



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

TENDER NO.: BL23/009

PROCUREMENT DOCUMENTS

FOR

**FICKSBURG MAGISTRATES OFFICE: UPGRADING OF
DB AND ELECTRICITY. INSTALLATION OF EIGHT (8)
AIR CONDITIONER SPLIT UNITS AND BACK-UP
GENERATOR TO THE EXISTING BUILDING:
DEPARTMENT OF JUSTICE AND CONSTITUTIONAL
DEVELOPMENT**

VOLUME 1 OF 3: TENDERING PROCEDURES

DEPARTMENT OF PUBLIC WORKS

Bloemfontein Regional Office
18 President Brand Street
Private Bag X20605
Bloemfontein
9300

ENQUIRIES

NAME: Mr C. DYANTYI
TEL: 051 408 7366
REF: 14/1/7/1/18/6718

NAME OF TENDERER: _____

CIDB NO.: _____

CSD NO.: _____

INDEX

DESCRIPTION	PAGE NO.	DOCUMENT
Cover Page		DPWI Procurement Document Cover Sheet
T1.1 Tender Notice and Invitation to Tender		Separation sheet
Notice and Invitation to Tender	1 to 9	PA-04(EC)
T1.2 Tender Data		Separation sheet
Tender Data	1 to 7	DPW-03(EC)
Further conditions of tender	1	Extension of DPW-03

T1.1 Tender Notice and Invitation to Tender

PA-04 (EC): NOTICE AND INVITATION TO TENDER

THE DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE INVITES TENDERS FOR:

Project title:	<i>Ficksburg Magistrate's Office: Upgrading of DB and Electricity, Installation of (8) eight air-conditioner split units and back-up Generator to the existing building</i>
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Tender no:	BL23/009	Reference no:	14/1/7/1/18/6718
Advertising date:	14 July 2023	Closing date:	08 August 2023
Closing time:	11:00	Validity period:	84 Calendar days

1. REQUIRED CIDB GRADING

It is estimated that tenderers should have a CIDB contractor grading designation of **3 EB** or **3 ME** or higher.
** Delete "or select tender value range select class of construction works" where only one class of construction works is applicable*

It is estimated that potentially emerging enterprises should have a CIDB contractor grading designation of **Not applicable PE** or **Not Applicable PE*** or higher.

** Delete "or select tender value range select class of construction works PE" where only one class of construction works is applicable*

2. RESPONSIVENESS CRITERIA

2.1 Substantive responsiveness criteria

Only tenderers who are responsive to the following substantive responsiveness criteria are eligible to submit tenders. Failure to comply with the criteria stated hereunder shall result in the tender offer being disqualified from further consideration:

1	☒	Only those tenderers who satisfy the eligibility criteria stated in the Tender Data may submit tenders.
2	☒	Tender offer must be properly received on the tender closing date and time specified on the invitation, fully completed either electronically (if issued in electronic format), or by writing legibly in non-erasable ink. (All as per Standard Conditions of Tender).
3	☒	Use of correction fluid is prohibited.
4	☒	Registration on National Treasury's Central Supplier Database.
5	☒	Submission of (DPW-07 EC): Form of Offer and Acceptance.
6	☒	Submission of DPW-09 (EC): Particulars of Tenderer's Projects.
7	☐	Submission of DPW-16 (EC): Site Inspection Meeting Certificate
8	☐	Submission of record of attending compulsory virtual bid clarification / site inspection meeting.
9	☐	Submission of DPW-21 (EC): Record of Addenda to tender documents
10	☒	The tenderer shall submit his fully priced Bills of Quantities / Lump Sum Document (complete document inclusive of all parts) together with his tender.

Tender no: BL23/009

11	☒	The tenderer shall submit his fully priced and completed sectional summary- and final summary pages with the tender.
12	☒	All parts of tender documents submitted must be fully completed in ink and signed where required
13	☐	

2.2 Administrative responsiveness criteria

The Employer reserves the right to request further information regarding the undermentioned criteria. Failing to submit further clarification and/or documentation within seven (7) calendar days from request or as specifically indicated, will disqualify the tender offer from further consideration.

1	☒	Any correction to be initialled by the person authorised to sign the tender documentation as per PA 15.1 or PA 15.2 resolution of board/s of directors / or PA15.3 Special Resolution of Consortia or JV's .
2	☒	Submission of applicable (PA-15.1, PA-15.2, PA-15.3): Resolution by the legal entity, or consortium / joint venture, authorising a dedicated person(s) to sign documents on behalf of the firm / consortium / joint venture.
3	☒	Submission of (PA-09 (EC)): List of Returnable Documents
4	☒	Submission of (PA-11): Bidder's disclosure.
5	☒	Submission of (PA-16): Preference Points Claim Form in terms of the Preferential Procurement Regulations 2022
6	☒	Submission of (PA 40): Declaration of Designated Groups for Preferential Procurement.
7	☒	Submission of proof of Registration on National Treasury's Central Supplier Database (CSD).
8	☐	Submission of DPW-15 (EC): Schedule of proposed sub-contractors
9	☐	The tenderer shall submit his fully priced Bills of Quantities (complete document inclusive of all parts) within 14 days from request.
10	☒	Upon request, submission of fingerprints obtainable from local SAPS including any other additional documentation and information required for vetting purposes.
11	☒	Upon request, submission of a fully completed security clearance application form with supporting documentation and information as required. The security clearance form will be provided by the Employer for projects requiring a security clearance.
12	☒	<i>Provide proof of compliance with pre-qualification criteria by submitting a valid, original or certified copy of B-BBEE certificate/sworn affidavit or DTI certificate together with the bidding documents at closure</i>

3. Method to be used to calculate points for specific goals

<u>For procurement transaction with rand value greater than R2 000, 00 and up to R1 Million (Inclusive of all applicable taxes) the specific goals listed below are applicable.</u>				
☐	Serial No	Specific Goals	Preference Points Allocated out of 20	Documentation to be submitted by bidders to validate their claim
	1.	An EME or QSE which is at least 51% owned by black people. (Bidders must submit all documents listed on the right)	10	ID Copy. SANAS Accredited BBEE Certificate/ Sworn Affidavit. CSD Report. CIPC (Company registration)

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

2.	Located in a specific Local Municipality or District Municipality or Metro or Province area for work to be done or services to be rendered in that area. (Located in the Free State Province)	2	Office Municipal Rates Statement. Permission to occupy from local chief in case of rural areas (PTO). Lease Agreement
3.	An EME or QSE which is at least 51% owned by women (Bidders must submit all documents listed on the right)	4	ID Copy CSD Report CIPC (Company Registrations)
4.	An EME or QSE which is at least 51% owned by people with disability.	2	Medical Certificate South African Social Security Agency (SASSA) Registration National Council for Persons with Physical Disability in South Africa registration (NCPDPSA)
5.	An EME or QSE which is at least 51% owned by youth.	2	ID Copy CSD Report CIPC

For procurement transaction with rand value greater than R1 Million and up to R50 Million (Inclusive of all applicable taxes) the specific goals listed below are applicable.



Serial No	Specific Goals	Preference Points Allocated out of 20	Documentation to be submitted by bidders to validate their claim
1.	An EME or QSE which is at least 51% owned by black people. (Bidders must submit all documents listed on the right)	10	ID Copy. SANAS Accredited BBBEE Certificate/ Sworn Affidavit. CSD Report. CIPC (Company registration)
2.	Located in a specific Local Municipality or District Municipality or Metro or Province area for work to be done or services to be rendered in that area. (Located in the Free State Province)	2	Office Municipal Rates Statement. Permission to occupy from local chief in case of rural areas (PTO). Lease Agreement
3.	An EME or QSE which is at least 51% owned by women (Bidders must submit all documents listed on the right)	4	ID Copy CSD Report CIPC (Company Registrations)



☐	4.	An EME or QSE which is at least 51% owned by people with disability.	2	Medical Certificate South African Social Security Agency (SASSA) Registration National Council for Persons with Physical Disability in South Africa registration (NCPDPSA)
	5.	An EME or QSE which is at least 51% owned by youth (Mandatory)	2	ID Copy CSD Report CIPC
	<u>For procurement transaction with rand value greater than R50 Million (Inclusive of all applicable taxes) the specific goals listed below are applicable.</u>			
	Serial No	Specific Goals	Preference Points Allocated out of 10	Documentation to be submitted by bidders to validate their claim
	1.	An EME or QSE which is at least 51% owned by black people. (Bidders must submit all documents listed on the right)	4	ID Copy. SANAS Accredited BBBEE Certificate/ Sworn Affidavit. CSD Report. CIPC (Company registration)
☐	2.	Located in a specific Local Municipality or District Municipality or Metro or Province area for work to be done or services to be rendered in that area. (Located in the Free State Province)	2	Office Municipal Rates Statement. Permission to occupy from local chief in case of rural areas (PTO). Lease Agreement
	3.	An EME or QSE which is at least 51% owned by women	2	ID Copy CSD Report CIPC (Company Registrations)
	4. ☐	An EME or QSE which is at least 51% owned by people with disability (Mandatory) OR	2	Medical Certificate South African Social Security Agency (SASSA) Registration National Council for Persons with Physical Disability in South Africa registration (NCPDPSA)
	5. ☐	An EME or QSE which is at least 51% owned by youth (Mandatory)	2	ID Copy CSD Report

		NB. (The use of this goal is mandatory however the BSC must select either one of the two and not both)		CIPC
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4. Functionality criteria:

Note: All bids involving the acquisition of engineering and construction works from cidb Grade 3 and above are subjected to functionality.

Note: Functionality will be applied as a prequalification criterion. Such criteria are used to establish minimum requirements where after bids will be evaluated solely on the basis of price and preference.

Functionality criteria:	Weighting factor:
N/A	N/A
Total	100 Points

(Weights for functionality must add up to 100. Weightings will be multiplied by the scores allocated during the evaluation process to arrive at the total functionality points)

Minimum functionality score to qualify for further evaluation:	N/A
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(Total minimum qualifying score for functionality is 50 Percent, any deviation below or above the 50 Percent, provide motivation below)

5. BID EVALUATION METHOD

This bid will be evaluated according to the preferential procurement model in the PPPFA: (Tick applicable preference point scoring system)

☒ 80/20 Preference points scoring system	☐ 90/10 Preference points scoring system	☐ Either 80/20 or 90/10 Preference points scoring system
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In case where below/above R 50 000 000 is selected, the lowest acceptable tender will be used to determine the applicable preference point system.

6. ELIGIBILITY IN RESPECT OF RISK TO THE EMPLOYER:

Standard risk management assessment criteria in respect of tenders received for routine projects in the engineering and construction works environments:

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

Tender offers will be evaluated by an Evaluation Committee based on the technical and commercial risk criteria listed hereunder. Each criterion carries the same weight / importance and will be evaluated individually based on reports presented to the Bid Evaluation Committee by the Professional Team appointed on the project. A tender offer will be declared non-responsive and removed from any further evaluation if any one criterion is found to present an unacceptable risk to the Employer.

In order for the evaluation reports to be prepared by the Professional Team, the Tenderer is obliged to provide comprehensive information on form DPW-09 (EC). Failure to complete the said form will cause the tender to be declared non-responsive and removed from any further consideration. The Employer reserves the right to request additional information over and above that which is provided by the Tenderer on said form. The information must be provided by the Tenderer within the stipulated time as determined by the Bid Evaluation Committee, failing which the tender offer will *mutatis mutandis* be declared non-responsive.

6.1 Technical risks:

Criterion 1: Experience on comparable projects during the past 5 years.

The tendering Service Provider's experience on comparable projects during the past 5 years. The number of current and previous comparable projects performed by the Tenderer as per the evaluation report prepared by the Consultant Team, based on its research and inspection of a representative sample of the Tenderer's current and previous work as reflected on form DPW-09 (EC), as well as, if necessary, of any additional work executed by the Tenderer, not reflected on form DPW-09 (EC). Failing to provide contactable references will result in the tender offer will be *mutatis mutandis* declared non-responsive.

Aspects to be regarded as "comparable" includes (but may be extended according to circumstances): size of projects (measured against monetary value or other project quantifying parameters), nature of projects (building, engineering, high/low rise, etc.), locality/area of execution (site-specific influences, knowledge of local conditions, etc.), complexity of project, projects for similar client department irrespective of end purpose of buildings/facilities created or in progress of being created and time scales of projects (normal, fast track, etc.) and stage of its/their development.

Criterion 2: Contractual commitment and quality of performance on comparable projects during the past 5 years.

Adherence to contractual commitments and quality of performance of comparable current and previous projects performed by the Tenderer during the past 5 years as per the evaluation report prepared by the Consultant Team, based on its research and inspection of a representative sample of the Tenderer's current and previous work as reflected on form DPW-09 (EC), as well as, if necessary, of any additional work executed by the Tenderer, not reflected on form DPW-09 (EC). Failing to provide contactable references will result in the tender offer be *mutatis mutandis* declared non-responsive.

Aspects to be considered include, but are not limited to the following:

1. The level of progress on current projects in relation to the project programme or, if such is not available/applicable, to the contractual construction period in general;
2. The degree to which previous projects have been completed within the contractual completion periods and/or extensions thereto, and the extend of penalties imposed;
3. Project performance: time management & programming of works, timeous ordering of materials and appointment of subcontractors;
4. Financial management: payment to suppliers and cash flow problems;
5. Quality of workmanship: extent of reworks and timeous attention to remedial works;
6. Personnel resources: suitably qualified and experienced, turnover in site staff and labour force, specifically site manager and foreman;
7. Personnel management: extent of labour disputes and ability to resolving labour disputes amicably;
8. Sub-contractors: extent of turnover in subcontractors, general liaison and payment problems experienced;
9. Contract administration: contractual aspects such as complying to laws and regulations, insurances, security, submission of required documentation timeously, reaction to written contract instructions, appointments of subcontractors, etc. as can generally be expected in standard/normal conditions of contract.

10. Health & Safety: adherence to regulations and compliance, and number of transgressions & serious incidents.
11. Plant & equipment: sufficient resources on site and in time.
12. Delays: extent of causing delays, submission of claims timeously, and abuse of or exaggerated delay claims.
13. Final account: extent to which the contractor assisted in finalising the final account.

