled with an adjustment of the contract value [23.2; 23.3] as compared to the number of calendar days in the initial construction period [26.9.4]</p>
----------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Option B	<p>The adjustment of preliminaries shall be based on the number of calendar days extension to the date of practical completion to which the contractor is entitled with an adjustment of the contract value [23.2; 23.3] as compared to the number of calendar days in the initial construction period [26.9.4]</p> <p>The adjustment shall take into account the resources as set out in the detailed breakdown of the preliminaries for the period of construction during which the delay occurred</p>
----------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Failure to provide particulars within the period stated

Option A	<p>Where the allocation of preliminaries amounts for Option A is not provided, the following allocation of preliminaries amounts shall apply:</p> <p>Fixed - Ten per cent (10%)</p> <p>Value-related - Fifteen per cent (15%)</p> <p>Time-related - Seventy-five per cent (75%)</p> <p>Where the apportionment of the preliminaries per section is not provided, the categorised amounts shall be prorated to the cost of each section within the contract sum as determined by the principal agent</p>
----------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Option B	Where the detailed breakdown of preliminaries amounts for Option B is not provided, Option A shall apply
----------	-----------------------------------------------------------------------------------------------------------------

Lump sum contract

Where the total amount of **preliminaries** is not provided it shall be taken as 7.5% (seven and a half percent) of the **contract sum**, excluding contingency sum(s) and provision for cost fluctuation.



C2.89 FORM OF TENDER

Clause E Form of Tender

E-1. Tenderer's Details

Name			
Legal entity of above		Contact person	
Business registration number		Office number	
VAT/GST number		Mobile number	
Country		E-mail	
Postal address			
		Postal code	
Physical address			
		Postal code	

E-2. Acceptance Of Tender Conditions

By submission of this tender to the **employer** the tenderer offers and agrees to execute and complete the **works** and to remedy any **defects** in the conformity with the specification for the tender amount stated.

The tender shall remain in full legal force for sixty (60) **calendar days** from the closing date of the tender. The tenderer accepts liability for loss or damages that may be suffered by the **employer** should the tender validity period not be honoured including any additional expense incurred by the employer in having to call for new tenders and/or in having to accept any less favourable tender. The lowest or any tender will not necessarily be accepted by the **employer** nor will reasons be given for such decision.



E-3. Tender Amount Compilation

		Amount
Tenderers work excluding tax		
VAT	15%	
Total tender amount including VAT		
Total tender amount including VAT , in words		

Signature			Place				
	Tenderer who by signature warrants authority						
Name			Capacity			Date	

Signature		Place				
	Witness					
Name					Date	



MANDELA BAY THEATRE COMPLEX, GQEBERHA ELECTRICAL AND GENERATOR INSTALLATIONS

PART C3: MANAGEMENT

C3.1 PLANNING, PROGRAMMING AND CASH FLOW

C 3.1.1. Planning

The construction of the Works shall be planned meticulously by the Contractor to avoid delays, clashes with existing services and within the constraints of the Employer's operating requirements.

C 3.1.2. Programming and Cash Flow

The Contractor shall submit a programme for the execution of the works. The programme shall be presented in the form of a Gantt Chart.

The format and information shown shall comply with the following:

- The various stages of work planned to be completed per month in sufficient detail to be able to assess construction progress,
- Sequence of work,
- Resources intended to be utilized,
- The interdependence between resources and sequence of work,
- Clear indication of the critical path activities and their dependencies,
- Key dates in respect of information to be provided by the Employers Agent and/or others,
- Labour resources schedule which must distinguish between the Contractors permanent labour and the temporary employed labour from the local ward,
- The lead time for training of labour from the local ward.
- If any change to the critical path occurs, the Contractor shall as soon as is practicable notify the Employers Agent in writing.

When drawing up the programme the Contractor shall, among other issues, take into consideration and make allowance for:

- The sequencing of the Works (if applicable) and taking all pertinent information contained in the documents into account,
- Expected weather conditions and their effects,
- Known physical conditions or artificial obstructions,
- Searching for, dealing with and carrying out alterations to the existing services,
- The requirements and effects of employing Labour Intensive Construction (LIC) methods (if applicable),
- The accommodation and safeguarding of public access and traffic,
- The lead time required for compliance with the Site-Specific Health and Safety Specification and Site Specific Baseline Risk Assessment (annexure H),
- Provision and implementation of the Health and Safety Plan in terms of the 2014 Construction regulations and the Occupational Health and Safety Act (1993)
- Election day,
- Official builders break,
- Special non-working days, and
- Non-working days.

Failure to produce a detailed programme may prejudice the Contractor in any claim for an extension of time.

Failure to comply with these requirements will entitle the Employers Agent to use a programme based on his own assumptions for the purpose of evaluating claims for extension of time or additional payments.

C 3.1.3. Employers Agent Inspection and Approval of the Works

The Contractor shall allow reasonable time in his programme for the Employers Agent to carry out examination of the work before covering up. Requests for inspections should be made in writing to the Employers Agent at least 72 hours before such inspections are required. Requests for inspections should coincide with the Employers Agent Representative daily site visit.

If the Employers Agent attends with the purpose of examining any part or materials of the works at the date and time agreed on with the Contractor and it is found that the works or materials are not ready for inspection, the Contractor shall be responsible for the cost of that visit by the Engineer.

The Employers Agent Representative will visit the site every 14 days for the purpose of supervision of the Contract and inspection and approval of completed work. The Contractor shall therefore arrange his working programme in such a way that all work is inspected and approved at the required time. Under no circumstances shall he proceed with any activity that covers up previous work before the previous work has been approved in writing (e.g. no trench shall be backfilled until the laid pipes and bedding have been inspected and approved).

C 3.1.4. Review of Progress

The Contractor shall review his progress each month and should progress lag behind the latest accepted programme by more than two (2) weeks, he shall submit a revised programme and method statement of how he proposes making up lost time. If, in the opinion of the Employers Agent, such revised programme will not make up lost time, the Employers Agent shall have the right to request the Contractor to reorganize his work in a manner which will ensure an acceptable programme. Claims for additional payments to meet any cost incurred due to such reorganization will not be accepted.

The Contractor is required together with his monthly updated programme to submit a cash flow indicating the anticipated total and monthly expenditure value for the contract at the monthly site/progress meetings.

The programme and cash flow will be reviewed at the monthly site meetings at which time the contractor shall provide sufficient detail that will allow a comparison of completed work per activity against the original approved programme. The Contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind. The Employers Agent may demand from the contractor a major revision of the programme. Such a revision shall be submitted for approval within fourteen (14) days of the demand.

C3.2 SEQUENCE OF THE WORKS

The Contractor may elect to undertake the work in any sequence he chooses, unless prior arrangements are made between the Employer, Employer's Agent and the Contractor.

The Contractor shall submit to the Employers Agent for approval at the start of the contract a detailed plan of action that set out the sequence of construction of the works. The approved plan of action shall be amended in consultation with the Employers Agent.

The Employer will consider favourably any approach where sections of the Work is fully completed and fire protection is provided to mitigate their risks.

C3.3 SOFTWARE APPLICATION FOR PROGRAMMING

Microsoft Project format.

C3.4 METHODS AND PROCEDURES

C 3.4.1. Progress Photographs

The Contractor shall set up a system of recording progress on site on overall layout drawings on a two-weekly basis. The drawings shall be labelled with date, location and description and sent to the Employer's Agent via email. The format shall be PDF or similar common format.

C 3.4.2. Materials handling, use and storage

All materials shall be stored in the designated Contractor's camp area or as indicated by the Employers Agent. Any material to be stored and handled must be done in such a way as not to endanger any person on site or cause damage to the environment. The Contractor shall also ensure that all suppliers or delivery vehicles abide by all restrictions and procedures (speed limits, dust control, "no-go areas" etc.).

C3.5 QUALITY PLANS AND CONTROL

The Contractor is required to carry out his own control testing.

Any additional tests requested by the Employer's agent or any retests required, due to failure of the initial tests, will be charged to the Contractor at the rates ruling at the time.

The Contractor is required to carry out his own control testing, but if he so wishes, and agrees to abide by the results of the Employers Agent check test, he may dispense with his own tests. However, if the Contractor should wish to use the Employers Agent testing facilities, he will be charged for the various tests at the rates ruling at the time.

The Contractor shall engage the services of an approved independent laboratory or other institution – as applicable for quality testing – to ensure that his work complies with the Specifications.

No separate payment will be made for such testing, the cost of which will be deemed to be included in the Contractors rates tendered for the items of work that require testing in accordance with the Specifications.

The onus to produce work that confirms in quality and accuracy of details to the requirements of the Specifications and Drawings, rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide experienced engineers, foreman, surveyors, material technicians, other technicians and technical staff together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related works items.

The Contractors attention is drawn to the provisions of the various specifications regarding the minimum frequency of testing required. The Contractor, shall, at his own discretion, increase this frequency, where necessary, to ensure adequate control.

On completion and submission of every part of the work to the Employers Agent for examination, the Contractor shall furnish the Employers Agent with the results of the relevant tests to indicate compliance with the specifications.

C3.6 TESTING, COMPLETION, COMMISSIONING, AND CORRECTION OF DEFECTS

Practical completion of the works will only be considered once all systems have been tested and commissioned, with an electrical certificate of compliance has been provided for the Work.

C3.7 FORMAT OF COMMUNICATION

Throughout the construction period, the Contractor shall supply and maintain the following documentation that shall be kept on site, accessible to both the Contractor and the Employers Agent or representative at all times:



a) Site Request / Instruction book:

For the Contractor to provide the Employers Agent or Representative with information required, for giving notification in writing of inspections, drawings, etc., required by the Contractor, and for use by the Employers Agent or Representative for the purpose of writing day-to-day instructions or confirming verbal information or instructions given to the Contractor.

b) Health and Safety File

Containing the site and safety hierarchy, contact details, safety plan, audits, safety equipment, safety training, injuries log, inspections and all other relevant safety data

c) Quality Control File

Containing Quality Assurance and Quality Control Forms to be operated and maintained by the Contractor.

d) Measurement File

Containing records of work measurement and calculations

e) Daily Register

Listing labour and plant status. A complete record of staff employed on the Contract is to be kept on site for use by the Employers Agent.

f) Daily Contract Diary

For recording the work carried out on site each day – shall reference the specific area of work and shall be signed by the Construction Manager and the Employers Agents Representative.

g) Monthly Labour Return Schedule

h) One full set of contract drawings and contract documents.

i) Construction Programme

j) Site Diary

The site diary shall record the following:

- Progress of works
- Contractors and subcontractors' personnel on site
- Delays, possible delays and inclement weather
- Delivery of materials to site
- Plant and equipment on site

All communications regarding the contract shall be channelled through the Employers Agent and/or his authorised representative.

A site book in triplicate will be provided by the Contractor in which relevant matters shall be recorded and signed by the Employers Agent and the Construction Manager.

All communication shall be noted and recorded in the minutes of the monthly progress meetings.



C3.8 WEATHER CONDITIONS

C 3.8.1. Recording of weather

The Contractor shall provide and erect a rain gauge on site. All rainfall and other adverse weather conditions affecting the contractual time for completion shall be recorded in the site diary.

The site diary shall be handed to the Employers Agent Representative for his signature no later than 7 days after rain that is considered to justify an extension of time that may occur.

C 3.8.2. Extension of Time Resulting from Abnormal Rainfall

Extension of time will not be considered for normal rainfall but only abnormal rainfall or saturated conditions and will be calculated in accordance with the following method:

- a) The Contractor shall, in his programme, allow for the anticipated number of working days on which work could be delayed- as given in the Contract Data.
- b) Extension of time will be calculated for each calendar month or part thereof over the full period for the completion of the Work, plus any approved extension thereof, as follows:
 - i) A delay caused by abnormal rainfall will only be accepted for extension of time if, in the opinion of the Employers Agent, it delays an item or items which lie on the critical path determined by the Contractor's programme. Only delays on normal working days will be considered.
 - ii) Abnormal rainfall will be considered to be days, as approved, on which rain delayed operations, less the monthly allowance.
 - iii) The net extension of time determined for each month, which may be negative, shall accumulate algebraically to determine the net number of days for extension of time due to abnormal rainfall, but a negative total at the end of the construction period will not be taken into account.
 - iv) Where a portion of a month is involved, a pro rata number of days shall be calculated.

C3.9 KEY PERSONNEL AND SUPERVISION

A schedule of key personnel to be used on site, including contact particulars, is to be provided to the Employers Agent before commencement of works.

The Key Personnel presented as part of the tender submission in returnable schedule T2.2(13): Organogram and T2.2(14) : Key Personnel as listed in the Tender Data shall apply. If the personnel indicated are no longer available, personnel with similar or better qualifications and experience shall be presented to the Employers Agent for approval.

C3.10 NORMAL WORKING HOURS

Normal working hours shall be 07:00 – 17:00 Mondays to Fridays.

C3.11 MANAGEMENT MEETING

The Employers Agent, Contractors designated representative(s), Employer and other Agents/Consultants/Subcontractors as required shall hold meetings related to the progress of

the works, technical issues, quality, health and safety and environmental compliance and contractor co-ordination matters at regular intervals not exceeding 4 weeks, or at such other times may be necessary. The representatives of the Employers Agent, Contractor and Employer and their delegated authority will be confirmed at the Inaugural Site meeting.