Criterion 3: Suitably qualified and appropriately experienced human resources

Allocation of suitably qualified and appropriately experienced human resources, both in respect of principals and/or other staff (contract manager, site agent, site foreman including other professional, technical and/or administrative) of the tendering Service Provider to the project, as proof that the tendering Service Provider will be able to react/respond appropriately to the Services required herein. The Company Organogram with CV's and certified ID's of all principals and employed workforce as well as proof of Professional Registration will be verified. Current and future workload of the tenderer in relation to capacity and capability will also be considered. The tenderer should demonstrate that he or she possesses the necessary professional and technical qualifications and -competence in relation to the scope of work and work to be undertaken.

Criterion 4: Attendance of compulsory bid clarification meeting, if applicable

If applicable, submission of confirmation of DPW-16.1 (PSB) attendance of compulsory bid clarification meeting or proof of attending the compulsory virtual meeting by a suitably qualified and experienced representative of the tenderer in terms of PA-04 (EC): Notice and Invitation to Tender.

6.2 Commercial risks:

The financial viability assessment evaluates the risk over the life of the construction period, as to whether the tenderer will be able to deliver the goods and services which are specified in the contract and / or be able to fulfil guarantees or warranties provided for in the contract in order to complete the project successfully for the amount tendered.

Aspects to be considered include but are not limited to, the respective rates tendered, bank rating, financial capability and capacity whether the tenderer has or has access to sufficient financial resources to deliver the goods or services described in the tender documentation (including fulfilling any guarantees or warranty claims), whether the tenderer is not subject to any current or impending legal action (either formal proceedings or notification of legal action) which could impact on the financial standing of the tenderer or the delivery of the goods or services, financial report from auditors as proof of current liquidity, and company or any parent company or investor guarantee/s and financial statements.

7. CONTRACT PARTICIPATION GOAL TARGETS AND CIDB B.U.I.L.D. PROGRAMME

The contractor shall achieve in the performance of the contract the following Contract Participation Goals (CPGs) as described in PG-01.2 (EC): Scope of Work and PG-02.2 (EC): Pricing Assumptions and in accordance with the feasibility study, which forms part of the specifications in the CPG Section of the Specification of this contract.

(a)	Minimum Targeted Local Manufacturers of Material Contract Participation Goal, in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.	Not applicable
(b)	Minimum Targeted Local Building Material Suppliers Contract Participation Goal in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.	Not applicable



(c)	Minimum Targeted Local Labour Skills Development Contract Participation Goal in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.	Not applicable
(d)	cidb BUILD Programme: Minimum Targeted Enterprise Development Contract Participation Goal in accordance with the cidb Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, No 36190 Government Gazette, 25 February 2013, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.	Not applicable
(e)	cidb BUILD Programme: Minimum Targeted Contract Skills Development Goal in accordance with the cidb Standard for Developing Skills through Infrastructure Contracts as published in the Government Gazette Notice No. 43495 of 3 July 2020, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.	Not applicable

Tender no: BL23/009

(f)	DPWI National Youth Service training and development programme (NYS) – Condition of Contract.	Not applicable
(g)	Labour Intensive Works – Condition of Contract.	Not applicable
(h)		
(i)		

8. COLLECTION OF TENDER DOCUMENTS

- ☒ Bid documents are available for free download on e-Tender portal www.etenders.gov.za
- ☒ Alternatively; Bid documents may be collected during working hours at the following address
Department of Public Works and Infrastructure, 18 President Brand Street, Bloemfontein. A non-refundable bid deposit of **R 200.00** is payable (cash only) on collection of the bid documents.

9. SITE INSPECTION MEETING

A pre-tender site inspection meeting will **not be** held in respect of this tender.
Attendance of said pre- tender site inspection meeting is **not compulsory**.

The particulars for said pre- tender site inspection meeting or virtual bid clarification / site inspection meeting. are:

Venue:	N/A
Virtual meeting link:	N/A

Date:	N/A	Starting time:	N/A
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10. ENQUIRIES

Enquiries related to tender documents may be addressed to:

DPWI Project Manager:	Mr C Dyantyi	Telephone no:	051 408 7366
Cellular phone no:		Fax no:	
E-mail:	Camagu.dyantyi@dpw.gov.za		

11. DEPOSIT / RETURN OF TENDER DOCUMENTS

Telegraphic, telephonic, telex, facsimile, electronic and / or late tenders will not be accepted.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

All tenders must be completed in non-erasable ink and submitted on the official forms – (forms not to be re-typed).

Tender documents may be posted to: The Director-General Department of Public Works and Infrastructure Private Bag X 20605 Bloemfontein 9300 Attention: Procurement section: Room 233	OR	Deposited in the tender box at: Ground floor Public Works and Infrastructure 18 President Brand Street Bloemfontein
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12. COMPILED BY:

Mr C Dyantyi		
Name of Project Manager	Signature	Date

T1.2 Tender Data

DPW-03 (EC): TENDER DATA

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>
Reference no:	14/1/7/1/18/6718

Tender / Quotation no:	BL23/009	Closing date:	08 August 2023
Closing time:	11:00	Validity period:	12 Weeks (84 Calendar days)

Clause number:	
	The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Construction Procurement as per Government Notice No. 423 published in Government Gazette No. 42622 of 8 August 2019 and as amended from time to time. (see www.cidb.org.za). The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender. Each item of data given below is cross-referenced to the clause marked "C" in the above mentioned Standard Conditions of Tender.
C.1.1	The employer is the Government of the Republic of South Africa in its Department of Public Works and Infrastructure.
C.1.2	For this contract the three volume approach is adopted. This procurement document has been formatted and compiled under the headings as contained in the CIDB's "Standard for Uniformity in Construction Procurement." The three volume procurement document issued by the employer comprises the following: Volume 1: Tendering procedures T1.1 - Notice and invitation to tender (PA-04 EC) T1.2 - Tender data (DPW-03 EC) Volume 2: Returnable documents T2.1 - List of returnable documents (PA-09 EC) C1.1 - Form of offer and acceptance (DPW-07 EC) C1.2 - Contract Data T2.2 - Returnable schedules Volume 3: Contract Part C1: Agreement and contract data C1.2 - Contract data (Part 1: Data provided by employer) (DPW-04 EC or DPW-05 EC) C1.3 - Form of guarantee (DPW-10.1 EC / DPW-10.3EC or DPW-10.2 EC/DPW-10.4 EC) Part C2: Pricing data C2.1 - Pricing Assumptions (PG-02.2 EC or PG-02.1EC) C2.2 - Bills of Quantities / Lump sum document (if not a returnable document) Part C3: Scope of work C3 - Scope of work (PG-01.2 EC or PG-01.1EC) Part C4: Site information C4 - Site information (PG-03.2 EC or PG03.1EC)

Tender no: BL23/009

C.1.4	The Employer's agent is: <table border="1"> <tr> <td>Name:</td><td>Mr C Dyantyi</td></tr> <tr> <td>Capacity:</td><td>Departmental Project Manager</td></tr> <tr> <td>Address:</td><td>18 President Brand Street, Bloemfontein, 9301</td></tr> <tr> <td>Tel:</td><td>051 408 7366</td></tr> <tr> <td>Fax:</td><td>N/A</td></tr> <tr> <td>E-mail:</td><td>camagu.dyantyi@dpw.gov.za</td></tr> </table>	Name:	Mr C Dyantyi	Capacity:	Departmental Project Manager	Address:	18 President Brand Street, Bloemfontein, 9301	Tel:	051 408 7366	Fax:	N/A	E-mail:	camagu.dyantyi@dpw.gov.za
Name:	Mr C Dyantyi												
Capacity:	Departmental Project Manager												
Address:	18 President Brand Street, Bloemfontein, 9301												
Tel:	051 408 7366												
Fax:	N/A												
E-mail:	camagu.dyantyi@dpw.gov.za												
C.2.1 C.3.11	A. ELIGIBILITY IN RESPECT OF CIDB REGISTRATION: The following tenderers who are registered with the CIDB, or are *capable of being so registered prior to the evaluation of submissions, are eligible to have their tenders evaluated (* tenderers who are capable of being so registered, or who have applied for registration but have not yet received confirmation of such registration, must provide, <u>with this tender</u>, acceptable documentary proof thereof): a) contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for a 3 EB or 3 ME** class of construction work; and b) contractors registered as potentially emerging enterprises with the CIDB who are registered in one contractor grading designation lower than that required in terms of a) above: Not applicable Joint ventures are eligible to submit tenders provided that: 1. every member of the joint venture is registered with the CIDB; 2. the lead partner has a contractor grading designation in the 3 EB or 3 ME** class of construction work; and 3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations for a 3 EB or 3 ME** class of construction work ** Delete "or select tender value range select class of construction works" where only one class of construction works is applicable A contract will be entered into with a tenderer who has in his employ management and supervisory staff satisfying the requirements of the scope of work for labour intensive competencies for supervisory and management staff: Applicable												

Tender no: BL23/009

	B. ELIGIBILITY IN TERMS OF PRE-QUALIFICATION CRITERIA FOR PREFERENTIAL PROCURMENT: <table border="1"> <tr> <td> ☐ </td> <td> A tenderer having stipulated minimum B-BBEE status level of contributor: ☐ Level 1 or ☐ Level 2 or ☐ Level 3 </td> </tr> <tr> <td> ☒ </td> <td> ☒ An EME or ☒ A QSE or ☒ An EME or QSE </td> </tr> </table>	☐	A tenderer having stipulated minimum B-BBEE status level of contributor: ☐ Level 1 or ☐ Level 2 or ☐ Level 3	☒	☒ An EME or ☒ A QSE or ☒ An EME or QSE																								
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	C. INDICATE THE FUNCTIONALITY WEIGHTING APPLICABLE TO THIS BID: Note: All bids involving the acquisition of engineering and construction works from cidb Grade 4 and above are subjected to functionality. Note: Functionality will only be applied as a prequalification criterion. Such criteria are used to establish minimum requirements where after bids will be evaluated solely on the basis of price and preference. <table border="1"> <thead> <tr> <th>Functionality Criteria</th> <th>Weighting Factor</th> </tr> </thead> <tbody> <tr> <td></td> <td>N/A</td> </tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr> <td>Total</td> <td>100 Points</td> </tr> </tbody> </table> (Weightings will be multiplied by the scores allocated during the evaluation process to arrive at the total functionality points) <table border="1"> <tr> <td>Minimum functionality score to qualify for further evaluation:</td> <td>N/A</td> </tr> </table>	Functionality Criteria	Weighting Factor		N/A																					Total	100 Points	Minimum functionality score to qualify for further evaluation:	N/A
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Tender no: BL23/009

D. ELIGIBILITY IN RESPECT OF RISK TO EMPLOYER:

Standard risk management assessment criteria in respect of tenders received for routine projects in the engineering and construction works environments:

Tender offers will be evaluated by an Evaluation Committee based on the technical and commercial risk criteria listed hereunder. Each criterion carries the same weight / importance and will be evaluated individually based on reports presented to the Bid Evaluation Committee by the Professional Team appointed on the project. A tender offer will be declared non-responsive and removed from any further evaluation if any one criterion is found to present an unacceptable risk to the Employer.

In order for the evaluation reports to be prepared by the Professional Team, the Tenderer is obliged to provide comprehensive information on form DPW-09 (EC). Failure to complete the said form will cause the tender to be declared non-responsive and removed from any further consideration. The Employer reserves the right to request additional information over and above that which is provided by the Tenderer on said form. The information must be provided by the Tenderer within the stipulated time as determined by the Bid Evaluation Committee, failing which the tender offer will *mutatis mutandis* be declared non-responsive.

D.1 Technical risks:

Criterion 1: Experience on comparable projects during the past 5 years.

The tendering Service Provider's experience on comparable projects during the past 5 years. The number of current and previous comparable projects performed by the Tenderer as per the evaluation report prepared by the Consultant Team, based on its research and inspection of a representative sample of the Tenderer's current and previous work as reflected on form DPW-09 (EC), as well as, if necessary, of any additional work executed by the Tenderer, not reflected on form DPW-09 (EC). Failing to provide contactable references will result in the tender offer will be *mutatis mutandis* declared non-responsive.

Aspects to be regarded as "comparable" includes (but may be extended according to circumstances): size of projects (measured against monetary value or other project quantifying parameters), nature of projects (building, engineering, high/low rise, etc.), locality/area of execution (site-specific influences, knowledge of local conditions, etc.), complexity of project, projects for similar client department irrespective of end purpose of buildings/facilities created or in progress of being created and time scales of projects (normal, fast track, etc.) and stage of its/their development.

Criterion 2: Contractual commitment and quality of performance on comparable projects during the past 5 years.

Adherence to contractual commitments and quality of performance of comparable current and previous projects performed by the Tenderer on comparable projects during the past 5 years as per the evaluation report prepared by the Consultant Team, based on its research and inspection of a representative sample of the Tenderer's current and previous work as reflected on form DPW-09 (EC), as well as, if necessary, of any additional work executed by the Tenderer, not reflected on form DPW-09 (EC). Failing to provide contactable references will result in the tender offer be *mutatis mutandis* declared non-responsive.

Aspects to be considered include, but are not limited to the following:

1. The level of progress on current projects in relation to the project programme or, if such is not available/applicable, to the contractual construction period in general;
2. The degree to which previous projects have been completed within the contractual completion periods and/or extensions thereto, and the extend of penalties imposed;

Tender no: BL23/009

	3. Project performance: time management & programming of works, timeous ordering of materials and appointment of subcontractors; 4. Financial management: payment to suppliers and cash flow problems; 5. Quality of workmanship: extent of reworks and timeous attention to remedial works; 6. Personnel resources: suitably qualified and experienced, turnover in site staff and labour force, specifically site manager and foreman; 7. Personnel management: extent of labour disputes and ability to resolving labour disputes amicably; 8. Sub-contractors: extent of turnover in subcontractors, general liaison and payment problems experienced; 9. Contract administration: contractual aspects such as complying to laws and regulations, insurances, security, submission of required documentation timeously, reaction to written contract instructions, appointments of subcontractors, etc. as can generally be expected in standard/normal conditions of contract. 10. Health & Safety: adherence to regulations and compliance, and number of transgressions & serious incidents. 11. Plant & equipment: sufficient resources on site and in time. 12. Delays: extent of causing delays, submission of claims timeously, and abuse of or exaggerated delay claims. 13. Final account: extent to which the contractor assisted in finalising the final account. Criterion 3: Suitably qualified and appropriately experienced human resources Allocation of suitably qualified and appropriately experienced human resources, both in respect of principals and/or other staff (contract manager, site agent, site foreman including other professional, technical and/or administrative) of the tendering Service Provider to the project, as proof that the tendering Service Provider will be able to react/respond appropriately to the Services required herein. The Company Organogram with CV's and certified ID's of all principals and employed workforce as well as proof of Professional Registration will be verified. Current and future workload of the tenderer in relation to capacity and capability will also be considered. The tenderer should demonstrate that he or she possesses the necessary professional and technical qualifications and -competence in relation to the scope of work and work to be undertaken. Criterion 4: Attendance of compulsory bid clarification meeting, if applicable If applicable, submission of confirmation of DPW-16.1 (PSB) attendance of compulsory bid clarification meeting or proof of attending the compulsory virtual meeting by a suitably qualified and experienced representative of the tenderer in terms of PA-04 (EC): Notice and Invitation to Tender. D.2 Commercial risks: The financial viability assessment evaluates the risk over the life of the construction period, as to whether the tenderer will be able to deliver the goods and services which are specified in the contract and / or be able to fulfil guarantees or warranties provided for in the contract in order to complete the project successfully for the amount tendered. Aspects to be considered include but are not limited to, the respective rates tendered, bank rating, financial capability and capacity whether the tenderer has or has access to sufficient financial resources to deliver the goods or services described in the tender documentation (including fulfilling any guarantees or warranty claims), whether the tenderer is not subject to any current or impending legal action (either formal proceedings or notification of legal action) which could impact on the financial standing of the tenderer or the delivery of the goods or services, financial report from auditors as proof of current liquidity, and company or any parent company or investor guarantee/s and financial statements.
C.2.7	For particulars regarding a pre-tender site inspection meeting, see Notice and Invitation to Tender T1.1

Tender no: BL23/009

C.2.12	If a tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements. A tenderer may submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. Provided that the tenderer's main tender offer is according to specification and would under normal circumstances be recommended for acceptance, his alternative tender offer may also be considered for the purpose of the award of the contract. Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal. Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements. The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed. Alternative tender offer permitted: Yes ☐ No ☒
C.2.13.2	The list of Returnable Documents identifies which of the documents a tenderer must complete when submitting a tender offer. The tenderer must submit his tender offer by completing the Returnable Documents, signing the "Offer" section in the "Form of Offer and Acceptance" and delivering the Returnable Documents back to the Department.
C.2.13.5	The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are as per Notice and Invitation to Tender T1.1.
C.2.13.6 C.3.5	A two-envelope procedure will not be followed.
C.2.15	The closing time for submission of tender offers is as per Notice and Invitation to Tender T1.1.
C.2.16	The tender offer validity period is as per Notice and Invitation to Tender T1.1.
C2.16.3	Omit the wording of the last sentence for those projects which are subject to CPAP
C.2.18	The tenderer will be required to submit his fully priced Bills of Quantities / Lump Sum Document (complete document inclusive of all parts): ☒ Together with his tender; or ☐ The tenderer shall submit his fully priced and completed sectional summary- and final summary pages with the tender and thereafter submit the fully completed Bills of Quantities within fourteen (14) calendar days of the date requested to do so prior to the award of the contract.
C.2.19	Access shall be provided for inspections, tests and analysis as may be required by the Employer.
C.3.4.1 C.3.4.2	The location for opening of the tender offers, immediately after the closing time thereof shall be at: 18 President Brand street, Bloemfontein 9301, Ground floor
C.3.8	The words "responsive tender" and "acceptable tender" shall be construed to have the same meaning.

Tender no: BL23/009

C.3.9.3	Omit the wording and replace with the following: "Notify the tenderer of all errors, omissions and/or rate imbalances that are identified in the tender offer and request the tenderer to, within a stipulated time, accept the total of prices as corrected in accordance with C.3.9.4."
C.3.9.4	Omit the wording of the first sentence and replace with the following: "In cases where tender offers contain errors, omissions and/or rate imbalances, these are to be corrected as follows:"
C.3.9.4	Add sub paragraph c) to C.3.9.4, as follows: "c) If the tenderer does not accept the corrected tender offer, or cannot reach consensus with the Employer on a corrected tender offer, the tender is to be classified as not acceptable/non responsive and removed from further contention."
C.3.11.1	The procedure for the evaluation of responsive tenders is Method 2: Financial Offer and Preference.
C.3.13	Add the following to sub paragraph a), as follows: The tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act, 2004 (Act No. 12 of 2004) as a person prohibited from doing business with the public sector;
C.3.17	Provide to the successful tenderer one copy of the signed contract document.



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

Further Conditions of Tender (Extension of DPW03)

COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT (COIDA):

In compliance with the Compensation for Occupational Injuries and Diseases Act (COIDA), site handover to the successful bidder will only take place once he/she has provided a valid "Proof of Registration" or "letter of Good Standing" issued by the Compensation Commissioner, clearly specifying the nature of business which must be within the relevant category.

SECURITY CLEARANCE:

In compliance with the Department's Internal Security Policy drafted in terms of the Minimum Information Security Standards (MISS) and other security legislation, no service provider shall render any service to the Department without the necessary security clearance.

Bidders will thus be subjected to, and must pass a Security Clearance check undertaken by the Department.

The Department reserves the right to cancel an award/contract should the bidder fail to pass the Security Clearance check. Any adverse outcome could result in the contract being terminated, without prejudice to the Department.

QUALIFICATION OF PERSON UNDERTAKING ELECTRICAL WORK:

Site handover to the successful bidder will only take place once he/she has submitted acceptable proof of accreditation of the person undertaking any electrical work and which person will thereafter issue the Electrical Certificate of Compliance. The individual must be registered with the Department of Labour as an installation electrician as a minimum. The designer and installer of the fire detection must also be registered with the SAQCC: Fire.



public works
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Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

TENDER NO.: BL23/009

PROCUREMENT DOCUMENTS

FOR

**FICKSBURG MAGISTRATES OFFICE: UPGRADING OF
DB AND ELECTRICITY. INSTALLATION OF EIGHT (8)
AIR CONDITIONER SPLIT UNITS AND BACK-UP
GENERATOR TO THE EXISTING BUILDING:
DEPARTMENT OF JUSTICE AND CONSTITUTIONAL
DEVELOPMENT**

VOLUME 2 OF 3: RETURNABLE DOCUMENTS

DEPARTMENT OF PUBLIC WORKS

Bloemfontein Regional Office
18 President Brand Street
Private Bag X20605
Bloemfontein
9300

ENQUIRIES

NAME: Mr C. DYANTYI
TEL: 051 408 7366
REF: 14/1/7/1/18/6718

NAME OF TENDERER: _____

CIDB NO.: _____

CSD NO.: _____

INDEX

Description	PAGE NO.	DOCUMENT
Cover Page		DPWI Procurement Document Cover Sheet
T2.1 List of Returnable Documents		Separation sheet
List of Returnable Documents	1 to 4	PA-09(EC)
C1.1 Form of Offer and Acceptance		Separation sheet
Form of Offer and Acceptance	1 to 4	DPW-07(EC)
C2.2 Bills of Quantities		Separation sheet
Bills of Quantities	1 to 49	Departmental pro-forma document
Electrical installation supplementary specification	1 to 31	Specification and schedules
Generator specification	1 to 34	Specification and schedules
Technical specifications for heating, ventilation and air-conditioning	1 to 23	Specification
T2.2 Returnable Documents required for tender evaluation purposes		Separation sheet
Declaration of Interest and Tenderer's Past Supply Chain Management Practices	1 to 3	PA-11
Resolution of Board of Director	1 to 2	PA-15.1
Resolution of Board of Directors to enter into Consortia or Joint Ventures	1 to 2	PA-15.2
Special Resolution of Consortia or Joint Venture	1 to 3	PA-15.3
Preference Points Claim Form in terms of the Preferential Procurement Regulations 2011	1 to 10	PA-16
Particulars of Tenderer's Projects	1 to 2	DPW-09(EC)
Guidance document for the calculation of local content	15 pages	Local content guidance document
Declaration certificate for local production and content for designated sectors	1 to 4	PA-36
1 Annex (C,D,E)	1 to 4	Local content- Steel products
2 Annex (C,D,E)	1 to 4	Local content- Low voltage electrical cables
3 Annex (C,D,E)	1 to 3	Local content- HDPE pipes
4 Annex (C,D,E)	1 to 3	Local content- Air conditioning
T2.2 Returnable Documents that will be incorporated into the contract		Separation sheet
Declaration of Designated Groups for Preferential Procurement	1 to 2	PA-40
Record of Addenda to tender documents	1 to 1	DPW-21(EC)

Schedule of proposed subcontractors	1 to 1	DPW-15 (EC)
Particulars of Electrical Contractor	1 to 1	DPW-22(EC)
Schedule for Imported Materials and Equipment	1 to 1	DPW-23(EC)

T2.1 List of Returnable Documents

PA-09 (EC): LIST OF RETURNABLE DOCUMENTS

Project title:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development		
Tender / Quotation no:	BL23/009	Reference no:	14/1/7/1/18/6718
Receipt Number:			

1. RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

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

Tender document name	Number of pages issued	Returnable document
Form of Offer and Acceptance (DPW-07 EC)	4 Pages	Yes
Submission of Bidder's disclosure (PA-11)	3 Pages	Yes
Resolution of Board of Directors (PA-15.1) <i>(if applicable)</i>	1 Page	Yes
Resolution of Board of Directors to enter into Consortia or JV's (PA-15.2) <i>(if applicable)</i>	2 Pages	Yes
Special Resolution of Consortia or JV's (PA-15.3) <i>(if applicable)</i>	3 Pages	Yes
Preference points claim form in terms of the Preferential Procurement Regulations 2017 (PA – 16.1)	5 Pages	Yes
Declaration Certificate for Local Production and Content for designated sectors (PA – 36 and Annexure/s C)		Yes
Fully completed Declaration of Designated Groups for Preferential Procurement (PA 40)	2 Pages	Yes
Registration on National Treasury's Central Supplier Database (CSD).	-	Yes
Particulars of Tenderer's Projects (DPW-09 EC)	2 Pages	Yes
Site Inspection Meeting Certificate (DPW-16 EC) <i>(if applicable)</i> .	1 Page	N/A
Record of attending compulsory virtual bid clarification / site inspection meeting <i>(if applicable)</i> .	1 Page	N/A
Record of Addenda to tender documents (DPW-21 EC)	1 Page	Yes
Proof of 30% Subcontracting participation and related documents in terms of the Preferential Procurement Regulations 2017 <i>(if applicable)</i> .		N/A
PA36: Declaration Certificate for Local Production and Content for Designated sectors	4 Pages	Yes
Steel products (1 annex C,D,E)	4 Pages	Yes
Low voltage electrical cables (2 annex C,D,E)	4 Pages	Yes
HDPE pipes (3 annex C,D,E)	3 Pages	Yes
Air-conditioner installation (4 annex C,D,E)	3 Pages	Yes
Preference Points Claim Form in terms of the Preferential Procurement Regulations 2011	10 Pages	Yes

Tender / Quotation no: BL23/009

2. ADDITIONAL RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

Note: Failure to submit the applicable documents will result in the Tenderer having to submit same upon request within a stipulated time and if not complied with, will result in the tender offer being disqualified from further consideration. [See also C.2.18 of the Standard Conditions of Tender]

Tender document name	Number of pages issued	Returnable document
Any <u>additional</u> information required to complete a risk assessment (<i>if applicable</i>)	-	Yes
Any correction to be initialled by the person authorised to sign the tender documentation as per PA 15.1 or PA 15.2 resolution of board/s of directors / or PA15.3 Special Resolution of Consortia or JV's .		
Submission of applicable (PA-15.1, PA-15.2, PA-15.3): Resolution by the legal entity, or consortium / joint venture, authorising a dedicated person(s) to sign documents on behalf of the firm / consortium / joint venture.		

3. RETURNABLE DOCUMENTS THAT WILL BE INCORPORATED INTO THE CONTRACT

Note: Failure to submit the applicable documents will result in the Tenderer having to submit same upon request within a stipulated time and if not complied with, will result in the tender offer being disqualified from further consideration. [See also C.2.18 of the Standard Conditions of Tender]

Tender document name	Number of pages issued	Returnable document
Schedule of proposed sub-contractors (DPW-15 EC) (<i>if applicable</i>)	1 Page	Yes
Particulars of Electrical Contractor (DPW-22 EC) (<i>if applicable</i>)	1 Page	Yes
Mechanical / Electrical / Security Work material and equipment schedules (<i>if applicable</i>)	88 Pages	Yes
Schedule for Imported Materials and Equipment (DPW-23 EC) (<i>if applicable</i>)	1 Page	Yes

4. OTHER DOCUMENTS THAT WILL BE INCORPORATED INTO THE CONTRACT

(Insert a tick in the "Returnable document" column to indicate which documents must be returned with the tender)

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

Tender document name	Number of pages issued	Returnable document
Priced Bills of Quantities / Lump Sum Document (complete document inclusive of all parts)	49 Pages	☒ Yes ☐ No

Fully priced and completed sectional summary- and final summary pages with the tender.	Pages	☐ Yes ☐ No
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Tender / Quotation no: BL23/009

Tender document name	Number of pages issued	Returnable document
	Pages	☐ Yes ☐ No
	Pages	☐ Yes ☐ No
	Pages	☐ Yes ☐ No

5. ADDITIONAL INFORMATION THAT MAY BE REQUIRED FOR TENDER EVALUATION PURPOSES

Legal Status of Tendering Entity: If the Tendering Entity is:	Documentation to be submitted with the tender, or which may be required during the tender evaluation:
a. A close corporation, incorporated prior to 1 May 2011 under the Close Corporations Act, 1984 (Act 69 of 1984, as amended)	Copies of the Founding Statement – CK1
b. A profit company duly registered as a private company. [including a profit company that meets the criteria for a private company, whose Memorandum of Incorporation states that the company is a personal liability company in terms of Section 8(2)(c) of the Companies Act, 2008 (Act 71 of 2008, as amended)].	Copies of: i. Certificate of Incorporation – CM1; ii. Shareholding Certificates of all Shareholders of the company, plus a signed statement of the company's Auditor, certifying each Shareholder's ownership / shareholding percentage relative to the total; and/or iii. Memorandum of Incorporation in the case of a personal liability company.
c. A profit company duly registered as a private company in which any, or all, shares are held by one or more other close corporation(s) or company(ies) duly registered as profit or non-profit company(ies).	Copies of documents referred to in a. and/or b. above in respect of all such close corporation(s) and/or company(ies).
d. A profit company duly registered as a public company.	Copy of Certificate of Incorporation – CM1, and a signed statement of the company's Secretary or Auditor confirming that the company is a public company.
e. A non-profit company, incorporated in terms of Section 10 and Schedule 1 of the Companies Act, 2008 (Act 71 of 2008, as amended).	Copies of: i the Founding Statement – CK1; and ii the Memorandum of Incorporation setting out the object of the company, indicating the public benefit, cultural or social activity, or communal or group interest.
f. A natural person, sole proprietor or a Partnership	Copy(ies) of the Identity Document(s) of: i. such natural person/ sole proprietor, or each of the Partners to the Partnership.
g. A Trust	Deed of Trust duly indicating names of the Trustee(s) and Beneficiary (ies) as well as the purpose of the Trust and the mandate of the Trustees.