The Contractor shall attend all progress/site meetings and ensure that all persons under his jurisdiction are notified timeously of all progress/site meetings should their attendance be required. All persons attending progress/site meetings are to have the necessary delegated authority in respect of aspects such as planning, change managements, health and safety and environmental.

C3.12 ELECTRONIC PAYMENTS

The Contractor will be responsible for supplying correct bank details to the employer for electronic payments and the Employer will not be held responsible for any incorrect bank details supplied by the Contractor.

The Contractors tax invoice shall contain the following information as a minimum:

- Contract number and description
- Date of invoice
- Invoice number
- Clearly stipulate the words "Tax Invoice"
- Be addressed to the Employer.
- Contain the details of the Employer.
- Contain the banking details, Vat number.
- Contain the logo of the contractor or contractors in the case of a joint venture.

C3.13 BONDS AND GUARANTEES

The Contractor shall deliver to the Employer the original fixed performance guarantee before commencement of works. The guarantee shall be held by the Employer for safekeeping until completion of the work.

No bonds are accepted.

C3.14 PAYMENT CERTIFICATES

Refer to clause B 10.0 of contract data.

C3.15 INSURANCE PROVIDED BY THE EMPLOYER

Refer to clause B 6.0 of contract data.

C3.16 NEATNESS OF THE SITE

Progressive and systematic finishing and tidying will form part of this contract. Spoil, rubble, materials, equipment or unfinished operations shall not be allowed to accumulate unnecessarily and in the event of this happening, the Employers Agent shall have the right to withhold payment for as long as the condition prevails in respect of the relevant works in the area(s) concerned. The general neatness and tidiness of the site is of particular concern. The Contractor shall therefore, on a day-to-day basis, keep the Works in a condition acceptable to the Employers Agent.



C3.17 PROTECTING THE SITE

The Contractor shall be solely responsible for the protection of the Site against all damage to property, services, terrain, etc. If in the normal execution of this Contract, disturbance to the Site of the Works is necessary, the Contractor shall obtain the prior permission of the Employers Agent. After completion of this work, the Contractor shall reinstate the area concerned to its original condition at his own cost or as covered under the rates in the Bill of Quantities. The Employers Agent ruling of what was the original condition of the Site or part thereof shall be final.

If the Contractor fails to reinstate the Site, the Employer shall do the reinstatement and the Employers Agent shall establish the extent of the work as well as its costs. The Employers Agent ruling shall be final and payment for the work will be deducted from the Contractor's monthly certificate.

The Contractor shall ensure that his actions do not cause any nuisance to the public. Should spillages occur, the Contractor must adequately disinfect the work site, including the container area.

C3.18 OTHER CONTRACTORS

During this contract there will be other Contractors operating within the boundaries of the site. The Contractor is to allow for the attendance and dealing with other Contractors in the construction programme and priced rates.

C3.19 OPERATION AND MAINTENANCE MANUALS

Prior to arranging the commissioning date, the Contractor will hand over to the Employers Agent one draft hard copy of his proposed Operation and Maintenance manual for scrutiny and approval by the Employer and Employers Agent. The document with comments will be returned to the Contractor by the Employers Agent for preparations of the final Operation and Maintenance Manual by the Contractor.

The Contractor will submit One (1) hard copy of the final manual and Two (2) USB Flash Drives containing the final manual to the Employer on the day of commissioning.

The Completion Certificate will not be issued if the Operation and Maintenance Manuals are not final and received by the Employer.



MANDELA BAY THEATRE COMPLEX, GQEBERHA ELECTRICAL AND GENERATOR INSTALLATIONS

PART C4: GENERAL ELECTRICAL SPECIFICATION

C4.1 INTENT OF SPECIFICATION

The General technical requirements for the electrical installation will be in accordance with the Standard Electrical Specifications of the Department of Public Works. The specific documents can be downloaded from the Department's website: <http://www.publicworks.gov.za>.

The following documents shall apply:

- Section A : Preamble to the Standard Specifications
- Section B ; Installation Specifications
- Section C : Quality Specification for Materials and Equipment of Electrical Specification.

The above documents are not incorporated but nevertheless form an integral part of this specification. The contract works must be carried out in accordance with the laid down requirements. Copies of the relevant general technical specifications are available at the offices of the consulting engineer



MANDELA BAY THEATRE COMPLEX, GQEBERHA

ELECTRICAL AND GENERATOR INSTALLATIONS

PART C5: PROJECT ELECTRICAL SPECIFICATION

SECTION 1 - GENERAL

1 GENERAL INFORMATION

The work covered by this specification and the associated drawings must be carried out strictly in accordance with the requirements of the General Electrical Specification.

Should any requirements in the Project Specification differ from the General Electrical Specification, the requirements of the Project Specification will be given priority. Should there be any contradictions, it shall be brought to the attention of the Electrical Engineer prior to opening of tenders.

2 SITE

The site concerning this specification is situated at for the Mandela Bay Theatre Complex, John Kani Road, Gqeberha, Nelson Mandela Bay.

3 SCOPE OF WORK

THIS INSTALLATION:

This specification covers the supply, delivery, offloading, installation, and commissioning of the Electrical Installation for the Mandela Bay Theatre Complex.

The work shall be carried out by a registered electrical contractor as per the Occupational Health and Safety Act, 1993: Electrical Installation Regulation Registration 6(4): Registration of Electrical Contractor.

The scope of work is briefly summarized as follows:

- g) General electrical installation of the Electrical Installations for the proposed Additions and Alteration.
- h) Install all Luminaires as per supplier's requirements to obtain full guarantee.
- i) Installation of specialised blue lights, backstage area, for a functional operation of the stage area
- j) Install trunking / wireways for reticulation of electrical power and controls.
- k) Attendance and co-ordination of all electronic services as per specification.
- l) Complete Electrical testing of all the distribution boards in the complex.
- m) Testing of all LV cable reticulation to the existing sub-Distribution Boards.
- n) Replacement of the Main Stage distribution board.
- o) Assistance with the connection of the new generator power.
- p) Labelling and new legends for all the existing distribution boards.
- q) Connection of all mechanical equipment.



4 **DRAWINGS**

A complete list of drawings accompanying this specification is included herein, see Annexure A. The drawings are added as an indication of the scope of work and for information. The document must be priced as per the bills and specification.

5 **MAKING GOOD**

Making good to wall finishes damaged during the execution of this contract will be carried out by others, provided that the damage caused is directly associated with the forming of holes for conduits, flush boxes, or any other item of electrical equipment.

Making good unnecessary damage will be the responsibility of the electrical contractor. Any such damage will be adjudicated by the Engineer and the **Engineer's decision as to whether such damage was unavoidable or not shall be final.**

6 **WORK PROGRAM**

The electrical contractor must at all times liaise with the Engineer and the Main Contractor to ensure the efficient running of the contract. The contractor shall take into account that there will be other subcontractors on site, and he must be prepared to work together and co-ordinate any activities with these subcontractors where necessary.

Items requiring special attention

The attention of tenderer's is directed to the following items requiring special attention:

6.1 **CO-ORDINATION OF WORK**

- a) The nature of the total building program is such that accurate co-ordination and timing of all building and contractor operations is mandatory.
- b) As such the successful tenderer (contractor) shall be required to work in close co-operation with other subcontractors (e.g. ceiling, ventilation, plumbing, building) to ensure that the work is properly sequenced, and to avoid any abortive work.

6.2 **SITE MEETINGS**

Regular site meetings will be held during the progress of the work. Attendance at such site meetings shall be required from time to time for all contractors. In the event that a representative is designated for any or all site meetings, such representative shall be empowered to make decisions on behalf of the firm, and to commit the firm to any course of action that may be decided at the meetings.

7 **RUBBLE**

The electrical contractor shall clear away and remove all rubble and excess materials associated with his contract from site, on a regular basis due to the fact that it is an existing facility. The site shall be entirely clean to the satisfaction of the Engineer, after completion of the contract. Care must be taken



that cleaning materials are not used that can cause any damage to surfaces of walls, floors, or ceilings, etc.

8 **DELIVERY DATES**

The electrical contractor must ensure that all necessary materials are ordered and delivered in time. The delivery dates of such materials must be determined in good time. Claims for extending the contract period as a result of delays in the delivery of materials will not be considered.

9 **SECURITY AND CLOTHING**

The electrical contractor's staff shall be clearly identified and shall wear acceptable clothing. Standard coloured overalls and identification tags shall be worn at all times. The electrical contractor shall make due allowance for this in his tender price.



SECTION 2 - GENERAL

1 TESTS

After completion of the works and before first delivery is taken, a full test will be carried out on the installation for a period of sufficient duration to determine the satisfactory working thereof. During this period the installations will be inspected, and the Contractor shall make good, to the satisfaction of the Representative/Agent, any defects which may arise.

The Contractor shall provide all instruments and equipment required for testing and any water, power and fuel required for the commissioning and testing of the installations at completion.

2 MAINTENANCE OF INSTALLATIONS

With effect from the date of the Delivery the Contractor shall at his own expense undertake the regular servicing of the installation during the maintenance period and shall make all adjustments necessary for the correct operation thereof.

If during the said period the installations is not in working order for any reason for which the Contractor is responsible, or if the installations develop defects, he shall immediately upon being notified thereof take steps to remedy the defects and make any necessary adjustments.

Should such stoppages however be so frequent as to become troublesome, or should the installations otherwise prove unsatisfactory during the said period the Contractor shall, if called upon by the Representative/Agent or the Client, at his own expense replace the whole of the installations or such parts thereof as the Representative/Agent or the Client may deem necessary with apparatus specified by the Representative/Agent or the Client.

3 REGULATIONS

The installation shall be erected and tested in accordance with the Acts and Regulations as indicated in the scope of works

4 NOTICES AND FEES

The Contractor shall give all notices required by and pay all necessary fees, including any inspection fees, which may be due to the local Supply Authority.

On production of the official account, only the net amount of the fee charged by the Supply Authority for connection of the installation to the supply mains, will be refunded to the Contractor.

5 SCHEDULE OF FITTINGS

In all instances where schedule of light, socket outlet and power points are attached to or included on the drawings, these schedules are to be regarded as forming part of the specification.



6 QUALITY OF MATERIALS

Only materials of first-class quality shall be used, and all materials shall be subject to the approval of the Representative/Agent or the Client.

Wherever applicable the material is to comply with the relevant South African Bureau of Standards, specifications, or to IES Standards, where no SABS/SANS Specifications exist.

Materials wherever possible, must be of South African manufacture.

Wherever a trade name for any product has been described in the **bills of quantities / lump sum document**, the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the **electrical engineer** being obtained prior to the closing date for submission of tenders

If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for

7 CONDUIT AND ACCESSORIES

The installation of conduits, conduit accessories and wiring shall be in strict accordance with the relevant methods as explained in this specification, the regulations of the local authority and code of practice for the wiring of premises - SANS 10142-1 - latest edition as amended.

All electronic services are to be in 25mm conduit, with separate runs for each system.

All exposed conduit is to be steel galvanised plain ended conduit.

Unless other methods of installation are specified for certain circuits, the installation shall be in conduit throughout. No open wiring in roof spaces or elsewhere will be permitted.

All conduit fittings except couplings, shall be of the inspection type. Where cast metal conduit accessories are used, these shall be of malleable iron. Zinc base fittings will not be allowed.

Bushes used for metallic conduit shall be brass and shall be provided in addition to locknuts at all points where the conduit terminates at switchboards, switch-boxes, draw-boxes, etc.

Draw-boxes are to be provided in accordance with the SANS 10142-1 and wherever necessary to facilitate easy wiring.

For light and socket outlet circuits, the conduit used shall have an external diameter of 20mm. In all other instances the sizes of conduit shall be in accordance with the SANS 10142-1 for the specified number and size of conductors, unless otherwise directed in part 2 of this specification or indicated on the drawings.

All metallic conduits shall be manufactured of mild steel with a minimum thickness of 1,2mm.

Bending and setting of conduits must be done with special bending apparatus manufactured for the purpose and which are obtainable from the manufacturers of the conduit systems. Damage to conduit resulting from the use of incorrect bending apparatus or methods applied must on indication by the Engineer, be completely removed and rectified and any wiring already drawn into such damaged conduits must be completely renewed at the Contractor's expense.

Conduit and conduit accessories used for flame-proof or explosion proof installations and for the suspension of luminaires as well as all load bearing conduit shall in all instances be of the metallic type.

7.1 CONDUIT IN ROOF SPACES

Conduit in roof spaces shall be installed parallel or at right angles to the roof members and shall be secured at intervals not exceeding 1,5m by means of saddles screwed to the roof timbers.

Nail or crampets will not be allowed.

Where non-metallic conduit has been specified for a particular service, the conduit shall be supported and fixed with saddles with a maximum spacing of 450 mm. The Contractor shall supply and install all additional supporting timbers in the roof space as required.

Under flat roofs, in false ceilings or where there is less than 0,9m of clearance, or should the ceilings be insulated with glass wool or other insulating material, the conduit shall be installed in such a manner as to allow for all wiring to be executed from below the ceilings.

Conduit runs from distribution boards shall, where possible terminate in fabricated sheet steel draw-boxes installed directly above or in close proximity to the boards.

7.2 SURFACE MOUNTED CONDUIT

Wherever possible, the conduit installation is to be concealed in the building work; however, where unavoidable or otherwise specified under Part 3 of the specification, conduit installed on the surface must be plumbed or levelled and only straight lengths shall be used.

The use of inspection bends is to be avoided and instead the conduit shall be set uniformly, and inspection coupling used where necessary.

Conduit is to be run on approved spaced saddles rigidly secured to the walls.



Alternatively, fittings, tees, boxes, couplings etc., are to be cut into the surface to allow the conduit to fit flush against the surface. Conduit is to be bedded into any wall irregularities to avoid gaps between the surface and the conduit.

Where several conduits are installed side by side, they shall be evenly spaced and grouped under one purpose-made saddle.

Distribution boards, draw-boxes, industrial switches, and socket outlets etc., shall be neatly recessed into the surface to avoid double sets. In situations where there are no ceilings the conduits are to be run along the wall plates and the beams.

Painting of surface conduit shall match the colour of the adjacent wall finishes.

Only approved plugging materials such as aluminium inserts, fibre plugs, plastic plugs, etc., and round-head screws shall be used for fixing saddles, switches, socket outlets, etc., to walls, wood plugs and the plugging in joints in brick walls are not acceptable.

7.3 CONDUIT IN CONCRETE SLABS

In order not to delay building operations the Contractor must ensure that all conduits and other electrical equipment which are to be cast in the concrete columns and slabs are installed in good time.

The Contractor shall have a representative in attendance at all times when the casting of concrete takes place. Draw-boxes, expansion joint boxes and round conduit boxes are to be provided where necessary. Sharp bends of any nature will not be allowed in concrete slabs.

Draw and/or inspection boxes shall be grouped under one common cover plate and must preferable be installed in passages or common areas.

All boxes, etc., are to be securely fixed to the shuttering to prevent displacement when concrete is cast. The conduit shall be supported and secured at regular intervals and installed as close as possible to the neutral axis of concrete slabs and/or beams.

Before any concrete slabs are cast, all conduit droppers to switchboards shall be neatly spaced and rigidly fixed.

8 **WIRING**

Except where otherwise specified in Part 3 of this specification, wiring shall be carried out in conduit throughout.

No wiring shall be drawn into conduit until the conduit installation has been completed and all conduit ends provided with bushes. All conduits to be clear of moisture and debris before wiring is commenced.

Unless otherwise specified in Part 3 of this specification or indicated on the service drawings, the wiring of the installation shall be carried out in accordance with the SANS10142-1. Further to the requirements concerning the installation of earth conductors to certain light points as set out in the SANS 10142-1, it is a specific requirement of this document that where plain-end metallic conduit or non-metallic conduit has been used, earth conductors must be provided and drawn into the conduit with the main conductors to all points, including all luminaires and switches throughout the installation.

Wiring for lighting circuits is to be carried out with 1,5mm² conductors and a 1,5mm²-earth conductor. For socket outlet circuits the wiring shall comprise 2.5mm² conductors and a 2,5mm²-earth conductor. In certain instances, as will be directed in Part 2 of this specification, the sizes of the aforementioned conductors may be increased for specified circuits. Sizes of conductors to be drawn into conduit in all other instances, such as feeders to distribution boards, power points etc., shall be as specified elsewhere in this specification or indicated on the drawings. Sizes of conductors not specified must be determined in accordance with the SANS 10142-1.

The loop-in system shall be followed throughout, and no joints of any description will be permitted.

The wiring shall be done in PVC insulated 600/1000 V grade cable to SABS 150.

Where cable ends connect onto switches, luminaires etc., the end strands must be neatly and tightly twisted together and firmly secured. Cutting away of wire strands of any cable will not be allowed.

9 SWITCHES AND SOCKET OUTLETS

All switches and switch-socket outlet combination units shall be of one manufacture.

Only 16A 3 pin sockets and the new 16A RSA 3pin(similar to the Euro 2pin) are to be used, unless other special purpose types are distinctly specified or shown on the drawings.

All light switches shall be installed at 1150mm above finished floor level, to the underside of the box and all socket outlets 450mm AFFL or alternatively the height of socket outlets may be indicated on the drawings.

All light switches and socket outlets shall be of the Onesto Matrix manufacture. All screws shall be rust proof.

10 SWITCHGEAR

For uniform appearance of switchboards, only one approved make of each of the different classes of switchgear mentioned in the Quality Specifications shall be used throughout the installations.

Only CBI Circuit breakers are to be added to the existing DB.

11 SWITCHBOARDS

All circuits are to be connected to the existing distribution boards.

All busbars, wiring, terminals, etc., are to be adequately insulated and all wiring is to enter the switchgear from the back of the board. The switchgear shall be mounted within the boards to give a flush front panel. Cable and boxes and other ancillary equipment must be provided where required.

Clearly engraved labels are to be mounted on or below every switch. The working of the labels in English, is to be according to the lay-out drawings or as directed by the Electrical Engineer and must be confirmed on site. Flush mounted boards to be installed with the top of the board 2,0m above the finished floor level.

12 WORKMANSHIP AND STAFF

Except in the case of electrical installations supplied by a single-phase electricity supply at the point of supply, an accredited person shall exercise general control over all electrical installation work being carried out.

The workmanship shall be of the highest grade and to the satisfaction of the Department.

All inferior work shall, on indication by the electrical engineer, immediately be removed and rectified by and at the expense of the Contractor.

13 CERTIFICATE OF COMPLIANCE

On completion of the service (practical completion), a certificate of compliance must be issued to the Electrical Engineer in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and SANS 10142-1 and any other regulation pertaining to the electrical installation.

14 EARTHING OF INSTALLATION

14.1 MAIN EARTHING

The type of main earthing must be as required by the supply authority and regulations pertaining to this project.

Installations shall be effectively earthed in accordance with the SANS 10142-1 and to the requirements of the supply authority. All earth conductors shall be stranded copper with or without green PVC installation.

Connection from the main earth bar on the main board must be made to the cold water main, the incoming service earth conductor, if any and the earth mat or other local electrode by means of 12mm x 1,60 mm solid copper strapping or 16 mm² stranded (not solid) bare copper wire or such conductor as the electrical engineer may direct. Main earth copper strapping were installed below 3m from ground level, must be run in 20 mm diameter conduit securely fixed to

the walls.

All other hot and cold-water pipes shall be connected with 12mm x 0,8mm perforated for solid copper strapping (not conductors) to the nearest switchboard. The strapping shall be fixed to the pipe work with brass nuts and bolts and against walls with brass screws at 150-mm centres. In all cases where metal water pipes, down pipes, flues, etc., are positioned within 1,6m of switchboards an earth connection consisting of copper strapping shall be installed between the pipe work and the board. In vertical building ducts accommodating both metal water pipes and electrical cables, all the pipes shall be earthed at each distribution board.

14.2 ROOFS, GUTTERS, AND DOWN PIPES

Where service connections consist of overhead conductors, all metal parts of roofs, gutters and down pipes shall be earthed. One bare 10mm² copper conductor shall be installed over the full length of the ceiling void, fixed to the top purlin, and connected to the main earth conductor and each switchboard. The roof and gutters shall be connected at 15m intervals to this conductor by means of 12mm X 0,8mm copper strapping (not conductors) and galvanised bolts and nuts. Self-tapping screws are not acceptable. Where service connections consist of underground supplies, the above requirements are not applicable.

14.3 SUB-CIRCUITS

The earth conductors of fall sub-circuits shall be connected to the earth busbar in the supply board in accordance with SANS 10142-1.

14.4 RING MAINS

Common earth conductors may be used where various circuits are installed in the same wire way in accordance with SANS 10142-1. In such instances the sizes of earth conductors shall be equivalent to that of the largest current carrying conductor installed in the wire way, alternatively the size of the conductor shall be as directed by the Engineer. Earth conductors for individual circuits branching from the ring main shall be connected to the common earth conductor with T-ferrules or soldered. The common earth shall not be broken.

14.5 FLEXIBLE CONDUIT

An earth conductor shall be installed in all non-metals flexible conduits. This earth conductor shall not be installed externally to the flexible conduit but within the conduit with the other conductors. The earth conductor shall be connected to the earth terminals at both ends of the circuit.

14.6 CONNECTION

Under no circumstances shall any connection points, bolts, screws, etc., used for earthing be utilised for any other purpose. It will be the responsibility of the Contractor to supply and fit earth terminals or clamps on equipment and materials that must be earthed where these are not provided. Unless earth conductors are connected to proper terminals, the end shall be tinned and lugged.



15 MOUNTING AND POSITIONING OF LUMINAIRES

The Contractor is to note that in the case of board and acoustic tile ceilings, i.e., as opposed to concrete slabs, close co-operation with the building contractor is necessary to ensure that as far as possible the luminaires are symmetrically positioned with regard to the ceiling pattern.

The layout of the luminaires as indicated on the drawings must be adhered to as far as possible and must be confirmed with the electrical engineer.

Earth conductors must be drawn in with the circuit wiring and connected to the earthing terminal of all fluorescent luminaires as well as other luminaires exposed to the weather in accordance with the SANS 10142-1.

SECTION 3 – INSTALLATION DETAILS

1 CABLE SLEEVE PIPES

Where cables cross under roadways, other services and where cables enter buildings, the cables shall be installed in asbestos-cement pipes, earthenware, or high-density polyethylene pipes.

The ends of all sleeves shall be sealed with a non-hardening watertight compound after the installation of cables. All sleeves intended for future use shall likewise be sealed.

2 NOTICES

The Contractor shall issue all notices and make the necessary arrangements with Supply Authorities, the Postmaster-General, S.A. Transport Services, Provincial or National Road Authorities and other authorities as may be required with respect to the installation.

3 ELECTRICAL EQUIPMENT

All equipment and fittings supplied must be in accordance with the specification, suitable for the relevant supply voltage and frequency and must be approved by the Lactalis' representative.

4 DRAWINGS

The drawings generally show the scope and extent of the proposed work and shall not be held as showing every minute detail of the work to be executed.

The position of power points, switches and light points that may be influenced by built-in furniture must be established on site, prior to these items being built in.

5 BALANCING OF LOAD

The Contractor is required to balance the load as equally as possible over the multiphase supply.

6 SERVICE CONDITIONS

All plant shall be designed for the climatic conditions appertaining to the service.

7 SUPPLY VOLTAGE

The electrical supply will be from an existing distribution boards of the facility, which IS 230V/1PH or 400V/3PH, depending on the equipment.



8 DISTRIBUTION BOARDS

8.1 GENERAL

The equipment is to be Connected to the existing distribution boards.

The existing distribution boards are to be repaired or replaced in a separate contract.

9 INSTALLATION OF LV CABLES

Supply and install the following PVC/PVC/SWA/**ECC**/PVC 600/100V cables to SABS 150 as amended and as per quantities in the bill.

10 TRUNKING AND WIRE BASKET INSTALLATION

The installation of trunking, trunking accessories and wiring shall be in strict accordance with the relevant methods as explained of the local authority and code of practice for the wiring of premises, SANS 10142, latest edition as amended.

The trunking for the power and lighting is to be P8000 trunking, linking the DB's to the various areas. Where there are ceilings, all power circuit wiring, for lighting installation, is to run in the P8000.

All ICT services are to run in 150mm wire baskets or cable trays, heavy duty, installed in the ceiling spaces. Where there are no ceilings the 25mm conduits are to be installed in the slabs and are to be concealed. The wire basket is to be properly supported as per the requirements of the manufacturer. All connections and bends are to be done with the appropriate junctions and bends supplied by the manufacturer.

11 OUTLETS

11.1 SOCKET OUTLETS

All switch socket outlets, not in the power skirting, shall be connected with 20mm conduit with 100 x 100 x 50 mm flush boxes wherever possible and shall be flush mounted in the walls as indicated on the drawings.

All switch socket outlets shall be installed at 450mm AFFL unless otherwise indicated on the power layout drawing. Heights above finished floor level shall be to the underside of the outlet box.

All socket outlets shall be of the Onesto Matrix manufacture. All screws shall be rust proof.

All switch socket outlets shall be wired with 2.5 mm², single core PVC insulated copper conductors throughout with a 2,5 mm² green/yellow PVC insulated copper earth wire to each circuit.

11.2 MECHANICAL EQUIPMENT

The electrical sub-contractor shall supply, deliver, and install the isolator for the connection of fans, air-conditioners and other mechanical equipment, as per the drawings. It is the responsibility of the Mechanical contractor to connect from the isolator to his equipment and to make the correct voltage and phase rotation of the equipment been connected.

12 LIGHTING INSTALLATION

Shall be an all-conduit installation with not less than 20-mm dia. (SABS) approved conduit being installed.

Wiring shall be not less than 1,5 mm², single core PVC insulated copper conductors throughout with 1,5 mm² green coloured/yellow PVC insulated earth wire.

Before the luminaires are installed, the electrical contractor shall ensure that the said items are properly cleaned and that all metal work is properly finished without scratches or other soiling marks.

The electrical contractor shall supply, install, and commission the light fittings in the positions indicated on the drawings.

12.1 LIGHT SWITCHES

Flush mounted switches shall be suitable for a load of 16A. Mounting heights shall be at 1150mm above finished floor level to the underside of the box, unless otherwise indicated on the drawings and denotes the height from finished floor level to the lower lip of the outlet box.

All light switches shall be of the Onesto, Matrix Range, manufacture. All screws shall be rust proof.

The electrical contractor shall submit samples and obtain final approval of the cover plates and switches before ordering for the installation to enable any changes to be made.

12.2 PHOTOCELL SENSORS

The photocell (day/night) sensors are to be surface mounted as indicated on the drawings. They are to control the outside lighting of the buildings, and some are connected via a contractor, see distribution board drawings. The type of photocell is to be a square unit with various inlet options and to have an opal lense with off-white/grey base, **Spectrum Pecu QS16T**.