Signed by the Tenderer



Name of representative	Signature	Date

C1.1 Form of Offer and Acceptance

DPW-07 (EC): FORM OF OFFER AND ACCEPTANCE

Project title:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development		
Tender / Quotation no:	BL23/009	Reference no:	14/1/7/1/18/6718

OFFER

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

Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development

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

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

THE TOTAL OFFER INCLUSIVE OF ALL APPLICABLE TAXES (All applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies) **IS:**

Rand (in words):	
Rand in figures:	R

The amount in words takes precedence over the amount in figures. The award of the tender may be subjected to further price negotiation with the preferred tenderer(s). The negotiated and agreed price will be considered for acceptance as **a firm and final offer**.

This offer may be accepted by the Employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the tender data, whereupon the Tenderer becomes the party named as the Contractor in the conditions of contract identified in the contract data.

THIS OFFER IS MADE BY THE FOLLOWING LEGAL ENTITY: (cross out block which is not applicable)

Company or Close Corporation: And: Whose Registration Number is: And: Whose Income Tax Reference Number is: CSD supplier number:.....	OR	Natural Person or Partnership: Whose Identity Number(s) is/are: Whose Income Tax Reference Number is/are: CSD supplier number:.....
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*Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

**Any reference to the words "payment reduction" herein shall be construed to have the same meaning as the word "retention"

Tender / Quotation no: BL23/009

AND WHO IS (if applicable):	
Trading under the name and style of:	
AND WHO IS:	
Represented herein, and who is duly authorised to do so, by: Mr/Mrs/Ms: In his/her capacity as:	Note: A Resolution / Power of Attorney, signed by all the Directors / Members / Partners of the Legal Entity must accompany this Offer, authorising the Representative to make this offer.

SIGNED FOR THE TENDERER:

Name of representative	Signature	Date

WITNESSED BY:

Name of witness	Signature	Date

This Offer is in respect of: (Please indicate with an "X" in the appropriate block)

- The official documents ☐
- The official alternative ☐
- Own alternative (only if documentation makes provision therefore) ☐

(N.B.: Separate Offer and Acceptance forms are to be completed for the main and for each alternative offer)

SECURITY OFFERED:

- (a) the Tenderer accepts that in respect of contracts up to R1 million, a payment reduction** of 5% of the contract value (excluding VAT) will be applicable and will be deducted by the Employer in terms of the applicable conditions of contract
- (b) in respect of contracts above R1 million, the Tenderer offers to provide security as indicated below:
- (1) cash deposit of 10 % of the Contract Sum (excluding VAT) Yes ☐ No ☐
 - (2) variable construction guarantee of 10 % of the Contract Sum (excluding VAT) Yes ☐ No ☐
 - (3) payment reduction of 10% of the value certified in the payment certificate (excluding VAT) Yes ☐ No ☐
 - (4) cash deposit of 5% of the Contract Sum (excluding VAT) and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT) Yes ☐ No ☐
 - (5) fixed construction guarantee of 5% of the Contract Sum (excluding VAT) and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT) Yes ☐ No ☐

NB. Guarantees submitted must be issued by either an insurance company duly registered in terms of the Insurance Act [Long-Term Insurance Act, 1998 (Act 52 of 1998) or Short-Term Insurance Act, 1998 (Act 35 of 1998)] or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

*Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

**Any reference to the words "payment reduction" herein shall be construed to have the same meaning as the word "retention"

Tender / Quotation no: BL23/009

The Tenderer elects as its *domicilium citandi et executandi* in the Republic of South Africa, where any and all legal notices may be served, as (physical address):

.....
.....

Other Contact Details of the Tenderer are:

Telephone No..... Cellular Phone No.

Fax No

Postal address

Banker Branch.....

Registration No of Tenderer at Department of Labour

CIDB Registration Number:

ACCEPTANCE

By signing this part of this form of offer and acceptance, the Employer identified below accepts the Tenderer's offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the Tenderer's offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract are contained in:

Part C1 Agreement and contract data, (which includes this agreement)

Part C2 Pricing data

Part C3 Scope of work

Part C4 Site information and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the contract data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five (5) working days of the date of such receipt notifies the employer in writing of any reason why he/she cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

For the Employer:

Name of signatory	Signature	Date

*Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

**Any reference to the words "payment reduction" herein shall be construed to have the same meaning as the word "retention"

Tender / Quotation no: BL23/009

Name of Organisation:	Department of Public Works and Infrastructure
Address of Organisation:	18 PRESIDENT BRAND STREET ,BLOEMFONTEIN

WITNESSED BY:

Name of witness	Signature	Date

Schedule of Deviations

1.1.1. Subject:
Detail:
1.1.2. Subject:
Detail:
1.1.3. Subject:
Detail:
1.1.4. Subject:
Detail:
1.1.5. Subject:
Detail:
1.1.6. Subject:
Detail:

By the duly authorised representatives signing this agreement, the Employer and the Tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

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

*Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

**Any reference to the words "payment reduction" herein shall be construed to have the same meaning as the word "retention"

C2.2 Bills of Quantities

DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

BILLS OF QUANTITIES

Comprising of:

Section 1 - Preliminaries and General

Section 2 - Bill of Quantities: Ficksburg Magistrate Court

Part A - Electrical installation

Part B - Mechanical installation

Section 3: Final Summary

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	PART 1A: PRELIMINARY AND GENERAL The agreement is to be the General Conditions of Contract (GCC 2010) (Second Edition), Published by the SA Institution of Civil Engineering. The preliminaries are to be the Construction and management requirements for works contracts - Part 1: General engineering and construction works (SANS 1921 -1: 2004 Edition 1) prepared by Standards South Africa and shall be deemed to be incorporated herein. Tenderers are referred to the abovementioned documents for the full intent and meaning of each clause thereof (hereinafter referred to by heading and clause number only) for which such allowance must be made as may be considered necessary. Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading. Where any item is not relevant to this specific contract such items is marked N/A (signifying "not applicable"). Adjustment of the preliminaries: each item priced, is to be allocated to one or more of the three categories, where "F" denotes a fixed amount (amount not to be varied), "V" denotes an amount variable in proportion to value and "T" denotes an amount in proportion to time. Time (T) related Preliminaries will only be adjusted for omissions or additions, issued by the Employer, or delays caused by the Employer, for which variation and extension of time has been granted. SECTION A: GENERAL CONDITIONS OF CONTRACT				
A1	General (Clause 1) F: V: T:	Item			
A2	Basis of Contract (Clause 2) F: V: T:	Item			
A3	Engineer (Clause 3) F: V: T:	Item			
A4	Contractor's General Obligation (Clause 4) F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
A5	Time and Related Matters (Clause 5) F: V: T:	Item			
A6	Payment and Related Matters (Clause 6) F: V: T:	Item			
A7	Quality and Related Matters (Clause 7) F: V: T:	Item			
A8	Risk and Related Matters (Clause 8) F: V: T:	Item			
A9	Termination of Contract (Clause 9) F: V: T:	Item			
A10	Claims and Disputes (Clause 10) F: V: T:	Item			
	SECTION B: SANS 1921-1:2004 (Edition 1): CONSTRUCTION AND MANAGEMENT REQUIREMENTS FOR WORKS CONTRACTS: PART 1				
B1	Scope F: V: T:	Item			
B2	Normative references F: V: T:	Item			
B3	Definitions F: V: T:	Item			
B4	Requirements for construction and management F: V: T:	Item			
B4.1	General F: V: T:	Item			
B4.2	Responsibilities for design and construction F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
B4.3	Planning, programme and method statements F: V: T:	Item			
B4.4	Quality assurance F: V: T:	Item			
B4.5	Settling out F: V: T:	Item			
B4.6	Management and disposal of water F: V: T:	Item			
B4.7	Blasting F: V: T:	Item			
B4.8	Works adjacent to services and structures F: V: T:	Item			
B4.9	Management of the works and site F: V: T:	Item			
B4.10	Earthworks F: V: T:	Item			
B4.11	Testing F: V: T:	Item			
B4.12	Materials, samples and fabrication drawings F: V: T:	Item			
B4.13	Equipment F: V: T:	Item			
B4.14	Site establishment F: V: T:	Item			
B4.15	Survey control F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
B4.16	Temporary works F: V: T:	Item			
B4.17	Existing services F: V: T:	Item			
B4.18	Health and safety F: V: T:	Item			
B4.19	Environmental requirements F: V: T:	Item			
B4.20	Alterations, additions, extentions and modifications to existing works F: V: T:	Item			
B4.21	Inspection of adjoining structures, services, buildings and property. F: V: T:	Item			
B4.22	Attendance on nominated and selected subcontractors F: V: T:	Item			
	SECTION C: SCOPE OF WORK IN ACCORDANCE WITH SANS 10403 (The reference to clauses refer to table B.1 of SANS 1921-1:2004)				
C1	Cerification by recognised bodies - (Clause 4.4) F: V: T:	Item			
C2	Agrèment - (Clause 4.5) F: V: T:	Item			
C3	Other services and facilities - (Clause 4.8) F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
C4	Recording of weather - (Clause 5.2) F: V: T:	Item			
C5	Management meetings - (Clause 5.3) F: V: T:	Item			
C6	Daily records - (Clause 5.6) F: V: T:	Item			
C7	Permits - (Clause 5.9) F: V: T:	Item			
C8	Proof of compliance with the law - (Clause 5.10) F: V: T:	Item			
	SECTION D: SPECIFICATION DATA ASSOCIATED WITH SANS 1921-1:2004 (Table A.1)				
D1	Requirements for drawings, information and calculations for which the contractor is responsible - (Clause 4.1.7) F: V: T:	Item			
D2	The planning, programme and method statements- (Clause 4.3) F: V: T:	Item			
D3	Samples of materials. Workmanships and finishes - (Clause 4.12.1) F: V: T:	Item			
D4	Fabrication drawings that the contractor is to provide and deliver to the employer - (Clause 4.12.2) F: V: T:	Item			
D5	Office for the foreman - (Clause 4.14.3) F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
D6	Telephone - (Clause 4.14.3) F: V: T:	Item			
D7	Office for inspector of works - (Clause 4.14.3) F: V: T:	Item			N/A
D8	Telephone in office for inspector of works - (Clause 4.14.3) F: V: T:	Item			N/A
D9	Provision and erection of signboards - (Clause 4.14.6) F: V: T:	Item			
D10	Termination, diversion or maintenance of existing services - (Clause 4.17.1) F: V: T:	Item			
D11	Services which are known to exist - (Clause 4.17.3) F: V: T:	Item			
D12	Detection apparatus - (Clause 4.17.4) F: V: T:	Item			
D13	Additional health and safety requirements - (Clause 4.18) F: V: T:	Item			
	SECTION E: SPECIFIC PRELIMINARIES (Section E contains specific preliminaries items which apply to this contract except where "N/A" (Not applicable) appears against the item.				
E1	WORKING OVER THE WEEKEND Contractor to make allowance to work over the weekend in order to allow for the disconnection of utilities and the connection of the generator. The weekend to be used for disconnection and connection and must be communicated to the Department two weeks in advance. F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E2	SITE INSTRUCTIONS Site instructions issued on site are to be recorded in triplicate in a Site Instruction book which is to be maintained on site by the Contractor F: V: T:	Item			
E3	PLANT RECORD At every site meeting, the Contractor shall provide the Engineer/Principal agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools, currently used on the works. F: V: T:	Item			
E4	SITE OFFICE The Contractor is to allow for the provision and removal of a site office in accordance with the Principal Agent's requirements. To accommodate 6 persons. F: V: T:	Item			
E5	TRADE NAMES Wherever a Trade Name for any product has been described in the Bill of Quantities, the Bidder's attention is drawn to the fact that any other product of equal quality may be used, subject to the written approval of the Principal Agent being obtained prior to the closing date for the submission of the Bids. F: V: T:	Item			
E6	INACCURATE AND DEFECTIVE WORK EXECUTED UNDER PREVIOUS CONTRACT The contractor shall, after taking possession of the site and before commencing the work, check all levels, liners, profiles and the like and satisfy himself as to the dimensional accuracy of all work executed under the previous contract which may affect his work. Should any inaccurate or defective work be found, the contractor shall immediately notify the principal agent in writing requesting his instructions with regard thereto and afford every facility to those rectifying such inaccurate or defective work. F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E7	VIEWING THE SITE IN SECURITY AREAS If the site is situated in a security area and the bidder must arrange with the Authorities to obtain permission to enter the site for Bidding purposes. F: V: T:	Item			
E8	COMMENCEMENT OF WORKS IN SECURITY AREAS If the works falls within a security area, the contractor must arrange with the Authorities and give the necessary notices before commencement of the works. Should the contractor fail to make such arrangements, admission to the site may be refused and any additional costs will be for the contractor's account. F: V: T:	Item			
E9	ENTRANCE PERMITS TO SECURITY AREAS If the works falls within a security area, the contractor shall obtain entrance permits for his personnel and workmen entering the area and shall comply with all regulations and instructions which be issued from the time to time regarding the protection of persons and property under the control of the Authority. F: V: T:	Item			
E10	PROHIBITION ON TAKING PHOTOGRAPHS In terms of article 119 of the Defence Act, 44 of 1957, it is prohibited to sketch or to take photographs of any military site or installation or any building or civil works thereon or to be in possession of a camera or other apparatus used for taking photographs, except when authorised thereto by or on behalf of the Minister The same prohibition is also applicable to all Correctional Institutions in terms of article 44.1 of the Correctional Services Act 8 of 1959. F: V: T:	Item			
E11	TOILET FACILITIES Allow for the supply and removal of portable toilet facilities. The contractor is to maintain the cleanliness of the facilities throughout the contract period. The contractor must provide enough toilets for his/her entire workforce. F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E12	MANAGEMENT OF WATER Water for Construction puposes must be obtained from alternative water sources (i.e. supply other than water that is produced and distributed by a regulated water service authority from a licensed water treatment works for human consumption), e.g. dams, rivers, boreholes, springs, rainwater harvesting, recycled sewerage water, etc. The alternative water source shall not be of an inferior quality/ standard than that required for construction puposes. The client reserves the right through his agents to test such supplies or request certificates confirming the grade and nature of the water supply. Relevant knowledge of the respective area will be an advantage. F: V: T:	Item			
E13	OCCUPATIONAL HEALTH AND SAFETY ACT & CONSTRUCTION REGULATIONS It is required of the Contractor to thoroughly study the Health and Safety specification that must be read together with and is deemed to be incorporated under this section of the Bill of Quantities. Provision for pricing thereof is made under items E12.1 to E12.15 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained. The contractor must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety specification is compulsory. In the event of partial or total non-compliance, the Principal Agent , notwithstanding the provisions of Clause 6 of Section 1: Preliminaries (Part A) or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the Contractor provides satisfactory proof of compliance. The Contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment. All references hereafter are to Regulations of the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993).				
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
	The contractor shall, in submitting his bid, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and the Construction Regulations. F: V: T:	Item			
E13.1	NOTIFICATION OF CONSTRUCTION WORK (Construction Regulations 3) The contractor shall, before commencing work, notify the Department of Labour of the intend construction work in terms o Regulation 3. The Contractor shall submit the notification in writing, on the appropriate form, prior to commencement of work. F: V: T:	Item			
E13.2	HEALTH AND SAFETY PLAN (Construction regulations 5.4) The Contractor shall provide and demonstrate to the Principal Agent a suitable and sufficiently documented health and safety plan based on the Act, Construction Regulations and the health and safety specification, which shall be applied from the date of commencement of and for the duration of the construction work. The Contractor shall ensure that a copy of the health and safety plan is available on request to an employee, inspector, sub contractor or principal agent all in terms of Regulation 5. F: V: T:	Item			
E13.3	REGISTRATION WITH THE COMPENSATION FUND (Construction Regulations 5.3 f) The Contractor shall provide proof of his registration and good standing with the Compensation Fund or a licensed compensation insurer prior to the commencement of work F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E13.4	HEALTH AND SAFETY FILE (Construction Regulation 5.7) The contractor shall ensure that a health and safety file, which shall include all documentation required in terms of health and safety specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Principal Agent or inspector upon request. Upon completion of the works, the contractor shall hand over a consolidated health and safety file to the principal agent. F: V: T:	Item			
E13.5	SUPERVISION OF CONSTRUCTION WORK (Safety officer) (Construction Regulation 6) The Contractor shall appoint a full-time competent employee in writing as the construction supervisor, with the duty of supervising the construction work. The Contractor shall appoint a full-time or part-time construction safety officer in writing to assist in the control of all safety related aspects on the site. Such appointments are required to ensure that at all times the requirements of the Act and Construction Regulations are adhered to. Refer to Regulation 6. F: V: T:	Item			
E13.6	RISK ASSESSMENT AND SAFETY POLICY (Construction Regulation 7) Before commencing work the Contractor shall cause a risk assessment to be performed by a competent person appointed in writing and the risk assessment shall form part of the health and safety plan. A copy of the risk assessment shall be available on site at all times for inspection. The Contractor shall at all time carry out the works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. He shall take all precautions regarding training of employees in any hazards and the related work procedures, health and safety induction training of employees, visitors or any other persons entering the site and provide personal protective equipment to all employees and visitors to site which are necessary and adequate to eliminate any conditions which contribute to the risk of injury to persons or damage to property in terms of Regulation 7. F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E13.7	SIGNIFICANT HAZARD IDENTIFICATION RISK ASSESSMENT PREPARED BY THE DESIGN CONSULTANTS The Contractor shall allow for additional financial provision, if any , to take the necessary precautions regarding the significant hazards and risks identified and assessed by the design consultants. F: V: T:	Item			N/A
E13.8	ADDITIONAL FINANCIAL PROVISION The Contractor shall allow for additional financial provision, if any, to comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993) and the Construction Regulations issued there under which have not been specifically elsewhere. F: V: T:	Item			
E13.9	FALL PROTECTION PLAN (Construction Regulation 8) The Contractor shall, before commencing any construction work submit a fall protection plan identified all steps to be taken in order to ensure the continued adherence to the fall protection plan and shall include a risk assessment of all work carried out from a relevant position. The fall protection plan shall form part of the health and safety plan and file. F: V: T:	Item			
E13.10	PHYSICAL AND PSYCHOLOGICAL FITNESS (Construction Regulation 8.2 (b)) The Contractor and sub-contractor shall before commencing any construction work submit proof of his employees that shall carried out work from an elevated position their physical and psychological fitness and shall be recorded in the health and safety file. F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E13.11	CONSTRUCTION VEHICLES AND MOBILE PLANT (Construction Regulations 21) The Contractor and sub-contractors shall ensure that all operated workers received training and been certified competent to operate such vehicles, and are physical and psychological fit to operate such construction vehicles and mobile plants and shall be recorded in the health and safety file. F: V: T:	Item			
E13.12	TRAINING (Construction Regulation 8 (c)) The Contractor and sub-contractor shall, before commencing any construction work, submit his training program of all his employees. This program shall form part of the health and safety plan. F: V: T:	Item			
E13.13	DEMOLITION WORK (Construction Regulations 12) The Contractor shall, before any demolition work shall be carried out, submit all methods of demolition to be used. This method shall form part of the health and safety plan and file. F: V: T:	Item			
E13.14	REMOVAL AND DISPOSAL OF ASBESTOS MATERIAL (Asbestos Regulation) The principle contractor shall appoint a contractor that is registered with the Department of Labour as an AIA. The contractor must allow for: NOTIFICATION OF ASBESTOS PROCESSING PERSONAL PROTECTIVE EQUIPMENT PACKAGING AND TRANSPORT AND STORAGE TO DISPOSAL SITE DEMOLITION WORK LABELLING, INFORMATION, ETC. F: V: T:	Item			N/A
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E13.15	RISK COMPLIANCE AREAS (As Outlined In "Volume Three": Covid-19 Guidelines for Management of Risk on Construction Sites and Covid-19 addendum (Item 1-12) attached to Health and Safety specification) · Disinfection of the workplace at regular intervals as outlined within the Guidelines "Annexure A" Workplace Preparation Procedure; · Ensure Staff and Security Staff have PPEs (i.e. masks, gloves, sanitisers, etc.) · Installed thermal scanners to check temperature of all staff and visitors. Ensure training of Security Staff for use of thermal scanners. Register to be implemented for staff and visitors to site with identification criteria "ID number, Name, Age, Health Status and Contact details"; · Isolation room identified/constructed on site; · Ensure sanitisers and soap are available in locker rooms for staff; · Ensure staff or visitors are wearing masks before entering; · Ensure social distance on site; · Notification about the restriction of the number of people allowed on site at one time; · Disinfection of rooms for meetings and strictly keeping to social distancing and wearing masks; · Plans to rotate work force on percentage allowable on site to comply with regulations; · Permits issued by Authorising Authority for Work Force and vehicles for Cross Provincial and District Borders F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E14	IMPLEMENTATION OF LABOUR-INTENSIVE INFRASTRUCTURE PROJECTS UNDER THE EXPANDED PUBLIC WORKS PROGRAMME (EPWP) The contractor shall comply with all the requirements of the "Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes" issued in terms of the "Basic Conditions of Employment Act, 1997 (Act No 75 of 1997)" and the related "Ministerial Determination", for the employment of locally employed temporary workers on a labour intensive infrastructure project under the Expanded Public Works Programme (EPWP) The contractor shall maintain daily records with regard to the workers employed and shall, on a monthly basis, submit a report (Contract, ID Copy, Attendance register, Proof of payment) to the principal agent in the prescribed format. Compulsory indicators such as the project budget, actual project expenditure, number of job opportunities created, demographic characteristics of workers employed, minimum daily wage rate, number of person-days of employment created and number of training person-days, shall be included in said report, all as defined in the "Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)" Provision for pricing of compliance with the aforementioned is made under this clause and it is explicitly pointed out that all that all requirements in respect of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E14.1	DECLARATION - EPWP PROGRAMME The contractor must adhere to all rules, regulations and requirements regarding the EPWP programme, specifically but not limited to the following: 1. Labour intensive construction methods (LIC) 1.1 Comply to implementation of LIC BOQ items specified elsewhere in the tender documents 2. Recruitment and placement of EPWP NYS (Not Applicable) 2.1 Recruitment, placement and exposure training of 25 (Twenty five) participants 2.2 Comply to EPWP BOQ specifications and code of good practice 3. Recruitment and placement of local labourers 3.1 Recruitment and placement of minimum 2 (Two) local labourers 3.2 Comply with applicable wage order/determination or agreement, in terms of labour relations act or wage act 4. Comply with EPWP monthly reporting requirements Monthly prepare and submit below EPWP reports attached to monthly payments certificate 4.1 All employees and EPWP participants contracts 4.2 All employees and EPWP participants certified SA ID copies 4.3 All employees and EPWP attendance register 4.4 All employees and EPWP proof of payment 4.5 EPWP reports populated on standard templates 5. Penalties for non compliance Acknowledge non compliance of R3000-00 (Three thousand rand) per month per participant F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E15	HIV/AIDS AWARENESS It is required of the contractor to thoroughly study the HIV/AIDS Specification (PW 1544) of the Department that must be read together with and is deemed to be incorporated under this Section of the Bills of Quantities. Provision for pricing of HIV/AIDS awareness is made under items E14.1 to E14.5 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained The contractor must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of Clause A 31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment				
E15.1	AWARENESS CHAMPION Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification F: V: T:	Item			
E15.2	AWARENESS WORKSHOPS Selection and appointment of a competent Service Provider approved by the principal agent, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multimedia techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification F: V: T:	Item			
	CARRIED FORWARD				