12.3 LUMINAIRES

All the internal wiring of the luminaires must conform to the SANS/IEC-60598 compulsory safety specification. The guarantee period offered by the manufacture of the electronic drivers and LED units must be at least 5 years.

The light fittings to each of the areas of the installation shall be as indicated on the ceiling layout drawing for each area. It is to be noted that the spacing and position of the luminaires on the drawings are indicative and exact positioning of luminaires must be determined on site.

All lighting circuits shall be wired with 2,5mm², single core PVC insulated copper conductors throughout with a 2,5mm² green/yellow PVC insulated copper earth wire to each circuit.

12.4 SCHEDULE OF LUMINAIRES

Luminaires must be according to the specification for tender purposes, so that all tender prices are based on the exact same fitting. Listed below is the list of already approved luminaires. Listed below is the list of already approved luminaires from the local manufacturer Lighting Innovations as preferred by the client.

Luminaire Schedule:

As specified in the bills.

13 CONDUIT INSTALLATION

The installation of conduits, conduit accessories and wiring shall be in strict accordance with the relevant methods as explained in this specification, the regulations of the local authority and code of practice for the wiring of premises - SANS 10142-1 - latest edition as amended.

All electronic services are to be in 25mm conduit, with separate runs for each system.

14 ELECTRONIC SERVICES

Liaison with the various ICT services with their installation and making sure all their power requirements and wireways are installed correctly and to their requirements.

The systems equipment is as per the specific items in the bill and quantities and installation as per the manufacturer's specification and the general standard departmental specifications.

15 MONEY PROVISION FOR SPECIFIED ITEMS

Each money provision is to be used only for the relevant specified item and deducted in whole or in part if not required. The work covered by each money provision shall be measured and valued by the Engineer after the receipt of invoices, receipts of payment etc. from the electrical contractor.



16 EARTHING OF THE INSTALLATION

16.1 GENERAL

The installation must be properly earthed to comply with the requirements of SANS 10142-1 - latest edition as amended: Code of Practice for the Wiring of Premises, and according to the by-laws of the local Supply Authority.

See also Part C3.3, Project Earthing & Lightning Protection Specification.

16.2 EARTH CONNECTIONS

- a) All individual components shall be connected to the earth connection of the domestic earth supply, or according to the requirements of the Project Specification.
- b) Under no circumstances shall the latter domestic earth supply be interconnected to the earth supply utilised for electronic control equipment and installations.

16.3 EARTHING OF SUB-CIRCUITS AND COMPONENTS

- a) Earth conductors of all sub-circuits shall be connected to the earth bar of the main earth connection as provided.
- b) The ends of all metal channels, cable trays, etc., containing cables and conductors, shall be earthed to the nearest distribution board by means of earth straps or conductors.
- c) The latter earth connections shall be connected to the domestic earth supply system.
- d) All metal conduits shall, where installed by the Contractor, be terminated at control boards or junction boxes. Where this cannot be done, conduit ends shall be earthed separately by means of stranded earth conductors according to the requirements of the regulations.
- e) Earth conductors shall be installed in all flexible type of conduit to interconnect the two ends of the flexible conduit.

17 DOCUMENTATION

17.1 GENERAL REQUIREMENTS

- a) The Contractor shall prepare workshop drawings indicating detail of all components and the composition of the installation. The drawings must be prepared in such a way that sufficient information and detail is shown in order that all equipment and components of the installation can be manufactured.
- b) Workshop drawings of the equipment shall be submitted to the Engineer for approval before manufacturing and/or installation of components commences.
- c) In the event that there is a deviation from the equipment specified, or there is a deviation of the equipment layout from the general layout as indicated on the drawings, such deviations shall be approved by the Engineer before the equipment is manufactured.



17.2 MODIFICATIONS TO DRAWINGS

- a) After the Engineer has, where necessary, revised, or modified drawings which had been submitted for approval, the Contractor shall supply to the Engineer one (1) copy of all revised and modified drawings as explained above.
- b) In the event that drawings are revised or modified during the construction phase, a copy of a drawing indicating the modifications shall again be supplied to the Engineer.
- c) Irrespective of the abovementioned copies, the Contractor or his representative shall keep one (1) copy of each drawing on site. Such drawings shall be made available to the Engineer on request on site.
- d) All final drawings shall be certified as correct by the Contractor after the installation has been completed.

18 FINAL DRAWINGS, OPERATOR'S, AND MAINTENANCE MANUALS

18.1 GENERAL

- a) All manuals shall be bound properly and thoroughly in a durable hard plastic cover. The contents of the manual shall be clearly legible, well-structured and supplied with an index.
- b) No Completion Certificate shall be issued before all drawings, two copies of the operator's manuals and two copies of the maintenance manuals have been supplied to and approved by the Engineer.
- c) Concept issues of final drawings and manuals shall be ready and available with the first take over and commissioning and no take over shall be considered without such drawings and manuals.



PART C7: GENERAL SPECIFICATION: 350KVA ENCLOSED GENERATOR

INTENT OF SPECIFICATION

The specification is intended to cover the complete installation and commissioning of the generator plant. The minimum equipment requirements are outlined, but do not cover all the details of design and construction. Such details are recognised as being the exclusive responsibility of the contractor.

For the purposes of this document the following applies:

- Generator Contractor shall be referred to as the Generator Contractor or simply Contractor;
- The masculine includes the feminine;
- The singular includes the plural.

STANDARDS AND CODES

All standards referenced shall be the latest editions.

SANS 10142-1 The wiring of premises: Low Voltage Installations
SANS 8528 Reciprocating internal combustion engine driven alternating current generating sets.
SANS 60034 Rotating electrical Machines
SANS IEC 60947 Low Voltage Switchgear
OHSACT Occupational Health and Safety Act.
Department of Public Works Quality Specification Parts A, B and C.
Local municipality by-laws for generator installations. (To be obtained from local municipality)

COMPLIANCE WITH REGULATIONS

The installation shall be erected and tested in accordance with the following Acts and regulations:

- a) The Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended,
- b) The Local Government Ordinance 1939 (Ordinance 17 of 1939) as amended and the municipal by-laws and any special requirements of the local supply authority,
- c) The Fire Brigade services Act 1987 (Act 99 of 1987) as amended,
- d) The National Building Regulations and Building Standards Act 1977 (Act 103 of 1977) as amended,
- e) The Electricity Act 1984 (Act 41 of 1984) as amended.
- f) The environmental Act and regulations

SCOPE OF WORK

Included in this Outdoor Generator Specification

Supply, delivery, installation and commissioning of the complete outdoor emergency generator inside an IP65 canopy/container set on a concrete plinth as specified in this document.

The successful tenderer shall supply, deliver and install a complete single enclosed diesel driven standby generator set in a position that will be determined on site. The machine shall be totally enclosed in a 3CR12 stainless steel housing powder coated or within 50km from the coast with grade 306 stainless steel housing powder coated. The exhaust shall be manufactured from stainless steel.

The housing is to be provided on galvanized steel skids so that the generator set can be transported to site and placed in position on a concrete plinth, cast by others for the tenderer. The skids must be of sufficient height to allow for the passage of storm water under the set.

CO-ORDINATING

The Contractor shall familiarise himself with the requirements of the other professional disciplines and shall examine the plans and specifications covering each of these sections.

The generator space, noise and vibration requirements shall be carefully checked with other professional disciplines to ensure that the equipment can be installed in the proper sequence in the space allotted.

TESTS CERTIFICATES AND INSPECTIONS

The following tests are to be carried out:

- a) At the supplier's premises, before the generating set will be delivered to site Representatives of the Client must be present during the test to satisfy themselves that the generating set complies with the specification and delivers the specified output. The test must be carried out in accordance with SANS 8528. The Representative/Agent must be timeously advised of the date for the test.
- b) After completion of the works and before practical completion is taken, a full test will be carried out on the installation for a period of sufficient duration to determine the satisfactory working thereof. During this period the installation will be inspected and the contractor shall make good, to the satisfaction of the Representative/Agent, any defects which may arise.
- c) The Contractor shall provide all instruments and equipment required for testing and any water, power and fuel required for the commissioning and testing of the installation at completion.
- d) Test reports of both tests as specified under (a) and (b) are to be submitted to the Representative/Agent.

The total costs for these test shall be included in the tendered amount.

In the event of the plant, equipment or installation not passing the test, the Representative/Agent shall be at liberty to deduct from the Contract amount all reasonable expenses incurred by the Employer and/or the Representative/Agent attending the test.

OPERATING AND MAINTENANCE MANUALS

The Contractor shall be responsible for the compilation of a complete set of Operating and Maintenance manuals.

This shall be done in accordance with Section 4 – Operating and Maintenance manuals.

All information shall be recorded and reproduced in electronic format as well as supplying the Representative/Agent with three sets of hard copies.

Approval of the final Operating and Maintenance Manuals shall be a prerequisite for issuing of a Certificate of Practical Completion of the installation.

GUARANTEE

After works completion of the installation have been achieved, there will follow a 12-month free maintenance period.

During this period the generator contractor shall maintain the generator installation as per the requirements of the Occupational Health and Safety Act. This maintenance shall include systematic examinations, adjustments and lubrication of all generator equipment. Electrical and mechanical parts shall be repaired or replaced whenever it is required to maintain optimum performance without additional cost to the Client, unless the condition was caused by misuse or vandalism of the generator equipment or natural hazards/force majeure.

The work under this section shall be performed by competent, qualified accredited personnel under the supervision and in the direct employment of the Generator Contractor and shall not be transferred to any non-affiliated agent. Contract maintenance and repair work shall be done during normal working hours and shall further provide emergency call-back service twenty-four (24) hours a day, seven (7) days a week.

During the guarantee/maintenance period the Client will invite tenders for the comprehensive maintenance of the generator, which will commence after the final completion has taken place, i.e. after the twelfth month guarantee period is over and all defects are corrected.

MATERIALS AND WORKMANSHIP

- a) The work throughout shall be executed to the highest standards and to the entire satisfaction of the Representative/Agent who shall interpret the meaning of the Contract Document and shall have the authority to reject any work and materials, which, in his judgement, are not in full accordance therewith. All condemned material and workmanship shall be replaced or rectified as directed and approved by the Representative/Agent.
- b) All work shall be executed in a first-class manner by qualified accredited tradesman.
- c) The Contractor shall be fully responsible for his work and shall replace any of the work which may be damaged, lost or stolen. The Contractor shall protect the building and its contents against damage by him, his employees or sub-contractors and shall make good any damage thereto.



- d) The Contractor shall indemnify the Employer of all liability for damages arising from injuries or disabilities to persons or damage to property occasioned by any act or omission of the Contractor or any of his sub-contractors, including any and all expenses, legal or otherwise, which may be incurred by the Employer or Representative/Agent in the defence of any claim, action or suit.
- e) The Contractor shall warrant that the materials and workmanship shall be of the highest grade, that the equipment shall be installed in a practical and first-class manner in accordance with the best practices and ready and complete for full operation. It is specifically intended that all material or labour which is usually provided as part of such equipment as is called for and which is necessary for its proper completion and operation shall be provided without additional cost whether or not shown or described in the Contract Document.
- f) The Contractor shall thoroughly acquaint himself with the work involved and shall verify on site all measurements necessary for proper installation and commissioning work. The Contractor shall also be prepared to promptly furnish any information relating to his own work as may be necessary for the proper installation work and shall co-operate with and co-ordinate the work of others as may be applicable.
- g) The Contractor shall inspect and verify that the existing power feeder system is compatible with the equipment offered and any changes or upgrading of the electrical supply shall be brought to the attention of the Representative/Agent.
- h) Material and equipment damaged in transit shall be replaced with undamaged material without additional cost to the Client.
- i) All components and their respective adjustment, which do not form part of the equipment installation work, but influence the optimum and safe operation of the equipment shall be considered to form part of, and shall be included in the Contractor's scope of works.
- j) All control equipment and serviceable items shall be installed and positioned such that they will be accessible and maintainable.
- k) The Contractor shall make sure that all safety regulations and measures and environmental regulations are applied and enforced during the installation and guarantee period to ensure the safety of the public and the User Client.

BROCHURES

Detailed brochures of all equipment offered shall be presented together with the tender documents.

PART C8: EQUIPMENT REQUIREMENTS: 350KVA ENCLOSED GENERATOR

ENGINE

GENERAL

The engine must comply with the requirements laid down in SANS 8528 and must be of the atomized injection, compression ignition type, running at a speed not exceeding 1500 r.p.m. The engine must be amply rated for the required electrical output of the set, when running under the site conditions.

The starting period for either manual or automatic switching-on until the taking over by the generating set, in one step, of a load equal to the specified site electrical output, shall not exceed 15 seconds. This must be guaranteed by the Tenderer.

Turbo-charged engines will only be accepted if the Tenderer submits a written guarantee that the engine can deliver full load within the specified starting period.

Curves furnished by the engine makers, showing the output of the engine offered against the speed, for both intermittent and continuous operation as well as fuel consumption curves when the engine is used for electric generation, must be submitted with the Tender.

RATING

The set shall be capable of delivering the specified output continuously under the site Conditions, without overheating. The engine shall be capable of delivering an output of 110% of the specified output for one hour in any period of 12 hours consecutive running in accordance with SANS 8528.

DE-RATING

The engine must be de-rated for the site conditions as set out in the Technical Specification, Section 3 of this document.

The de-rating of the engine for site conditions shall be strictly in accordance with SANS 8528 as amended to date. Any other methods of de-rating must have the approval of the Client and must be motivated in detail. Such de-rating must be guaranteed in writing and proved by the successful Tenderer at the site test.

STARTING AND STOPPING

The engine shall be fitted with an electric starter motor and be easily started from cold, without the use of any special ignition devices under summer as well as winter conditions.

Tenderers must state what arrangements are provided to ensure easy starting in cold weather. Full details of this equipment must be submitted. In the case of water cooled engines, any electrical heaters

shall be thermostatically controlled. The electrical circuit for such heaters shall be taken from the control panel, and must be protected by a suitable circuit breaker.

STARTER BATTERY

The set must be supplied a fully charged lead-acid type or maintenance free type battery, complete with necessary electrolyte. The battery must have sufficient capacity to provide the starting torque stipulated by the engine manufacturer. The battery capacity shall not be less than 120 Ah and shall be capable of providing three consecutive start attempts from cold and thereafter a fourth attempt under manual control of not less than 20 seconds duration each. The battery must be of the heavy duty "low maintenance" type, house in a suitable battery box.

COOLING

The engine may be either of the air or water cooled type. In the case of water-cooling, a built-on heavy duty, tropical type pressurised radiator must be fitted. Only stand-by sets that are water cooled shall have electric heaters.

For either method of cooling, protection must be provided against running at excessive temperatures. The operation of this protective device must give a visual and audible indication on the switchboard. Water-cooled engines shall in addition be fitted with a low water cut-out switch, installed in the radiator, to switch the set off in the event of a loss of coolant. The protection shall operate in the same way as the other cut-outs (e.g. low oil pressure). All air ducts for the cooling of the engine are to be allowed for. The air shall be supplied from the cooling fan cowling/radiator face to air outlet louvers in the enclosure.

LUBRICATION

Lubrication of the main bearings and other important moving parts shall be by forced feed system. An automatic low oil pressure cut-out must be fitted, operating the stop solenoid on the engine and giving a visible and audible indication on the switchboard.

FUEL PUMP

The fuel injection equipment is suitable for operation with the commercial brands of diesel fuel normally available in South Africa.

FUEL TANK

The fuel tank shall be an integral part of the base frame of the generator set. The tank shall have sufficient capacity for standby sets to run the engine on full load for a period of 24 hours.

The diesel fuel storage system / tank which will be provided with the standby generator installation must be fitted with a fuel filtration and water separation system (filter & separator) which is entirely separate from the fuel supply line and line filter to the engine. This filtration and water separation system must be dedicated to purifying the content of the storage system / tank by way of the cleaning processes which are applied while circulating the fuel through the filter & separator unit.

The filtration system must be able to handle diesel fuel of “high” and of “low” sulphur content for an indefinite period. The suction line of the system must be connected to the lowest part of the storage system / tank. The return line must be connected in the top section of the storage system / tank in such a position and in such a way that the flow of fuel within the storage system / tank between the fuel return point and the fuel suction point will induce scouring of the bottom of the system / tank to effectively capture sediment and water in the to be filtered fuel.

The filtration unit must filter the diesel fuel, removing suspended particles of effective diameters down to 5 micron. In addition, it must separate all water from the fuel and the fuel storage system and automatically dispose of / dump such water into an open, removable receptacle for disposal at the installation or in a suitable position outside the building. Separation of the fuel and water must be sufficiently effective that the discharged water will meet the standard required for it to be disposed of into a municipal drain and sewer system.

The filter and water separator unit must draw its power from the DC batteries used to power the relevant generator set. The circulating pump shall be provided with a controller programmed to switch the pump through not more than three complete on and off cycles of equal time (i.e. 50% on; 50% off) , per hour, with a deviation of not more than 10 % \pm . The pump must be capable of a duty cycle of not less than 60% running time. The flow rate through the circulating pump must be between 1 L/min and 1.25 L /min.

The filter cartridge of the filter and water separator unit must be replaceable, and, in normal operational conditions, not require replacement within periods shorter than three months. The replacement units must be readily available.

The filtration & separator system may be mounted against the wall of the plant room or on the inside of a container, which may house the installation as may be specified elsewhere in this document.

The tank shall be fitted with a suitable filter, a full height gauge glass, “low fuel level” alarm, giving an audible and visible signal on the switchboard as well as a low-low fuel level cut-out.

An electrically operated pump with sufficient length of oil resistant hose to reach 2m beyond the door of the canopy/container, shall be supplied, for each set for filling the fuel tank/s from 200 litre drums.

The interconnection fuel piping shall consist of copper tubes and the connection to vibrating components shall be in flexible tubing with armoured covering.

The contractor shall allow for the supply and installation of a fuel shut off fusible link in the container. The fusible link shall shut off the fuel at a temperature of 130 degrees in an event of a fire in the self-contain enclosure. The fusible link shall be mounted above the engine and coupled to the shut off valve by means of a 2mm stainless steel cable. The cable shall be installed to the shut off valve without any possibility of kinking the cable which may cause malfunctioning of the protection device.

GOVERNOR

The speed of the engine shall be controlled by a governor in accordance with ECM of SANS 8528 if not otherwise specified in the Detailed Specification.

The permanent speed variation between no load and full load shall not exceed 4.5% of the nominal engine speed and the temporary speed variation shall not exceed 10%. External facilities must be provided on the engine, to adjust the nominal speed setting by $\pm 5\%$ at all loads between zero and rated load.

FLYWHEEL

A suitable flywheel must be fitted, so that lights fed from the set will be free from any visible flicker.

The cyclic irregularity of the set must be within the limit laid down in SANS 8528.

EXHAUST SILENCER

It is essential to keep the noise level as low as possible. An effective exhaust silencing system of the residential type must be provided and shall be capable of providing 20 to 30 decibels of suppression.

The exhaust system shall consist of Grade 304 stainless steel..

The exhaust pipe shall be installed in such a way that the expelled exhaust fumes will not cause discomfort to the public. The exhaust pipe must be flexibly connected to the engine to take up vibrations transmitted from the engine, which may cause breakage. The exhaust piping and silencer shall be lagged and then clad in stainless steel sheet to reduce the heat and noise transmission in the generator enclosure and shall be protected against the ingress of driving rain at 45° to the horizontal. The exhaust pipe must extend 0,5m above the canopy.

ACCESSORIES

The engine must be supplied complete with all accessories, air and oil filters, 1 hard copy of the set of instructions manuals, spare parts lists, the first fill of all lubricating oils, fuel, etc. and 2 memory sticks with all the information scanned and indexed accordingly.

EXHAUST EMISSIONS

The exhaust emissions shall comply with US Tier III/EU stage III standards.

ALTERNATOR

GENERAL

The alternator shall be of the self-excited brushless type, with enclosed ventilated drip-proof housing and must be capable of supplying the specified output continuously with a temperature rise not exceeding the limits laid down in SANS 60034-1 for rotor and stator windings.

The alternator shall be capable of delivering an output of 110% of the specified output, for one hour in any period of 12 hours consecutive running.

Both windings must be fully impregnated for tropical climate and must have an oil resisting finishing varnish.

REGULATION

The alternator must preferably be self-regulated without the utilisation of solid state elements. The inherent voltage regulation must not exceed plus or minus 5% of the nominal voltage specified, at all loads with the power factor between unity and 0,9 lagging and within the driving speed variations of 4,5% between no-load and full load.

PERFORMANCE

The excitation system shall be designed to promote rapid voltage recovery following the sudden application of the load. The voltage shall recover to within 5% of the steady state within 300 milliseconds following the application of full load and the transient voltage dip shall not exceed 18%.

COUPLING

The engine and alternator must be directly coupled by means of a high quality flexible coupling, ISO 9001:2000 approved and must be designed and manufactured to this quality system.

IN SWITCHBOARD

GENERAL

A switchboard must be supplied and installed to incorporate the equipment for the control and protection of the generating set and battery charging.

The switchboard must conform the specification as set out in the following paragraphs.

CONSTRUCTION

The switchboard shall be enclosed in the steel enclosure.

All equipment, connections and terminals shall be easily accessible from the front. The front panels may be either hinged or removable and fixed with studs and chromium-plated cap nuts. Self-tapping screws shall not be used in the construction of the board.

All pushbuttons, pilot lights, control switches, instrument and control fuses, shall be mounted on hinged panels with the control wires in flexible looms.

The steelwork of the boards must be thoroughly de-rusted, primed with zinc chromate and finished with two coats of signal red quality enamel, or a baked powder epoxy coating.

Suitably rated terminals must be provided for all main circuits and the control and protection circuits. Where cable lugs are used, these shall be crimped onto the cable strands. Screw terminals shall be of the type to prevent spreading of cable strands. All terminals shall be clearly marked.

For the control wiring, each wire shall be fitted with a cable or wire marker of approved type, and numbering of these markers must be shown on the wiring diagram on the switchboard. Control wiring shall be run in PVC trunking. The trunking shall be properly fixed to the switchboard steelwork. Adhesives shall not be acceptable for the fixing of trunking or looms.

The modular generator set controller and protection equipment shall be mounted on a separate easily replaceable panel.

All equipment on the switchboard, such as contactors, isolators, busbars, etc., shall have ample current carrying capacity to handle at least 110% of the alternator full load current.

Access to the cubicle will be such that all components can be conveniently reached for testing and maintenance purposes.

The necessary bushes and a screen over the terminals will be provided where the power feeds enter and leave the cubicle.

The cubicle will be so constructed that the ac and dc components are screened from one another.

PROTECTION AND ALARM DEVICES

All switchboards shall be equipped with protection and alarm devices as described below.

A circuit breaker and an adjustable current limiting protection relay must be installed for protection of the alternator. The protection relay shall be of the type with inverse time characteristics. The relay shall cause contactor to isolate the alternator and stop the engine.

Protection must be provided for overload, high engine temperature, low lubricating oil pressure, over speed, start-failure, and low water level.

Reset push buttons are required on the modular generator set controller and a visible signal are required and the engine must stop when any of the protective devices operate. In the case of manual operation of standby sets, it shall not be possible to restart the engine.

The indication on the modular generator set controller must be in ENGLISH.

"OVERLOAD"

"TEMPERATURE HIGH"

"OIL PRESSURE LOW"

"OVERSPEED"

"START FAILURE"

"LOW WATER LEVEL"

In addition an audible and visible flashing signal shall be provided, when:

- a) The fuel level in the service tank is low. The indication on the modular generator set controller shall be "FUEL LOW".
- b) The battery charger failed. The indication on the modular generator set controller shall be "CHARGER FAIL"

A low-low level sensor must be provided. At this level the engine must stop to prevent air entering the fuel system.

This is also applicable to the engine driven generator/alternator.

All alarm conditions must operate an alarm hooter. A pushbutton must be installed in the hooter circuit to stop the audible signal, but the fault indicating light on the control panel must remain lit until the fault has been rectified.

An on/off switch is not acceptable. After the hooter has been stopped, it must be re-set automatically, ready for a further alarm.

The hooter must be of the continuous duty and low consumption type. Both hooter and protection circuits must operate from the battery.

Potential free contacts from the alarm relay must be brought down to terminals for remote indication of alarm conditions.

A test pushbutton must be provided to test all indicators lamps.

MODULAR GENERATOR SET CONTROLLER

The modular generator set controller shall be an electronic unit to match those of the other modular generator set controllers and of a high quality i.e. Levato, Deep Sea Electronics, Circom. It must be provided with IO and communication facilities.

The modular generator set controller will be supplied with all its functions and shall be mounted on a separate easily replaceable panel with plug in termination blocks for easy installation and replacement.

The modular generator set controller interface will be implemented with relays, contactors etc.

The modular generator set controller will have a mimic display of the alternator/mains/ change over contactors configuration with LED's showing the status of the mains, alternator and change over contractors.

Configuration software shall be supplied with the system. The software will be capable of the following:

- Fault management (event log)
- Configuration management (software upgrades and function changes)
- Account management (energy management)
- Performance management (generator set point changes)
- Security management (passwords)

The modular generator set controller will have a standard RS 232/485 or Ethernet interface suitable for TCP I/P transport medium. All communication including configuration management will be done through this port. Equipment connected at each end of the RS 232 or Ethernet cable shall be adequately protected against transient over-voltages, lightning effects (particularly if the set and remote alarms are in separate buildings), switching surges, power system surges or mains and alternator borne noise/interference.

The controller will incorporate the following functions:

- Mains sensing
- Alternator output-voltage sensing
- Alternator over- frequency sensing
- Control of processor unit (self-diagnostics)
- Alarm/ Status indications
- Control selector and operation
- Phase rotation monitor

A 4- position control selector on the controller will be provided to facilitate the following modes of operation:

- OFF: Diesel/ alternator generator set switched off
- MANUAL: Mains bypassed: Diesel/ alternator will not take load
- AUTO: Diesel /alternator takes load on mains failure
- TEST: Diesel /alternator takes load on mains failure
- A standby failure alarm (SF) will be given on the controller and to the output alarms when "Not in Auto" is selected.

The modular generator set controller must monitor the following

When the voltage of the incoming mains varies by more than a pre-program value (default +- 10%) from the normal voltage on any phase, the controller will signal that the incoming mains will be disconnected and the engine-starting sequence initiated.

When the frequency of the incoming mains varies by more than pre- program value (default +-5%) from the normal frequency, the controller will signal that the incoming mains will be disconnected and the engine-starting sequence initiated.

Upon restoration of the incoming mains to the pre-program value (default $\pm 10\%$) of the normal voltage on all phases, the monitor will signal that the load will be disconnected from the alternator and reconnected to the incoming mains.