SECTION 1: PRELIMINARIES AND GENERAL

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
E15.3	POSTERS, BOOKLETS, VIDEOS, ETC. Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc. for the duration of the construction period, all in accordance with the HIV/AIDS Specification F: V: T:	Item			
E15.4	ACCESS TO CONDOMS Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the construction period, all in accordance with the HIV/AIDS Specification F: V: T:	Item			
E15.5	MONITORING Monitoring HIV/AIDS awareness of workers, providing the principal agent with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the construction period and close out, all in accordance with the HIV/AIDS Specification F: V: T:	Item			
E16	CONSTRUCTION VEHICLES FOR DELIVERY OF EQUIPMENT Allow for vehicles such as truck cranes, forklifts, etc for the moving of the generator into place and delivery of other necessary equipment for the project. F: V: T:	Item			
E17	ALTERNATE POWER SUPPLIES FOR CONSTRUCTION Allow for the supply of portable generators and/or other alternate power supplies for construction equipment in the event of power failure on the premises. F: V: T:	Item			
	CARRIED FORWARD TO SECTION 3 SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	ELECTRICAL WORK ELECTRICAL INSTALLATIONS, PART IN GENERAL CONFINED POSITION AND PART IN PATCHES, INCLUDING SMALL QUANTITIES, ALL NECESSARY CAREFUL CUTTING IN, DISCONNECTING, MAKING GOOD, NEW MATERIALS, JUNCTIONS BETWEEN NEW WITH EXISTING MATERIALS, PREPARATION OF EXISTING TO RECEIVE NEW MATERIALS AND REMOVAL FROM SITE, ETC, WHERE APPLICABLE (REMOVAL OF EXISTING AND RELATED PREPARATION FOR NEW MATERIALS, WHERE APPLICABLE AND UNLESS OTHERWISE DESCRIBED, ELSEWHERE) THE BILL OF QUANTITIES MUST BE READ TOGETHER WITH THE SUPPLEMENTARY SPECIFICATION FOR THE ELECTRICAL INSTALLATION BILL 1: LOW VOLTAGE CABLES BILL OF QUANTITIES PERTAINING TO LOW VOLTAGE CABLES, TRENCHING, TERMINATION, JOINTING, CABLE GLANDS, TOGETHER WITH ALL ACCESSORIES REQUIRED FOR THE INSTALLATION. ALL CABLES TO HAVE MARKINGS ON IT INDICATING THE SIZE OF THE CABLE. CABLES WITHOUT THE MARKING WILL NOT BE ACCEPTED. (CABLES QUANTITIES TO BE REMEASURED ON SITE). ALL CABLES TO BE SABS APPROVED. 600/1000 VOLT PVC/PVC/SWA/PVC/ECC COPPER THROUGH SLEEVES, LAID IN TRENCHES, WIREWAYS, ETC. (TRENCHING AND BACK FILLING MEASURED ELSEWHERE)				
1	Supply and install 50mm ² 4 core cable PVC/SWA	m	70		
2	Supply and install 16mm ² 4 core cable PVC/SWA	m	100		
3	Supply and install 10mm ² 4 core cable PVC/SWA	m	130		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
4	Supply and install 6mm ² 4 core cable PVC/SWA	m	35		
5	Supply and install 4mm ² 4 core cable PVC/SWA	m	60		
	BARE COPPER EARTH WIRE PULLED THROUGH SLEEVES, LAID IN TRENCHES, WIREWAYS, ETC.				
6	Supply and install 25mm ² BCEW	m	70		
7	Supply and install 16mm ² BCEW	m	100		
8	Supply and install 10mm ² BCEW	m	130		
9	Supply and install 6mm ² BCEW	m	35		
10	Supply and install 4mm ² BCEW	m	60		
	CABLE TERMINATIONS COMPLETE FOR 600/1000 PVC/PVC/SWA/PVC/ECC COPPER CABLES.				
11	Complete termination for 50mm ² 4 core PVC/PVC/SWA/PVC/ECC cable including 25mm ² bcw, including glands and rubber shrouds, lugs, bolts, nuts, washers and terminating onto busbars/terminals, etc.	No	4		
12	Complete termination for 16mm ² 4 core PVC/PVC/SWA/PVC/ECC cable including 25mm ² bcw, including glands and rubber shrouds, lugs, bolts, nuts, washers and terminating onto busbars/terminals, etc.	No	4		
13	Complete termination for 10mm ² 4 core PVC/PVC/SWA/PVC/ECC cable,including 10mm ² bcw, including glands and rubber shrouds, lugs, bolts, nuts, washers and terminating onto busbars/terminals, etc.	No	10		
14	Complete termination for 6mm ² 4 core PVC/PVC/SWA/PVC/ECC cable, including 6mm ² bcw, including glands and rubber shrouds, lugs, bolts, nuts, washers and terminating onto busbars/terminals, etc.	No	4		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
15	Complete termination for 4mm ² 4 core PVC/PVC/SWA/PVC/ECC cable, including 4mm ² bcw, including glands and rubber shrouds, lugs, bolts, nuts, washers and terminating onto busbars/terminals, etc. EXCAVATIONS IN EARTH FOR CABLE AND SLEEVE TRENCHES INCLUDING TEMPORARY SUPPORT OF SIDES, KEEPING EXCAVATIONS CLEAN AND DRY, BACKFILLING AND COMPACTION TO THE SPECIFICATION OF THE PRINCIPAL AGENT. TRENCHES SHALL ONLY BE DONE IF CABLES CANNOT BE ROUTED THROUGH EXISTING SLEEVES. TRENCHES FOR POWER AND CONTROL CABLES	No	6		
16	Cable or sleeve trenches not exceeding 1 meter deep - excavated in earth (LIC)	m3	10		
17	Cable or sleeve trenches not exceeding 1 meter deep - soft rock (extra over) (LIC)	m3	4		
18	Cable or sleeve trenches not exceeding 1 meter deep - hard rock (extra over) (LIC)	m3	1		
19	Select from excavated material and install a sand bedding in trench 200mm deep and 450mm wide (100mm sand bedding above and 100mm below cable) (LIC)	m3	3		
20	Backfilling of trenches with excavated soil after cables have been laid and tested complete with compacting of backfilling, levelling-off of trenches and removing and dumping of surplus excavated material. (LIC)	m3	8		
21	Risk of collapse of trench and hole excavation sides not exceeding 1,5m deep	m2	10		
22	Keeping excavations free of all water	Item	1		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
23	Breaking up and removing unreinforced concrete in 100mm thick surface beds (LIC)	m2	3		
24	25MPa/19mm concrete surface beds	m3	3		
25	Finishing top surfaces of concrete surface beds smooth with wood float	m2	3		
	SUPPLY AND INSTALL THE FOLLOWING HDPE				
26	Supply and install 110mm HDPE sleeve	m	22		
27	Supply and install 50mm HDPE sleeve	m	16		
28	Supply and install 90 degree 110mm HDPE elbow	No	6		
29	Supply and install 90 degree 50mm HDPE elbow	No	3		
	SUNDRIES:				
30	LT cable route maker tape placed above low voltage cable between 0,4m to 0,3m below ground level.	m	30		
31	Danger tape placed around cable trench.	m	60		
32	Test and commission the complete reticulation installation	Item	1		
33	Removal of 1m wide tree stump (LIC)	No	2		
34	Allowance to make good on all holes drilled/cut in external walls, walls in ceiling, etc. for the purpose of laying cables.	Item	1		
	BILL 1				
	CARRIED FORWARD TO SECTION 2 PART A SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL 2: DISTRIBUTION BOARDS. BILLS OF QUANTITIES PERTAINING TO DISTRIBUTION BOARDS AND EQUIPMENT OF THE ELECTRICAL INSTALLATIONS: SUPPLY, INSTALL AND COMMISSION THE FOLLOWING EQUIPMENT TO EXISTING DISTRIBUTION BOARD. COMPLETE WITH ALL WIRING, TERMINALS, LABELS, NEW TYPED LEGEND CARD, ETC. ALL CIRCUIT BREAKERS TO BE SABS APPROVED. THE INSTALLATION TO COMPLY WITH THE LATEST SANS 10142-1: THE WIRING OF PREMISES FOR LOW VOLTAGE INSTALLATIONS. ALLOW FOR TESTING, BALANCING AND COMMISSIONING OF THE COMPLETE INSTALLATION OF THE FOLLOWING DB'S Main Kiosk: (Existing) 35 Allow for test, balance, tracing of circuits, commission and service of existing, additional and new circuits on kiosk as well as providing a legend card, engraved labels indicating circuits, where DB is fed from and cable size, blanks, warning labels and conductor sizes. 36 Allow for supplying the Principal Agent at completion with a certificate of compliance as specified for the work carried out on the kiosk Equipment to be installed: 37 Supply and install 150A 3P ,25kA circuit breaker 38 Supply and install 100A 3P,15kA circuit breaker 39 Supply and install 80A 3P, 6kA circuit breaker	Item	1		
		Item	1		
		No	1		
		No	2		
		No	1		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
40	Supply and install 30A 3P , 6kA circuit breaker DB A: (New-normal and emergency)	No	1		
41	Test, balance, commission a new DB and new circuits on providing a legend card ,engraved labels indicating circuits,where DB is fed from cable size, blanks, warning labels and conductor sizes.	Item	1		
42	Allow for supplying the Principal Agent at completion with a certificate of compliance as specified for the work carried out on the DB	Item	1		
43	Supply and install surface mount DB with normal and emergency section, with lever lockable doors Normal section equipment	Item	1		
44	Supply and install 80A 3P, 6kA circuit breaker	No	1		
45	Supply and install 40A 3P, 6kA circuit breaker	No	1		
46	Supply and install 60A E/L ,6kA circuit breaker	No	3		
47	Supply and install 20A 1P , 6kA circuit breaker	No	12		
48	Supply and install 30A 1P , 6kA circuit breaker	No	9		
49	40Amp 3 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
50	40kA 4 pole surge arrestor with indication Emergency section equipment	No	1		
51	Supply and install 50A 3P, 6kA circuit breaker	No	1		
52	Supply and install 30A 3P, 6kA circuit breaker	No	1		
53	Supply and install 20A 1P , 6kA circuit breaker	No	8		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
54	Supply and install 30A 1P , 6kA circuit breaker	No	3		
55	Supply and install 10A 1P , 6kA circuit breaker	No	9		
56	20Amp 3 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
57	40kA 4 pole surge arrestor	No	1		
	DB B: (New-normal and emergency)				
58	Test, balance, commission a new DB and new circuits on providing a legend card ,engraved labels indicating circuits,where DB is fed from cable size, blanks, warning labels and conductor sizes.	Item	1		
59	Allow for supplying the Principal Agent at completion with a certificate of compliance as specified for the work carried out on the DB	Item	1		
60	Supply and install surface mount DB with normal and emergency section, with lever lockable doors	Item	1		
	Normal section equipment				
61	Supply and install 40A 3P, 3kA circuit breaker	No	1		
62	Supply and install 60A E/L ,3kA circuit breaker	No	3		
63	Supply and install 20A 1P , 3kA circuit breaker	No	9		
64	Supply and install 30A 1P , 3kA circuit breaker	No	4		
65	30Amp 3 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
66	40kA 4 pole surge arrestor	No	1		
	Emergency section equipment				
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
67	Supply and install 50A 3P, 3kA circuit breaker	No	1		
68	Supply and install 50A 1P+N, 3kA circuit breaker	No	1		
69	Supply and install 20A 1P , 3kA circuit breaker	No	3		
70	Supply and install 30A 1P , 3kA circuit breaker	No	1		
71	Supply and install 10A 1P , 3kA circuit breaker	No	5		
72	20Amp 2 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
73	40kA 4 pole surge arrestor	No	1		
	DB D: (New-normal and emergency)				
74	Test, balance, commission a new DB and new circuits on providing a legend card ,engraved labels indicating circuits,where DB is fed from cable size, blanks, warning labels and conductor sizes.	Item	1		
75	Allow for supplying the Principal Agent at completion with a certificate of compliance as specified for the work carried out on the DB	Item	1		
76	Supply and install surface mount DB with normal and emergency section, with lever lockable doors	Item	1		
	Normal section equipment				
77	Supply and install 30A 3P, 6kA circuit breaker	No	1		
78	Supply and install 20A 3P, 6kA circuit breaker	No	1		
79	Supply and install 60A E/L ,6kA circuit breaker	No	3		
80	Supply and install 20A 1P , 6kA circuit breaker	No	8		
81	Supply and install 30A 1P , 6kA circuit breaker	No	3		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
82	20Amp 3 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
83	40kA 4 pole surge arrestor	No	1		
	Emergency section equipment				
84	Supply and install 50A 3P, 6kA circuit breaker	No	1		
85	Supply and install 30A 3P, 6kA circuit breaker	No	1		
86	Supply and install 20A 1P , 6kA circuit breaker	No	4		
87	Supply and install 30A 1P , 6kA circuit breaker	No	3		
88	Supply and install 10A 1P , 6kA circuit breaker	No	8		
89	20Amp 3 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
90	40kA 4 pole surge arrestor	No	1		
	DB C: (New-normal and emergency)				
91	Test, balance, commission a new DB and new circuits on providing a legend card ,engraved labels indicating circuits,where DB is fed from cable size, blanks, warning labels and conductor sizes.	Item	1		
92	Allow for supplying the Principal Agent at completion with a certificate of compliance as specified for the work carried out on the DB	Item	1		
93	Supply and install surface mount DB with normal and emergency section, with lever lockable doors	Item	1		
	Normal section equipment				
94	Supply and install 20A 3P, 3kA circuit breaker	No	1		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
95	Supply and install 60A E/L ,3kA circuit breaker	No	2		
96	Supply and install 20A 1P , 3kA circuit breaker	No	5		
97	Supply and install 30A 1P , 3kA circuit breaker	No	3		
98	20Amp 3 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
99	40kA 4 pole surge arrestor	No	1		
	Emergency section equipment				
100	Supply and install 30A 3P, 3kA circuit breaker	No	1		
101	Supply and install 20A 1P , 3kA circuit breaker	No	4		
102	Supply and install 30A 1P , 3kA circuit breaker	No	3		
103	Supply and install 10A 1P , 3kA circuit breaker	No	7		
104	20Amp 3 pole contactor together with timer to switch off air-conditioner units after working hours.	No	1		
105	40kA 4 pole surge arrestor	No	1		
	DB Server				
106	Paint front cover signal red with expoxy powder coat,	Item	1		
107	Provide a legend card ,engraved labels indicating circuits,where DB is fed from cable size, blanks, warning labels and conductor sizes.	Item	1		
108	Allow for supplying the Principal Agent at completion with a certificate of compliance as specified for the work carried out on the DB	Item	1		
	DB UPS				
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
109	Paint front cover dark violet with expoxy powder coat,	Item	1		
110	Provide a legend card ,engraved labels indicating circuits,where DB is fed from cable size, blanks, warning labels and conductor sizes.	Item	1		
111	Allow for supplying the Principal Agent at completion with a certificate of compliance as specified for the work carried out on the DB	Item	1		
	General				
112	Allow for careful expansion and making good of existing DB's voids in wall by the use of hand tools and precision cutting tools. All wall plasters and paint must be allowed for.	Item	1		
113	Earthing and bonding of entire building	Item	1		
	BILL 2				
	CARRIED FORWARD TO SECTION 2 PART A SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL 3: SMALL POWER INSTALLATION BILLS OF QUANTITIES PERTAINING TO SMALL POWER ELECTRICAL INSTALLATIONS CONDUITS AS DESCRIBED IN ELECTRICAL SPECIFICATION: BLACK ENAMELLED STEEL CONDUIT PLACED IN POSITION FOR CASTING INTO CONCRETE SLABS, SURFACE BEDS, SCREEDS, FOR BUILDING INTO BRICKWORK, SURFACE MOUNTED ON BRICK WALLS AND FIXED IN CEILING VOIDS AND DRY WALL PARTITIONING.				
114	Supply and install 25mm ² galvanised steel conduit complete with all accessories and wall fixing saddles spaced at 1m intervals	m	200		
115	Supply and install 20mm ² galvanised steel conduit complete with all accessories and wallfixing saddles spaced at 1m intervals	m	700		
	NEW CONDUIT BOXES AND FITTINGS: PLACED IN POSITION FOR CASTING INTO CONCRETE, FINISHED BRICKWORK, OR CEILING, INCLUDING LOCKNUTS AND BUSHES.				
116	Side entry round conduit box for 20mm diameter conduit (average 1 to 4-way)	No	200		
117	Side entry round conduit box for 25mm diameter conduit (average 1 to 4-way)	No	50		
	NEW PVC INSULATED CONDUCTORS: PVC INSULATED STRANDED COPPER CONDUCTOR DRAWN INTO WIRE WAYS, CONDUITS, TERMINATIONS, ETC.				
118	2,5mm ² PVC housewire	m	2000		
119	4,0mm ² PVC housewire	m	2600		
120	6mm ² PVC housewire	m	900		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
	NEW BARE COPPER EARTH CONDUCTORS: BARE STRANDED COPPER CONDUCTOR DRAWN INTO WIRE WAYS, CONDUITS, TERMINATIONS, ETC.				
121	2,5mm ² bare copper wire	m	1000		
122	4,0mm ² bare copper wire	m	1300		
123	6.0mm ² bare copper wire	m	450		
	TRUNKING, SERVICE CHANNELS, POWER SKIRTINGS, ETC:				
	APPROVED GALVANISED STEEL TRUNKING FOR WIRING MOUNTED ON WALL AND IN ROOF, INCLUDING ALL MOUNTING ACCESSORIES COLOUR TO MATCH WALL COLOUR				
124	Supply and P4000 galvanised steel trunking with cover including all wall fixing accessories, fixed at 0,5m intervals	m	200		
125	Supply and install P4000 junction box	No	15		
126	Supply and install P4000 termination into power skirting	No	20		
127	Supply and P9000 galvanised steel trunking with cover including all wall fixing accessories, fixed at 0,5m intervals accessories	m	200		
128	Supply and install P9000 junction box	No	15		
129	Supply and install P9000 termination into power skirting	No	20		
130	50mmx50mm cable tray	m	120		
	NEW SWITCHED SOCKET OUTLETS: APPROVED SWITCHED SOCKETOUTLETS, ETC. COMPLETE WITH COVER PLATED FIXED IN FLUSHBOX AS SPECIFIED.				
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
131	Supply and install 16 A normal double wall sockets	No	28		
132	Supply and install 16 A normal euro wall sockets	No	1		
133	Supply and install 16 A dedicated wall sockets	No	4		
134	Supply and install 16 A normal power skirting sockets	No	50		
135	Supply and install 16 A normal power skirting euro sockets	No	50		
136	Supply and install 16 A dedicated power skirting sockets	No	50		
137	Supply and install RJ45 power skirting data outlet	No	50		
138	Supply and install RJ11 power skirting data outlet	No	50		
139	Supply and install RJ45 data outlet	No	1		
140	Supply and install RJ11 data outlet	No	1		
141	Supply and install 2 compartment galvanised steel power skirting to match existing, including all end and corner pieces cover, etc.	m	200		
142	100mmx100mm galvanised steel conduit box.	No	10		
	NEW SWITCHED SOCKET OUTLETS: APPROVED SWITCHED SOCKET OUTLETS, ETC. COMPLETE WITH COVER PLATED FIXED IN FLUSHBOX AS SPECIFIED.				
143	Supply and install 30A 2P weatherproof isolator	No	30		
144	Supply and install 30A 2P isolator	No	1		
145	Supply and install 30A 4P isolator with female welding coupler	No	1		
146	Supply and install 5A unswitched socket in ceiling void for lights.	No	150		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
	LIGHT SWITCHES				
147	Supply and install occupation sensor	No	80		
148	Supply and install one lever one way switch	No	50		
149	Supply and install two lever one way switch	No	2		
150	Supply and install one lever two way switch	No	11		
151	Supply and install two lever two way switch	No	2		
152	Supply and install photocell	No	6		
	GENERAL				
153	Allowance for removal of existing equipment and wiring	Item	1		
154	Allowance to make good on existing paint from holes in walls due to conduits, conduit boxes, etc.	Item	1		
155	Supply and install 1200x600mm suspended ceiling tile	No	10		
156	Supply and install blank steel plate for wall light switch	No	10		
157	Supply and install blank steel plate for wall socket	No	10		
158	Allowance for repair of existing rhino board ceiling including painting	m2	30		
159	Allowance to make good on entry holes into ceiling cornices	Item	1		
	BILL 3				
	CARRIED FORWARD TO SECTION 2 PART A SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL 4 - LIGHTING BILLS OF QUANTITIES PERTAINING TO LIGHT FITTINGS OF THE ELECTRICAL INSTALLATIONS THIS BILL MUST BE READ IN CONJUNCTION WITH THE ELECTRICAL SPECIFICATIONS PROVIDED IN THE TENDER DOCUMENT SUPPLY, INSTALL AND COMMISSION NEW LUMINAIRES COMPLETE WITH LAMPS, INTERNAL WIRING, CONNECTIONS, ETC AS SPECIFIED OR SIMILAR APPROVED. ALL LIGHTS TO INCLUDE 3M LONG 3 PIN PLUG. ALL LIGHTS TO BE SABS APPROVED				
160	Type A - 1435mmx56mm 59w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 7257 lumens, 10ka surge protection.	No	6		
161	Type B - 1149mmx56mm 48w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 5904 lumens, 10ka surge protection.	No	39		
162	Type B/E - 1149mmx56mm 48w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 5904 lumens, 10ka surge protection, with battery backup at 10% power output for 1hr.	No	2		
163	Type C - 578mmx56mm 24w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 2952 lumens, 10ka surge protection.	No	37		
164	Type C/E - 578mmx56mm 24w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 2952 lumens, 10ka surge protection, with battery backup at 10% power output for 1hr.	No	13		
165	Type D - 1149mmx56mm 36w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 4644 lumens, 10ka surge protection.	No	19		
166	Type E - 1195mmx595mm 57w led panel light with white aluminium body and opal diffuser, 4000k , cri 80, 6043 lumens, 10ka surge protection.	No	47		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
167	Type E/E - 1195mmx595mm 57w led panel light with white aluminium body and opal diffuser, 4000k , cri 80, 6043 lumens, 10ka surge protection, with battery backup at 10% power output for 1hr.	No	5		
168	Type F - 165 Ø 15w led downlighter with aluminium metal body, 4000k , cri 80, 2100 lumens, 10ka surge protection.	No	19		
169	Type G - 595mmx595mm 38w led panel light with white aluminium body and opal diffuser, 4000k , cri 80, 4144 lumens, 10ka surge protection.	No	2		
170	Type H- 742mmx138mm 56w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 8200 lumens, 10ka surge protection, vandalproof.	No	10		
171	Type H/E- 742mmx138mm 56w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 8200 lumens, 10ka surge protection, vandalproof, with battery backup at 10% power output for 1hr.	No	6		
172	Type I1 - 280 Ø 15w round led bulkhead with black aluminium body and opal diffuser, 4000k , cri 80, 2250 lumens, 10ka surge protection.	No	20		
173	Type I2 - 280 Ø 15w round led bulkhead with black aluminium body and opal diffuser, 4000k , cri 80, 2250 lumens, 10ka surge protection, vandalproof.	No	1		
174	Type J - 445mmx250mm 36w led outdoor pole light with black aluminium body and clear diffuser, 4000k , cri 80, 4850 lumens, 20ka surge protection. Light to fit onto existing poles.	No	12		
175	Type K - 155mmx180mm 50w led flood light with black aluminium body and clear diffuser, 4000k , cri 80, 5500 lumens, 20ka surge protection.	No	2		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