If the alternator has been disconnected from the load and the incoming mains within the voltage limits of $\pm 10\%$ on all phases, the controller will signal that the load will be reconnected to the incoming mains.

Should the incoming mains fail or not in the specified limits while the engine is running under control of the cooling-off timer, the control for the cooling –off timer in the controller will be cancelled and the load connected to the alternator.

When the output voltage of the alternator varies by more than the pre-program value (default value $\pm 10\%$) on ANY phase, the controller will signal that the load will be disconnected from the alternator and the engine stopped.

A software over and under-frequency monitor will be provided in the controller if the frequency exceeds or drop below pre-programmed values. It will meet the requirements of class G2 governing. The monitor will not be influenced by harmonics.

Note: Software monitors will include adjustable overshoot and undershoot timers to be fully compatible with Class G2 governing.

All timers will be implemented in software.

Incoming supply failure timer

It is essential that incoming supply failures, occurring at short intervals, do not cause a series of starts and stops.

A timer adjustable from 1 s to 10 s required

The timer default value will be generator set to 3 s

The signal generated by the mains voltage monitor will start the timer. If the duration of the signal is less than the generator setting on the timer, the signal is suppressed so that the switching and starting sequence is initiated. However, if the duration of the signal is more than the generator setting on the timer, the signal will be transmitted to initiate the switching and starting sequence.

Incoming supply restoration timer

It is essential that incoming supply failures, occurring at short intervals, do not cause a series of starts and stops.

A timer adjustable from 1 s to 10 s required.

The timer default value will be generator set to 3 s.

The signal generated by the mains voltage monitor will start the timer. If the duration of the signal is less than 150 sec, the signal is suppressed and the timer is regenerated. However, if the duration of the signal is more than 150 sec, the signal will be transmitted to initiate the switching sequence.

Alternator supply/ incoming supply change-over timer

It is essential that the supply be disconnected from the load before the incoming supply is reconnected to the load. This will be software generator settable in the controller with a minimum of 5 seconds and maximum of 20 seconds.

On receipt of the switching signal, the alternator supply will be disconnected from the load and timer started. After 5 sec, the incoming supply will be reconnected to the load.

Engine cooling-off timer

After the load has been transferred to the incoming supply the engine will run without load for a period to cool off and then stop.

A timer, software adjustable in the controller from 5 to 10 min is required.

Repeat- start control

A repeat- start control is required in the controller software adjustable so that in the event of the engine failing to start on the first start attempt, the starter motor will be released and repeat the start attempt.

The repeat-start attempt will be repeated 3 times.

The duration of each start attempt will be 6 sec with a period of 15 sec between successive start attempts.

Should the engine fail to start after the third start attempt, the controller will transmit a signal for alarm purposes.

In addition to the requirement for the switchboard instruments listed elsewhere in this document metering will also form part of the modular generator set controller and must be accessible on the software.

The modular generator set controller shall display the following alarm/status indications:

- High engine temperature.
- Low Oil pressure
- High/low alternator output voltage
- Over and under speed (frequency)
- Low water level
- Emergency stop activated
- Mains fail
- Battery charger fail
- Dummy load in operation (When provided)
- Unit not in Auto
- Engine running
- Low fuel alarm
- Engine start failure

Conditions one to six above will stop the engine.

The Contractor shall provide a remote alarm mimic panel and the associated control wiring for the set. The panel shall be installed in the duty/security room at the entrance to the building approximately 70m from the generator set position.

The mimic panels must fit into furniture and blend with the design. Before manufacture, the Contractor shall submit and obtain the approval, from the Engineer, for the mimic panel.

The remote alarm must have potential free relay contacts which shall indicate the following on each set:

- 1) Mains on/off
- 2) Alternator running
- 3) Common fault alarm
- 4) Buzzer which can only be reset at the generator panel
- 5) Fuel low

The cable between the remote alarms is to be a signal cable with a screen and this option must be able to operate from a 12 / 24 V dc supply so that it can be powered from the generator set batteries.

A facility to originate a fault message should a warning or shutdown fault occur.

A facility to allow the mode of the control system to be changed to any of the four modes to allow the set to be run from a remote location.

A facility to originate a call to the control cellular and to transfer a fault message should a warning or shutdown fault occur. The alarm conditions above from the controller will be extended to four relays with a make and break contact and terminal strip to allow for remote monitoring of the following alarms:

- Mains fail
- Standby run
- Standby fail
- Low Fuel

A remote start facility must be supplied, software controllable in the controller.

All events relating to the status of the generator set shall be logged with date and time in a non-volatile memory (which can retain information for a period of 6 months in the absence of power to the controller) and the user shall be able to contain a hard copy on site.

The modular generator set controller system must be able to operate with a minimum DC supply voltage of 4 volts (without making use of either an internal or an external auxiliary battery) to allow cranking and starting under conditions of low battery capacity. Control cables between the set and the control panel shall be fitted with sockets for ease of undoing in the event the modular generator set controller has to be removed.

MANUAL STARTING

Each switchboard shall be equipped with two pushbuttons marked "START" and "STOP" for manual starting and stopping of the set.

BATTERY CHARGING EQUIPMENT

Each switchboard shall be equipped with battery charging equipment.

The charger shall operate automatically in accordance with the state of the battery and shall generally consist of an air-cooled transformer, a full wave solid state rectifier, and the necessary automatic control equipment of the constant voltage system.

The charger must be fed from the mains. An engine driven alternator must be provided for charging the battery while the set is operational. Failure of this alternator must also activate the battery charger failure circuit.

The starter battery voltage will be software monitored by the modular generator set controller. The voltage will be digitally displayed.

SWITCHBOARD INSTRUMENTS

Each generating set shall have a switchboard equipped as follows:

- a) One flush square dial voltmeter, reading the alternator voltage, scaled as follows:
 - (i) 0-300V for single phase generators.
 - (ii) 0-500V for three phase generator. In this case a six position and off selector switch must be installed for reading all phase and phase to neutral voltages.
- b) A flush square dial combination maximum demand and instantaneous ampere meter for each phase, with resettable pointer suitably scaled 20% higher than the alternator rating. A red arc stripe above scale markings from 0-20A and a red radial line through the scale at full-load current, shall be provided. This instruments shall be supplied complete with the necessary current transformer.
- c) One flush square dial vibrating type frequency meter, indicating the alternator frequency.
- d) A six digit running hour meter with digital counter, reading the number of hours the plant has been operating. The smallest figure on this meter must read 1/10 hour.
- e) Fuses or m.c.b.'s for the potential voltage circuits of the meters.
- f) One flush square dial ampere meter suitably scaled for the battery charging current.
- g) One flush square dial voltmeter with a spring loaded pushbutton or switch for the battery voltage.

MARKING

All labels, markings or instructions on the switchgear shall be in English.

EARTHING

An earth bar must be fitted in the switchboard, to which all non-current carrying metal parts shall be bonded.

The neutral point of the alternator must be solidly connected this bar by means of a removable link labelled "EARTH". Suitable terminals must be provided on the earth bar for connection of up to three earth conductors, which will be supplied and installed by others.

OPERATION SELECTOR SWITCH

A four position selector switch must be provided on the switchboard marked "AUTO", "MANUAL", "and TEST" and "OFF".

With the selector on "AUTO", the set shall automatically start and stop, according to the mains supply being available or not.

With the selector on "TEST", it shall only be possible to start and stop the set with the pushbuttons, but the running set shall not be switched to the load.

With the selector on "MANUAL", the set must take the load when started with the pushbutton, but it must not be possible to switch the set on to the mains, or the mains onto the running set.

With the selector on "OFF", the set shall be completely disconnected from the automatic controls, for cleaning and maintenance of the engine.

AUTOMATIC CHANGE-OVER SYSTEM

A fully automatic change-over system must be provided to isolate the mains supply and connect the standby set to the outgoing feeder in case of a mains failure and reverse this procedure on return of the mains.

The contactors for this system must be electrically and mechanically interlocked.

The preferred unit is the ABB True-One.

BY-PASS SWITCH AND MAIN ISOLATOR

The switchboard shall be equipped with an on-load isolator to isolate the mains and a manually operated on-load 4 pole 4 position by-pass switch, which shall switch the connected loads as follows:

NORMAL: will allow for the normal connection i.e. connects the incoming mains to the Automatic control gear or directly to the outgoing feeder.

In the GEN BY-PASS position the switch will disconnect the automatic changeover control gear, and will connect the municipal mains directly the essential supply busbar which will allow for the maintenance of either or both the generator and the automatic changeover equipment.

MAINS BY-PASS switching position would allow the generator to be connected directly to the essential supply busbar. This is when there is a problem with the automatic changeover equipment and there is no municipal power available.

The final position is an OFF position which will remove all power downstream of this switch.

It is required that this by-pass switch and mains isolator be mounted away from the automatic control gear, in a separate compartment, either on the side or in the lower portion of the switchboard cubicle, and that the switches are operated from the front of the compartment.

Contractor to note: The by-pass and mains isolator switch shall also break the main neutral.

START DELAY

Starting shall be automatic in event of a mains failure. A 0-15 second adjustable start delay timer shall be provided to prevent start-up on power trips or very short interruptions.

STOP DELAY

A stop delay with timer is required for the set, to keep the set on load for an adjustable period of one to sixty seconds after the return of the mains supply, before changing back to the supply. An additional timer shall keep the set running for a further adjustable cooling period of 5 to 10 minutes at no-load before stopping.

INSTALLATION

Except for the supply of the incoming mains cable and outgoing feeder cables, the tenderer must include for the complete installation and wiring of the plant in running order, including the connection of the incoming cable and outgoing feeder cables.

The connecting of the cable and control cabling to the generator and the control terminals in the LV board remains the responsibility of the tenderer.

WARNING NOTICES

Notices, in English, must be installed on the outside of the steel enclosure.

The successful tenderer must consult the Occupational Health and Safety Act 83 of 1993 and get approval of the wording from the Client's representative, prior to ordering the notices.

The notice shall be made of a non-corrodible and non-deteriorating material, preferable plastic, and must read as follows:

DANGER: This engine will start without notice. Turn selector switch on control board to “OFF” before working on the plant.

An engraved label shall be installed next to the fuel cap that indicates the following:

Base Tank Capacity

Bulk Tank Capacity (if provided)

Full load litres per hour consumption

CONSTRUCTION

The engine and alternator of the set shall be built together on a common frame, which must be mounted on a skid base on anti-vibration mountings. The set must be placed inside an IP65 canopy/container. A drip tray must be fitted under the engine. The tray must be large enough to catch a drip from any part of the engine.

The frame must be of the ‘DUPLEX’ type.

OPERATION

The set is required to supply the lighting and power requirements in the case of a mains power failure.

The set shall be fully automatic i.e. it shall start when any one phase of the main supply fails or get switched and shall shut down when the normal supply is re-established. In addition it shall be possible to manually start and stop the set by means of pushbuttons on the switchboard.

The automatic control shall make provision for three consecutive starting attempts. Thereafter the set must be switched off, and the start failure relay on the switchboard must give a visible and audible indication of the fault.

To prevent the alternator being electrically connected to the mains supply when the mains supply is on and vice versa, a safe and fail proof system of suitably interlocked contactors shall be supplied and fitted to the changeover switchboard.

PART C9: TECHNICAL SPECIFICATION: 350KVA ENCLOSED GENERATOR

GENERAL

Supply, deliver, install, commission, test and maintain an emergency generating set Mandela Bay Theatre Complex, John Kani Road, Gqeberha, Nelson Mandela Bay, Eastern Cape, South Africa.

This installation must comply fully with all the sections and drawings of this document. This technical specification is supplementary to the Equipment Requirements, Section 2, and must be read together where they are at variance the Technical Specification shall apply.

Supply, delivery, installation and commissioning of the complete outdoor emergency generator set inside an IP65 canopy/container on a concrete plinth as specified in this document and indicated on the drawings.

Concrete plinth to be provided, but is included as a provisional amount in the bills and will be determined once the size of the generator offered is finalised.

The surface of the concrete plinth shall be 50mm higher than the existing ground level. The thickness and strength of the plinth shall be designed by the consulting engineer and will be detailed on a drawing.

A tap to be provided to drain all the water that accumulates inside the bund wall. Final position of the tap will be determined on site. It is the engineer's responsibility to ensure plinth design complies with generator dimensions and weights. The bund wall shall contain 110% of the fuel, oil and water capacity of the generator. The bund wall shall not constrain the canopy doors from opening completely.

The contractor shall install an earthing system in the concrete plinth. The contractor shall install two (2) earth studs 1.8 meters long on opposite corners of the concrete plinth into the ground. The earth studs shall be connected by means of a 70mm² bare copper earth wire to the main earth bar in the control panel. The earth conductor shall be connected to the earth bar, canopy, base, skid and earth bar by means of suitably crimping lugs and brass bolts.

SITE INFORMATION AND CONDITIONS

LOCATION

The site is at Mandela Bay Theatre Complex, John Kani Road, Gqeberha, Nelson Mandela Bay, Eastern Cape, South Africa.

SITE CONDITIONS

The following site conditions will be applicable and equipment shall be suitably rated to develop their assigned rating and duty at these conditions.

- | | |
|---------------------------------------------------|------------|
| a) Height above sea level | : 20 Meter |
| b) Maximum ambient temperature | : 45°C |
| c) Maximum ambient humidity at lowest temperature | : 97 % |

OUTPUT AND VOLTAGE

After the de-rating factors for the engine and generator due to site conditions have been taken into account, the set must have a site output and voltage as follows: -

No load voltage	:	400/230 Volt
Rating	:	500kVA
Power at 0.9 power factor	:	560kW
Frequency	:	50Hz
Fault Level	:	5kA

The generating set is required to feed the full load of the complex and to be connected in-line with the main supply, with the following electrical load.

SWITCHBOARD/CONTROL PANEL UNIT

All switch- and control gear shall be rated for a fault current level of 5kA.

The switchboard/control panel unit shall be enclosed in the IP65 canopy/container and housed inside the generator canopy, so that it is one unit.

CABLES

The contractor will be responsible for all electrical cable connections associated with the complete generating set installation.

The following cables will be supplied, installed and terminated at the Switchboard. Adequate provision shall be made for the termination of these cables at the Switchboard and change-over panel:

DB fed	PVC PVC SWA PVC Cable	240mm ² /4C
--------	-----------------------	------------------------

ENGINE

A sump drainpipe must be fitted with a shut-off valve placed in a convenient position outside the base frame to facilitate drainage.

Recommended oil types must be indicated on the engine, or base frames, by means of suitable labels.

All engine instruments shall have clear markings on the faceplates, indicating the normal operating zone(s), maximum and minimum allowable values/limits and danger zone(s).

The flywheel shall be covered by approved hoods.

ALTERNATOR

The Alternator shall be of the low harmonic type.

LOAD ACCEPTANCE

The generator set shall be capable of accepting 75% of the specified site electrical output 10 seconds after the starter motor is energised and the remaining 25%, 5 seconds thereafter, i.e. 100% load acceptance shall not exceed 15 seconds.

ENCLOSURE

The standby set is a free standing unit and shall be mounted in an enclosure as detailed below:-

GENERAL

The enclosure, shall be completely vermin-proof, powder coated and shall be constructed of grade 304 stainless steel housing of a minimum thickness of ± 1.5 mm.

The enclosure shall allow easy access to the engine, alternator, radiator filler cap and control cubicle for maintenance purposes.

The door shall be flush with the rest of the canopy and of the side opening type. A minimum of four doors are required i.e. two on either side.

The door hinges and locking bars shall be of a heavy duty type and be manufactured of grade 304 stainless steel and shall be fitted with a grease nipple.

The doors and panels shall be suitably braced and stiffened to ensure rigidity and to prevent bending and warping.

Suitable door restraints shall be fitted to all the doors, enclosure including the control panel to prevent wind damage. The restraint shall consist of a steel rod in a steel groove or slide with a spring loaded catch, which is to be manually reset to close the door.

No flexible restraints will be accepted.

The diesel fuel level indicator and alternator rating plate shall be clearly visible with the doors open.

Unless specified the silencers shall be mounted within the enclosure.

Perforated sheeting shall be fitted over all the insulating material inside the canopy of all soundproof sets.

Rubber seals on doors shall be equal to or similar to rubber pinch weld, wind lace.

DESIGN

The enclosure shall be designed to be weather-proof and sound-proofing as specified. Rivets or self-tapping screws will under no circumstances be allowed for fixing the various sections of the enclosure. Only cadmium coated nuts and bolts are acceptable.

ROOF

The roof of the enclosure shall be constructed for proper drainage of water as per the drawing.

LIGHT FITTING

A light fitting and it's associated on/off door switch shall be provided inside the enclosure for illumination of the control panel. The power for the lamp shall be obtained from the starter battery.

SOUND-PROOFING

The sound-proofing on canopy engine sets shall be such that the maximum noise level generated by the set under any load condition shall not exceed 65 dB measured in any direction at a distance of 5m from the centre of the set with the doors closed.

The supply and discharge air paths will require separate attenuators on soundproof sets.

PADLOCK AND KEYS

The contractor shall supply padlocks and keys for all the doors of the enclosure. The padlock shall be off the keyed alike with stainless steel shackles type.

Suitable brass metal plates shall be installed behind each lock for the protection of the enclosure against scratching or damaging, where the locks are hanging.

ALARMS

The successful tenderer must pay particular attention to the requirements of the alarms as described in the Equipment Requirements, Section 2.

One alarm hooter and red light shall be supplied and installed on the outside of the generator container in a position as indicated by the Client's Representative.

The hooter shall consist of an electronic unit similar and equal to a "Klaxon" - type SY2/725 hooter with a continuously rated output and 110 dB at a distance of 2 metres, and shall be IP55 weatherproof rated.

The warning light shall consist of a LED flashing red light, which shall be mounted on a galvanised steel frame together with the hooter.

The hooter and light shall be switched on or off simultaneously after initiation or cancellation of an alarm condition. The supply and installation of the wiring between the control board and the alarm unit forms part of this contract.

The successful tenderer must ensure that the hooter control circuit resets automatically after cancellation due to a low fuel condition or battery charger failure, but the visible fault indication must remain, i.e. should the operator continue to run the set, the hooter must sound, should any other condition develop.

A remote alarm panel shall be supplied and installed by the contractor in the control room. This shall be of surface mounting, enamelled sheet metal (colour to approval), minimum depth construction, and shall incorporate a flashing red pilot alarm light, adjustable electronic sounder, and a silence push button. The silence button shall not switch off the pilot light - this shall only be switched off when the alarm is reset at the Generator Panel.

A 2,5mm² x 4-core PVC SWA PVC cable will be supplied, installed and terminated by others between the Generator Panel and the Charge Office. The Contractor shall connect this cable at both ends and shall supply and install all switch gear relays, etc. to ensure satisfactory operation of the Remote Alarm Panel.

REMOTE CONTROL GENERATOR SWITCH

A Remote Control Generator "ON/OFF/AUTO" switch will be supplied and installed by others in the control room, and a 2,5mm² x 4-core PVC SWA PVC cable will be supplied and installed by others between the control room and the Generator Panel.

The contractor shall connect this cable at both ends, and shall supply and install all switch gear, relays, etc. to ensure satisfactory operation of the remote control switch.

FUEL DRIP TRAY

A drip tray approximately 100mm deep shall be mounted below the generator and must be large enough to collect any fuel that drips from the generator fuel accessories. The drip tray shall be manufactured from black mild steel. The thickness of the drip tray sheet steel shall not be less than 2mm.

COMPLETION TIME

The Generator Set is required to be commissioned in conjunction with the building contract.



INFORM

The successful tenderer shall inform the Engineer when the set is ready for installation.

FUEL SUPPLY TANK

The fuel tank shall be an integral part of the base frame of the generator set. The tank shall have sufficient capacity to run the engine on full load for a period of 24 hours. The base tank shall be an open channel self-bund walled type that shall be of sufficient capacity to contain a spillage equivalent to 110% in volume of the base tank. The containment tank shall be manufactured from black mild steel, with external coating to prevent corrosion, with a thickness of not less than 3mm.

A float level alarm connected to the generator controller shall be incorporated into the bund area located such that the alarm will be activated when 50% of the volume of the bund area has been reached in the event of any diesel fuel leakage.



PART C10: ANNEXURES

C10.1 ANNEXURE A - SBD4 - BIDDER'S DISCLOSURE

SBD4

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of institution	State

2.2 Do you, or any person connected with the bidder, have a relationship

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.



SBD4

with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

.....
.....

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

.....
.....

3 DECLARATION

I, _____ the _____ undersigned,
(name)..... in
submitting the accompanying bid, do hereby make the following
statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring

² 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.



SBD4

institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

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

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

..... Signature Date
..... Position Name of bidder



**C10.2 ANNEXURE B -SBD6.1 - PREFERENCE POINTS CLAIM FORM IN TERMS OF THE
PREFERENTIAL PROCUREMENT REGULATIONS 2022**

SBD 6.1

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

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

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

1. GENERAL CONDITIONS

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

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

1.2 **To be completed by the organ of state**

(delete whichever is not applicable for this tender).

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

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

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

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

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



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

2. DEFINITIONS

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

80/20

or

90/10

$$P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right) \text{ or } P_s = 90 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{min} = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

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

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

P_{max} = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
 - (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system.

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



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

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

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

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Youth (100% ownership)	4	
Youth (61 - 99% ownership)	3	
Youth (31 - 60% ownership)	2	
Youth (1 - 30% ownership)	1	
Youth ownership 0%	0	
Women (100% ownership)	4	
Women (61 - 99% ownership)	3	
Women (31 - 60% ownership)	2	
Women (1 - 30% ownership)	1	
Women ownership 0%	0	
Black 100% ownership)	4	
Black (61 - 99% ownership)	3	
Black (31 - 60% ownership)	2	
Black (1 - 30% ownership)	1	
Black ownership 0%	0	
People living with disabilities	4	
Locality Based in Nelson Mandela Bay Metro Based in Eastern Cape	4	



Based in neighbouring provinces	3	
	2	
Based in other provinces	1	
Outside RSA	0	

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

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

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered



as a result of having to make less favourable arrangements due to such cancellation;

- (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
- (e) forward the matter for criminal prosecution, if deemed necessary.

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

.....

.....

.....



C10.3 ANNEXURE C - SBD8 - DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

SBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
 - a. abused the institution's supply chain management system;
 - b. committed fraud or any other improper conduct in relation to such system; or
 - c. failed to perform on any previous contract.
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

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



4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		

SBD 8

CERTIFICATION

**I, THE UNDERSIGNED (FULL NAME).....
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION
FORM IS TRUE AND CORRECT.**

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

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

Js365bW



C10.4 ANNEXURE D - FUNCTIONALITY CRITERIA SCORESHEET

The attached tender functionality criteria score card forms part of the tender process. This will be scored on the relevant supporting documentation sent with the tender submission and will form Part of round 1. Each tenderer will be evaluated individually on the criteria submitted to support each section.

The tender will have to score a minimum of 70% in round 1 to go through to round 2, where the pricing and the Organ of State points criteria, of 80/20 preference point system will apply.

No.	Description	Criteria	Points	Points Achieved
1	Company Background			
1.1	Established History: Number of years in the generator supply and installation industry.	0-5 Years	1	
		6-8 Years	2	
		9-12 Years	3	
		>12 Years	5	
1.2	Company Size and Structure: Information about the organization's size, locations, and workforce.	0-5 People	1	
		6 - 20 People	2	
		21- 50 People	3	
		> 50 People	5	
1.3	Company Location: Company based in Nelson Mandela Metropole. Radius, in km, from the Gqeberha Town Hall	Outside 400km Distance	0	
		Outside the NMBM Metropole, but within 400km distance	10	
		Within the NMBM Metropole area	20	
2	Relevant Project Experience			
2.1	Past Projects: List of completed projects similar in scope and scale to the current tender.	No Information Supplied	0	
		Information Supplied	5	
		Information Confirmed	5	
3	Technical Expertise			
3.1	Generator Types: Experience with various types of generators (e.g.,	No Information Supplied	0	
		Information Supplied	5	
3.2	Installation Capabilities: Proficiency in installation practices, including	No Information Supplied	0	
		Information Supplied	5	
4	Maintenance and Support			
4.1	Service Agreements: Description of maintenance support and service agreements offered.	No Information Supplied	0	
		Information Supplied	5	
		Information Acceptable	5	
4.2	Response Times: Historical data on response times for service calls or emergencies.	No Information Supplied	0	
		Information Supplied	5	
		Information Acceptable	5	
4.3	Maintenance Support Location: Company based in Nelson Mandela Metropole. Radius, in km, from the Gqeberha Town Hall, with full support team, workshop and vehicles.	Outside 400km Distance	0	
		Outside the NMBM Metropole, but within 400km distance	5	
		Within the NMBM Metropole area	10	
5	Safety Record			
5.1	Safety Practices: History of safety performance, including accident rates and safety training programs.	No Information Supplied	0	
		Information Supplied	5	
		Information Acceptable	5	
5.2	Compliance with Safety Standards: Adherence to industry safety standards during installation and operation.	No Information Supplied	0	
		Information Supplied	2.5	
		Information Acceptable	2.5	
6	Project Management Skills			
6.1	Project Management Experience: Proven track record of managing projects on time and	No Information Supplied	0	
		Information Supplied	5	
Maximum Points			100	
Score Achieved by Tenderer				



C10.5 ANNEXURE E - SMALL, MEDIUM, AND MICRO ENTERPRISES (SMME's)

SMME INCLUSION:

1. 30% Subcontracting Requirement:

Bidders are required to subcontract a minimum of 30% of the total contract value to registered Small, Medium, and Micro Enterprises (SMMEs) as defined by the relevant legislation.

2. SMME Registration:

All SMMEs subcontracted must be registered with the relevant government entities and be compliant with all applicable legislation.

3. Subcontracting Plan:

Bidders must submit a detailed subcontracting plan as part of their tender submission. This plan must include:

- A breakdown of the value of work to be subcontracted to SMMEs.
- A clear indication of the scope of work to be subcontracted to each SMME.

4. Verification:

The awarding authority will verify the implementation of the subcontracting plan, including:

- Reviewing the submitted subcontracting plan.
- Monitoring the progress of subcontracting throughout the contract duration.
- Conducting audits to ensure compliance with the 30% SMME inclusion requirement.

5. Failure to Comply:

Failure to comply with the SMME inclusion requirement may result in the disqualification of the tender or other penalties.

6. Record Keeping:

Bidders are required to maintain accurate records of all subcontracting activities, including invoices, payment records, and relevant documentation, for verification purposes.