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SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL5 - FIRE DETECTION				
	DESIGN, SUPPLY AND INSTALL FIRE DETECTION SYSTEM AS PER SANS 10139: 2012. DESIGNER AND INSTALLER TO BE REGISTERED WITH SAQCC-FIRE. REFER TO DRAWINGS FOR PROPOSED LAYOUT OF FIRE DETECTION SYSTEM				
180	Optical smoke detector with round conduit outlet box	No	55		
181	Optical heat detector with round conduit outlet box	No	2		
182	Red resettable manual call point	No	6		
183	75db siren with flashing light	No	4		
184	2.5mm2 PH120 fireproof wiring	m	300		
185	20mm galvanised steel conduit in ceiling void	m	150		
186	Supply and P2000 galvanised steel trunking with cover including all wall fixing accessories, fixed at 0,5m intervals	m	150		
187	Supply and install P2000 junction box	No	6		
188	Supply and install P2000 termination into fire panel	No	1		
189	Supply and install conventional fire alarm panel with 4 loops, and 4 outputs for alarm sirens, including manuals, certificates, battery backup, etc. Unit to also be capable to communicate faults to security/local fire department.	Item	1		
190	Guarantee and maintenance of the fire detection system for a period of 1 year. 6 month interval servicing.	Item	1		
191	Allow for training of personnel on the use of the system	Item	1		
192	Allow for making good on walls drilled into for fire detection	Item	1		
	BILL 5 CARRIED FORWARD TO SECTION 2 PART A SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL 6 : GENERATOR PLEASE REFER TO SUPPLEMENTARY GENERATOR SPECIFICATIONS WHEN PRICING AS IT IS WHAT IS REQUIRED OF THE COMPLETE GENERATOR INSTALLATION.				
193	Supply and install a new silent weatherproof 60 kVA generator on steel skids, including fuel tank for 24 hours operation at 100% load. The generator installation is to also include all fittings, auxilary wiring, electric fuel pump with 3m hose, batteries, fuel filtration, alternator, local sounders and main control panel. The generator should also be lockable and padlocks with keys to be provided. Three sets of operating manuals are also to be provided. The generator is to be factory tested. The supply and installation of the generator will be inclusive of all other necessary equipment and items needed for the sucessful installation of the generator. Refer to generator specifications for detailed requirements.	No	1		
194	Supply and install a mimic panel in the control room as described in the generator specifications including cabling and conduit for 40m distance	No	1		
195	Guarentee and maintenance for one year after works completion, including supply consumables, filters, oil, etc. for the sucessful maintenance of the generator as per manufacturer's recommendations, including emergency calls. (4 Services per year done quarterly)	No	1		
196	Supply and install concrete plinth as described in the drawings.	No	1		
197	Supply and install, in addition to main circuit breaker for the generator, 2x50 Amp 6kA circuit breaker to feed DB-A-E and DB-D-E. The circuit breakers are to be located in the control box of the generator.	No	2		
	BILL 6 CARRIED FORWARD TO SECTION 2 PART A SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART A - ELECTRICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	SECTION 2 - PART A - SUMMARY				
Bill No:	Pg No:				
1 Low voltage cables	20-23				
2 Distribution boards	24-30				
3 Small power installation	31-34				
4 Lighting	35-37				
5 Fire detection	38				
6 Generator	39				
CARRIED FORWARD TO SECTION 3 SUMMARY					

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL 1 - HEATING, VENTILATION AND AIR CONDITIONING NEW INSTALLATION DESIGN, MANUFACTURE, WORKS TESTING, SUPPLY AND DELIVERY TO SITE, MOVING INTO POSITION, ERECTION, CONNECTING UP, SITE TESTING, WITNESS TESTING, PROVING TO THE INSPECTORS, DEMONSTRATING TO THE EMPLOYER AND MAINTENANCE OF THE COMPLETE INSTALLATION AS OUTLINED IN THE SPECIFICATION AND ON THE DRAWINGS. INSTALLATION AND COMMISSIONING OF AIR CONDITIONING UNITS AND DUCTING MUST INCLUDE FOR ALL HANGERS, SUPPORT, CONDENSATE DRAINS AND TRUNKING. ALL ITEMS ON THE BILL ARE RE-MEASURABLE. MECHANICAL EQUIPMENT SPLIT UNIT SUPPLY AND INSTALLATION OF SPLIT AIR-CONDITIONER UNIT C/W MATCHING CONDENSING (OUTDOOR) UNIT AND RIGGING INTO POSITION. INCLUDING REMOTE CONTROL, PIPING BETWEEN INDOOR AND OUTDOOR PORTIONS OF UNIT, ANTI-VIBRATION MOUNTING BRACKETS, CONDENSATE DRAIN PUMPS AND ALL NECESSARY ACCESSORIES. SPLIT UNIT SHALL BE OF THE INVERTER TYPE AND THE MANUFACTURERS BRAND SUBJECT TO THE ENGINEERS APPROVAL PRIOR TO PROCUREMENT.				
1	Split Unit, 2,6 kW(9000 BTU) midwall unit	No.	1		
2	Split Unit, 3,5 kW(12000 BTU) midwall unit	No.	5		
3	Split Unit, 7,0 kW(24000 BTU) midwall unit	No.	1		
4	Split Unit, 9,0 kW(30000 BTU) midwall unit	No.	1		
5	Set off wall mounted brackets	No.	8		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
6	Refrigerant pipe between indoor and outdoor unit, including all necessary fittings, branches, refnet fittings c/w armoflex / insulation	m	35		
7	Power /control cable 2.5 mm ² from isolator to unit and in between indoor and out door units	m	43		
8	Trunking 75 x 75 mm to match interior for piping and cabling	m	30		
9	Condensation Piping 20 mm c/w all necessaery accessories	m	52		
10	Commissioning of installation	No.	8		
	BILL 1 CARRIED FORWARD TO SECTION 2 PART B SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL 2 - ALLOWANCE FOR HEATING, VENTILATION AND AIR CONDITIONING REPLACEMENT INSTALLATIONS DESIGN, MANUFACTURE, WORKS TESTING, SUPPLY AND DELIVERY TO SITE, MOVING INTO POSITION, ERECTION, CONNECTING UP, SITE TESTING, WITNESS TESTING, PROVING TO THE INSPECTORS, DEMONSTRATING TO THE EMPLOYER AND MAINTENANCE OF THE COMPLETE INSTALLATION AS OUTLINED IN THE SPECIFICATION AND ON THE DRAWINGS. INSTALLATION AND COMMISSIONING OF AIR CONDITIONING UNITS AND DUCTING MUST INCLUDE FOR ALL HANGERS, SUPPORT, CONDENSATE DRAINS AND TRUNKING. ALL ITEMS ON THE BILL ARE RE-MEASURABLE. OFFICES - REPLACEMENT INSTALLATION MECHANICAL EQUIPMENT SPLIT UNIT SUPPLY AND INSTALLATION OF SPLIT AIR-CONDITIONER UNIT C/W MATCHING CONDENSING (OUTDOOR) UNIT AND RIGGING INTO POSITION. INCLUDING REMOTE CONTROL, PIPING BETWEEN INDOOR AND OUTDOOR PORTIONS OF UNIT, ANTI-VIBRATION MOUNTING BRACKETS, CONDENSATE DRAIN PUMPS AND ALL NECESSARY ACCESSORIES. SPLIT UNIT SHALL BE OF THE INVERTER TYPE AND THE MANUFACTURERS BRAND SUBJECT TO THE ENGINEERS APPROVAL PRIOR TO PROCUREMENT.				
11	Removal and disposal of site of Split Unit, including refrigerant and condensation pipework and all accessories forming part of the existing installation.	No.	11		
12	Split Unit, 4,8 kW(16000 BTU) midwall unit	No.	1		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

[illegible]

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

[illegible]