C10.6 ANNEXURE F - MWA GUARANTEE FOR CONSTRUCTION

MWA GUARANTEE FOR CONSTRUCTION

For use with **JBCC Minor Works Agreement**

state edition / date

**GUARANTOR
DETAILS**

Guarantor:

Physical address:

Guarantor's signatory 1:

Capacity

Guarantor's signatory 2:

Capacity

Employer:

Contractor:

Principal Agent:

Works:

Site:

Contract Sum

Accepted amount inclusive of Currency
tax

R

...amount in words

Contract Sum

Accepted amount inclusive of Currency
tax

R



...amount in words

Security expiry date:

AGREEMENT DETAILS

Agent issues: JBCC format Payment Certificates, Final Payment Certificate, Certificate of Practical Completion and Certificate of Final Completion

1.0 The Guarantor's liability shall be limited to the diminishing amounts of the Guarantee Sum as follows:

1.1.1

GUARANTOR'S LIABILITY

PERIOD OF LIABILITY

Maximum Guaranteed Sum (not exceeding 6.0% of the contract sum) in the amount of:

R

Amount in words

From and including the date of issue of this MWA Guarantee for Construction and up to and including the date of Certificate of Practical completion

1.1.2

Reducing to the Guaranteed Sum (not exceeding 4.0% of the contract sum) in the amount of:

R

Amount in words

From and including the date of Certificate of Practical completion and up to and including the date of the Certificate of Final Completion



- 1.1.3 Reducing to the Guaranteed Sum (not exceeding 2.0% of the contract sum) in the amount of :

R

Amount in words

From and including the day after the date of the Certificate of Final Completion and up to and including the date of issue of the Final Payment Certificate where payment is due to the Contractor, whereupon this MWA Guarantee for Construction shall expire. Where the Final Payment Certificate reflects payment due to the Employer, this MWA Guarantee for Construction shall expire on payment of the full amount

- 2.0 The Guarantor's liability limits set out in 1.1 to 1.3 shall apply in respect of any claim received by the Guarantor during the Security validity period:
- 3.0 The Guarantor hereby acknowledges that:
- 3.1 Any reference in this MWA Guarantee to the Agreement is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship
- 3.2 Its obligation under this Guarantee is restricted to the payment of money
- 3.3 Reference to a Certificate of Practical Completion or to a Certificate of Final Completion shall mean such certificate as issued by the Agent
- 4.0 Subject to the Guarantor's maximum liability referred to in 1.0, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3 :
- 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Principal Agent has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2
- 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) calendar days has elapsed since the date of issue of the first written demand notice in terms of 4.1 and that the sum certified has still not been paid to date. The Employer herewith calls up this MWA Guarantee for Construction and demands payment of the sum certified from the Guarantor
- 4.3 A copy of the applicable payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified



- 5.0 Subject to the Guarantor's maximum liability referred to in 1.0, the Guarantor undertakes to pay the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this MWA Guarantee for Construction stating that :
- 5.1 The Agreement has been terminated due to the Contractor's default and that the MWA Guarantee for Construction is called up in terms of 5.0. The demand shall enclose a copy of the notice of termination; or called up in terms of 5.0. The demand notice shall enclose a copy of the notice of termination; or
- 5.2 A provisional sequestration or liquidation court order has been granted against the Contractor and that the MWA Guarantee for Construction is called up in terms of 5.0. The demand shall enclose a copy of the court order
- 6.0 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4.0 and 5.0 shall not exceed the Guarantor's maximum liability in terms of 1.0
- 7.0 Where the Guarantor is a p79ed insurer and has made payment in terms of 5.0, the Employer shall within one hundred and twenty (120) calendar days of receipt of payment submit an expense account to the Guarantor showing how all monies received in terms of the MWA Guarantee for Construction have been expended or will be expended, and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this MWA Guarantee for Construction shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date of payment by the Guarantor to the Employer until the date of refund
- 8.0 Payment by the Guarantor in terms of 4.0 or 5.0 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor
- 9.0 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer deems fit and the Guarantor shall not have the right to claim his release from this MWA Guarantee for Construction on account of any conduct alleged to be prejudicial to the Guarantor
- 10.0 The Guarantor chooses the physical address as stated above for all purposes in connection herewith
- 11.0 This MWA Guarantee for Construction is neither negotiable nor transferable and shall expire in terms of either 1.3, or payment in full of the Guaranteed Sum or on the Guarantee expiry date, whichever is the earlier, where after no claims will be considered by the Guarantor. The original of this MWA Guarantee for Construction shall be returned to the Guarantor after it has expired



- 12.0 This MWA Guarantee for Construction, with the required demand notices in terms of 4.0 or 5.0, shall be regarded as a liquid document for the purpose of obtaining a court order
- 13.0 Where this MWA Guarantee for Construction is issued in the Republic of South Africa, the Guarantor hereby consents to the jurisdiction of a court in the area where the project is located

Signed at

Date

Guarantor's Signatory 1 _____

Guarantor's Signatory 2 _____

Witness _____

Witness _____

Guarantor's seal or
stamp



C10.7 ANNEXURE G - WAIVER OF LIEN

WAIVER OF LIEN

Principal Building Agreement

Edition used

Minor Works Agreement

Edition used

Contractor:

Employer:

Works:

Site:

AGREEMENT

The **contractor** waives, in favour of the **employer**, any lien or right of retention that is or may be held in respect of the **works** to be executed on the **site**

This waiver shall only come into effect on provision by the **employer** of a **security for payment** in for fulfilment of obligations in terms of the identified **agreement**.

This done and signed
at

Date

Name of Signatory

Capacity

for and on behalf of the Contractor who by signature
warrants authorisation hereto

Signature of witness

Contractor:

Street Address:

Code:

Postal Address:

Code:

E-mail:

Mobile:

Fax:

Telephone:



C10.8 ANNEXURE H - GUARANTEE FOR ADVANCE PAYMENT

GUARANTEE FOR ADVANCE PAYMENT

For use with **JBCC Principal Building Agreement** State edition / date

For use with **JBCC NSSA Subcontract Agreement** State edition / date

For use with **JBCC Minor Works Agreement** State edition / date

Guarantor:

Physical address:

Guarantor's signatory 1: Capacity

Guarantor's signatory 2: Capacity

Employer:

Recipient:

Contractor:

Contractor:

Principal Agent:

Works:

Site:

Guaranteed Advance Payment Sum (maximum
aggregate amount)

Currency

...amount in words:

Security expiry date:



AGREEMENT DETAILS

Agent issues: JBCC format Interim Payment Certificate, interim Recovery Statements

1.0 GUARANTEE FOR ADVANCE PAYMENT

1.1 The particulars of the recoupment of the Advance Payment sum are set out in the following schedule:

Recoupment period	(no of months)	
Recoupment period commencement	(start months)	
Monthly recoupment (amount)	(amount)	
Note : Where the recoupment amounts and/or periods are irregular a schedule of recoupment amounts and dates must be attached		

1.2 The Guarantor's liability shall be limited to the outstanding diminishing amounts of the guaranteed Advance Payment sum as follows:

- 1.2.1 The guaranteed Advance Payment Sum on receipt thereof by the Recipient
- 1.2.2 The full outstanding balance after the deduction of each recoupment made in terms of the monthly payment certificate as stated in 1.1
- 1.2.3 After the deduction of the last scheduled recoupment payment or on settlement of the full outstanding balance this Guarantee for Advance Payment shall expirer

2.0 The Guarantor acknowledges that:

- 2.1 Any reference in this Guarantee for Advance Payment to the Agreement is made for the purpose of convenience and shall not be construed as any intention to create an accessory obligation or any intention to create a suretyship
- 2.2 Its obligation under this Guarantee for Advance Payment is restricted to the payment of money
- 2.3 Reference to a recovery statement or a Payment Certificate shall mean such certificate as issued by the Principal Agent



- 3.0 Subject to the Guarantor's maximum liability referred to in 1.0 the Guarantor undertakes to pay the Employer the sum certified on receipt of the documents identified in 3.1 to 3.3
- 3.1 A copy of a first written demand notice issued by the Employer to the Recipient stating that payment of a sum certified by the Principal Agent has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 3.2
- 3.2 A first written demand notice issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Recipient stating that a period of seven (7) calendar days has elapsed since the issue of the first written demand notice in terms of 3.1 and that the sum certified has not been paid to date. The Employer herewith calls up this Guarantee for Advance Payment and demands payment of the sum certified from the Guarantor
- 3.3 A copy of the recovery statement and payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified in 3.0
- 4.0 Subject to the Guarantor's maximum liability referred to in 1.0 the Guarantor undertakes to pay the Employer the guaranteed Advance Payment Sum or the full outstanding balance upon receipt of a first written demand notice from the Employer to the Guarantor at the Guarantor's physical address calling up this Guarantee for Advance Payment stating that:
- 4.1 The Agreement has been terminated due to the Recipient's default and that the Guarantee for Advance Payment is called up in terms of 4.0. The demand shall enclose a copy of the notice of termination; or
- 4.2 A provisional sequestration or liquidation court order has been granted against the Recipient and that the Guarantee for Advance Payment is called up in terms of 4.0. The demand shall enclose a copy of the court order
- 5.0 The aggregate amount of payments made by the Guarantor in terms of 3.0 and 4.0 shall not exceed the Guarantor's maximum liability in terms of 1.0
- 6.0 Payment by the Guarantor in terms of 3.0 or 4.0 shall be made within seven (7) calendar days on receipt of the first written demand notice to the Guarantor
- 7.0 The Employer shall have the absolute right to arrange his affairs with the Recipient in any manner which the Employer deems fit and the Guarantor shall not have the right to claim his release from this Guarantee for Advance Payment on account of any conduct alleged to be prejudicial to the Guarantor
- 8.0 The Guarantor chooses the physical address as stated above for all transactions in connection with this Guarantee



- 9.0 This Guarantee for Advance Payment is neither negotiable nor transferable and shall expire upon payment of the Final Payment Certificate in terms of the Agreement or on payment in full of the guaranteed Advance Payment Sum or on the expiry date of the Security, whichever is the earlier, whereafter no claims will be considered by the Guarantor. The original Guarantee for Advance Payment shall be returned to the Guarantor after it has expired
- 10.0 This Guarantee for Advance Payment, with the required demand notices in terms of 3.0 or 4.0, shall be regarded as a liquid document for the purpose of obtaining a court order

Signed at

Date

Guarantor's Signatory 1 _____

Guarantor's Signatory 2 _____

Witness _____

Witness _____

Guarantor's seal or
stamp



C10.9 ANNEXURE I - MATERIALS AND GOODS STORED ON SITE

APPLICATION FOR PAYMENT IN RESPECT OF MATERIALS AND GOODS STORED ON SITE

(Clause A19.3.2 & A19.6 of the Preliminaries)

Project

Applicant

(Contractor / Subcontractor / Supplier)

Contractor

Employer

I/We, hereby apply for payment in respect of materials and good on site to the value of

R

(

all as per attached schedule (with materials separated into work groups as defined by CPAP, if applicable

I/We certify that these materials and goods have been supplied without suspensive conditions and are my / our bona fide property, ownership of which has passed to me/us according to law. Furthermore, these materials shall become the property of the employer on payment thereof.

Name of signatory

Capacity of authorised signatory

for and on behalf of the Applicant who by his
signature warrants authorisation hereto

As witness



C10.10 ANNEXURE J - MATERIALS AND GOODS STORED OFF SITE

APPLICATION FOR PAYMENT IN RESPECT OF MATERIALS AND GOODS STORED OFF SITE
(Clause A19.3.2 & A19.6 of the Preliminaries)

Project

Applicant

(Contractor / Subcontractor / Supplier)

Contractor

Employer

I/We, hereby apply for payment in respect of materials and good on site to the value of

R

(

all as per attached schedule (with materials separated into work groups as defined by CPAP, if applicable

I/We certify that these materials and goods have been supplied without suspensive conditions and are my / our bona fide property, ownership of which has passed to me/us according to law. I/We shall provide the employer with a guarantee for advance payment and, if applicable, a Waiver of Hypothec from the Landlord of the premises where the materials and goods are being stored. Furthermore, these materials shall become the property of the employer on payment thereof.

Name of signatory

Capacity of authorised signatory

for and on behalf of the Applicant who by his
signature warrants authorisation hereto

As witness



C10.11 ANNEXURE K - UNDERTAKING DESIGN RESPONSIBILITY

FOR OF INDEMNITY BY CONTRACTOR UNDERTAKING DESIGN RESPONSIBILITY **(Clause A7.1 of the Preliminaries)**

employer

project

Principal Contractor

We the Contractor, hereby indemnify and hold free :

- the engineer

- and the employer

for responsibility for any claim or proceeding whatsoever due to fault in the design, detailing, calculations, manufacturing and erection of the work to the extent that such design is undertaken by us. With regard to the assumption of such design responsibility, we undertake, in addition, to provide professional indemnity cover to the extent as may reasonably be required by the principal agent.

Summary description of works for which the Contractor accepts design responsibility:

Signed at _____ on this _____ day of _____

hereby agrees that the material and/or goods stored upon the above premises for the account of

Name of signatory

Capacity of authorised signatory

for and on behalf of the Applicant who by his
signature warrants authorisation hereto

As witness

C10.12 ANNEXURE L - HEALTH & SAFETY SPECIFICATIONS

HEALTH & SAFETY SPECIFICATIONS

The health and safety can be obtained from the Mandela Bay Theatre Complex and will be within accordance of the relevant regulation of South Africa construction industry.