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BILL 4: GENERAL Note: All items shall be priced for whatever cost may be consider necessary to carry out the Mechanical Installations in full, for the complete duration of the project, as detailed in the drawings, Specifications and Schedules, which shall include, but shall not be limited, to the following:				
22	Allow for the provision of spares and consumables as recommended by the Manufacturer of the equipments concerned	Item	1		
23	Allow for the Production and submittal of three copies of Operation & Maintenance Manuals (hard copies and CD)	Item	1		
24	Allow for the Submittal of Test Schedules as stated in the specifications	Item	1		
25	Instructing and training the Employer's staff in operation of system and equipment prior to hand over to the Client.	Item	1		
26	Provision of full maintenance and guarantee of mechanical equipment and installation for the full 12 month period. The maintenance period shall start after practical completion is achieved. Service sheets to be submitted for every service carried out. Refer to tender specification, maintenance specifications, checklists and quality control plan, DPWI standard maintenance manuals and supplementary specification as well as revisions as and when the engineer sees necessary.	Month	12		
27	Allow for commissioning, pressure testing, flushing and cleaning all pipework, equipment and ductwork prior to offering the building for inspection by the engineer.	Item	1		
28	Builderswork and Core drilled services penetrations.	Item	1		
29	Fire stopping of services penetrations.	Item	1		
30	Weather sealing of services penetrations.	Item	1		
31	Sealing services penetrations to prevent unwanted air leakage.	Item	1		
	CARRIED FORWARD				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

ITEM NO	DESCRIPTION	UNIT	QTY	RATE ZAR	AMOUNT ZAR
	BROUGHT FORWARD				
32	Sealing services penetrations to prevent noise transfer.	Item	1		
33	Providing items, accessories or apparatus which may not have been specifically mentioned but which are usual or necessary for the fabrication, handling during installation, or to achieve and maintain the performance requirements and safe operation.	Item	1		
34	Providing secondary and tertiary steelwork, supports and hangers including final builderswork design and detailing, member sizing, calculations, connection detailing and suchlike.	Item	1		
35	Nitrogen	Item	1		
36	Making good building works at the completion of all mechanical works (installations, replacements and maintenance or service of air conditioning units)	Item	1		
	BILL 4				
	CARRIED FORWARD TO SECTION 2 PART B SUMMARY				

SECTION 2: BILL OF QUANTITIES - FICKSBURG MAGISTRATE COURT
PART B - MECHANICAL INSTALLATION

[illegible]

SECTION 3: FINAL TENDERED SUMMARY

	SECTION 3 : FINAL SUMMARY							
Section					Amount			
1 Preliminaries and General								
2 Bill of Quantities								
2A Part A: Electrical installation								
2B Part B: Mechanical installation								
TOTAL TENDERED VALUE EXCLUDING. VAT.								
15% VAT								
TOTAL TENDERED VALUE INCLUDING VAT. CARRIED TO FORM AND OFFER AND ACCEPTANCE DPW-07(EC)								



public works

Department:
Public Works
REPUBLIC OF SOUTH AFRICA

SAMPLE SPECIFICATION

FOR THE

ELECTRICAL INSTALLATION

OF A

COMPREHENSIVE SERVICE

September 2022

SPECIFICATION FOR THE ELECTRICAL INSTALLATION
OF A COMPREHENSIVE SERVICE

AT
FICKSBURG MAGISTRATE COURT

CONSISTING OF:

SECTION C3..... : ELECTRICAL INSTALLATION WORK

In part C3 see separate documents for:

Mechanical work
Generator

INDEX

PAGE NO.

SPECIFICATION FOR ELECTRICAL WORK	1
PART 1 - GENERAL	2
PART 2: INSTALLATION DETAILS	10
PART 3: QUALITY SPECIFICATION FOR MATERIALS AND EQUIPMENT OF ELECTRICAL INSTALLATIONS	22
PART 4: BILLS OF QUANTITIES	25
PART 5: ELECTRICAL WORK MATERIAL SCHEDULE	26
PARTICULARS OF ELECTRICAL CONTRACTOR	27
PART 6: DRAWINGS	28

SPECIFICATION FOR ELECTRICAL WORK

PART 1 - GENERAL

CONTENTS

1	TESTS	2
2	MAINTENANCE OF INSTALLATIONS	2
3	REGULATIONS	2
4	NOTICES AND FEES	2
5	SCHEDULE OF FITTINGS	2
6	QUALITY OF MATERIALS	2
7	CONDUIT AND ACCESSORIES	2
8	CONDUIT IN ROOF SPACES	3
9	SURFACE MOUNTED CONDUIT	4
10	CONDUIT IN CONCRETE SLABS	4
11	FLEXIBLE CONNECTIONS FOR CONNECTING UP OF STOVES, MACHINES, ETC.	5
12	WIRING:	5
13	SWITCHES AND SOCKET OUTLETS	5
14	SWITCHGEAR	6
15	SWITCHBOARDS	6
16	WORKMANSHIP AND STAFF	6
17	CERTIFICATE OF COMPLIANCE	6
18	EARTHING OF INSTALLATION	6
19	MOUNTING AND POSITIONING OF LUMINAIRES	8

PART 1 - GENERAL

1 TESTS

After completion of the works and before practical completion is achieved, 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 Principle Agent/Electrical Engineer or the employer, 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 Practical completion Certificate 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 develops 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 Principle Agent/Electrical Engineer or the Employer, at his own expense replace the whole of the installations or such parts thereof as the Principal Agent/Electrical Engineer or the Employer may deem necessary with apparatus specified by the Principal Agent/Electrical Engineer or the Employer.

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 by the Employer.

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 Employer. Departmental specifications for various materials to be used on this Contract are attached to and form part of this specification.

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

Materials wherever possible, must be of South African manufacture.

7 CONDUIT AND ACCESSORIES

The type of conduit and accessories required for the service, i.e. whether the conduit and accessories shall be of the screwed type, plain-end type or of the non-metallic type and whether metallic conduit shall be

black enamelled or galvanised, is specified in Part 2 of this specification.

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.

The conduit and conduit accessories shall comply fully with the applicable SANS specifications as set out below and the conduit shall bear the mark of approval of the South African Bureau of Standards.

- a) Screwed metallic conduit and accessories: SANS 61386-1 and 21.
- b) Plain-end metallic conduit and accessories: SANS 61386-1 and 21.
- c) Non-metallic conduit and accessories: SANS 61386-1 and 21.

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 "Wiring Code" 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 "Wiring Code" for the specified number and size of conductors, unless otherwise directed in part 2 of this specification or indicated on the drawings.

Only one manufactured type of conduit and conduit accessories will be permitted throughout the installation.

Running joints in screwed conduit are to be avoided as far as possible and all conduit systems shall be set or bent to the required angles. The use of normal bends must be kept to a minimum with exception of larger diameter conduits where the use of such bends is essential.

All metallic conduit shall be manufactured of mild steel with a minimum thickness of 1,2mm for plain-end conduit and 1,6mm in respect of screwed conduit.

Under no circumstances will conduit having a wall thickness of less than 1,6mm be allowed in screed laid on top of concrete slabs.

Bending and setting of conduit 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 Department's inspectorate staff, 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 screwed type.

All conduit and accessories used in areas within 50 km of the coast shall be galvanised to SANS 32 and SANS 121.

Tenderers must ensure that general approval of the proposed conduit system to be used is obtained from the local electricity supply authority prior to the submission of their tender. Under no circumstances will consideration be given by the Department to any claim submitted by the Contractor, which may result from a lack of knowledge in regard to the supply authority's requirements.

8 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.

9 SURFACE MOUNTED CONDUIT

Wherever possible, the conduit installation is to be concealed in the building work; however, where unavoidable or otherwise specified under Part 2 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.

No threads will be permitted to show when the conduit installation is complete, except where running couplings have been employed.

Running couplings are only to be used where unavoidable, and shall be fitted with a sliced couplings as a lock nut.

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.

Crossing of conduits is to be avoided, however, should it be necessary purpose-made metal boxes are to be provided at the junction. The finish of the boxes and positioning shall be in keeping with the general layout.

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.

10 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 male toilets.

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.

11 FLEXIBLE CONNECTIONS FOR CONNECTING UP OF STOVES, MACHINES, ETC.

Flexible tubing connections shall be of galvanised steel construction, and in damp situations of the plastic sheathed galvanised steel type. Other types may only be used subject to the prior approval of the Department's site electrical representative.

Connectors for coupling onto the flexible tubing shall be of the gland or screw-in types, manufactured of either brass or cadmium or zinc plated mild steel, and the connectors after having been fixed onto the tubing, shall be durable and mechanically sound.

Aluminium and zinc alloy connectors will not be acceptable.

12 WIRING:

Except where otherwise specified in Part 2 of this specification, wiring shall be carried out in conduit throughout. Only one circuit per conduit will be permitted.

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 2 of this specification or indicated on the service drawings, the wiring of the installation shall be carried out in accordance with the "Wiring Code". Further to the requirements concerning the installation of earth conductors to certain light points as set out in the "Wiring Code", 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 4mm² 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 "Wiring Code".

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 SANS 1507.

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.

13 SWITCHES AND SOCKET OUTLETS

All switches and switch-socket outlet combination units shall conform to the Department Quality Specifications, which form part of this specification.

No other than 16 A 3 pin sockets are to be used, unless other special purpose types are distinctly specified or shown on the drawings.

All light switches shall be installed at 1,4m above finished floor level and all socket outlets as directed in the Schedule of Fittings which forms part of this specification or alternatively the height of socket outlets may be indicated on the drawings.

14 SWITCHGEAR

Switchgear, which includes circuit breakers, iron-clad switches, interlocked switch-socket outlet units, contactors, time switches, etc., is to be in accordance with the Departmental Quality Specifications which form part of this specification and shall be equal and similar in quality to such brands as may be specified.

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.

15 SWITCHBOARDS

All boards shall be in accordance with the types as specified, be constructed according to the detail or type drawings and must be approved by the Employer before installation.

In all instances where provision is to be made on boards for the supply authority's main switch and/or metering equipment the contractor must ensure that all requirements of the authorities concerned in this respect are met.

Any construction or standard type aboard proposed, as an alternative to that specified must have the prior approval of the Employer.

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.

16 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 Employer.

All inferior work shall, on indication by the Employer's inspecting officers, immediately be removed and rectified by and at the expense of the Contractor.

17 VERIFICATION AND CERTIFICATION OF ELECTRICAL INSTALLATION (CERTIFICATE OF COMPLIANCE AND TEST REPORT)

On completion of the service, a certificate of compliance must be issued to the Principal Agent/Electrical Engineer or Employer in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) in the format as set out in SANS 10142-1 & 2.

18 EARTHING OF INSTALLATION

Main earthing

The type of main earthing must be as required by the supply authority if other than the Employer, and in any event as directed by the Principal Agent/Electrical Engineer, who may require additional earthing to meet test standards.

Where required an earth mat shall be provided, the minimum size, unless otherwise specified, being 1,0m

x 1,0m and consisting of 4mm diameter hard-drawn bare copper wires at 250mm centres, brazed at all intersections.

Alternatively or additionally earth rods or trench earths may be required as specified or directed by the Electrical Engineer.

Installations shall be effectively earthed in accordance with the "Wiring Code" 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 Department's representative may direct. Main earth copper strapping where 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 pipework 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 pipework 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.

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.

Sub-distribution boards

A separate earth connection shall be supplied between the earth busbar in each sub-distribution board and the earth busbar in the Main Switchboard. These connections shall consist of a bare or insulated stranded copper conductors installed along the same routes as the supply cables or in the same conduit as the supply conductors. Alternatively armoured cables with earth continuity conductors included in the armouring may be utilised where specified or approved.

Sub-circuits

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

Ring Mains

Common earth conductors may be used where various circuits are installed in the same wire way in accordance with SANS 10142. 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.

Non-metallic Conduit

Where non-metallic conduit is specified or allowed, the installation shall comply with the Department's standard quality specification for "conduit and conduit accessories".

Standard copper earth conductors shall be installed in the conduits and fixed securely to all metal appliances and equipment, including metal switch boxes, socket-outlet boxes, draw-boxes, switchboards,

luminaires, etc. The securing of earth conductors by means of self-threading screws will not be permitted.

Flexible Conduit

An earth conductor shall be installed in all non-metal flexible conduit. 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.

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.

19 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 Department's representative.

Luminaires installed against concrete ceilings shall be screwed to the outlet boxes and in addition 2 x 6mm expansion or other approved type fixing bolts are to be provided. The bolts are to be $\frac{3}{4}$ of the length of the luminaires apart.

Luminaires to be mounted on board ceilings shall be secured by means of two 40mm x No. 10 round head screws and washers. The luminaires shall also be bonded to the circuit conduit by means of locknuts and brass bushes. The fixing screws are to be placed $\frac{3}{4}$ of the length of the fitting apart.

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 "Wiring Code".

Luminaires are to be screwed directly to outlet boxes in concrete slabs. Against board ceilings the luminaires shall be secured to the bracing or joists by means of two 40mm x No. 8 round head screws.

PART 2: INSTALLATION DETAILS

[Omit which is not applicable. Clauses 1 to 10 of Part 2 are standard clauses (which should not be altered) and must be inserted in the document in the order as set out.

CONTENTS

1	CABLE SLEEVE PIPES	10
2	NOTICES	10
3	ELECTRICAL EQUIPMENT	10
4	DRAWINGS	10
5	BALANCING OF LOAD	10
6	SERVICE CONDITIONS	10
7	SWITCHES AND SOCKET OUTLETS	10
8	LIGHT FITTINGS AND LAMPS	10
9	EARTHING AND BONDING	10
10	MAINTENANCE OF ELECTRICAL SUPPLY	11
11	EXTENT OF WORK	11
12	SUPPLY AND CONNECTION	11
13	CONDUIT AND WIRING	11
14	POWER POINTS	12
15	CABLES	14
16.	DISTRIBUTION BOARDS	17
17.	SUBSTATION (Not applicable)	17
18.	SCHEDULE OF LIGHT FITINGS	17
19.	SCHEDULE OF POWER POINTS	19
20.	SCHEDULE OF CABLES, CONDUIT AND WIRING	19
21.	SCHEDULE OF DISTRIBUTION BOARDS	19
22.	SUMMARY OF SWITCHGEAR AND CIRCUITS	20

PART 2: INSTALLATION DETAILS

1 CABLE SLEEVE PIPES

Where cables cross under roadways, other services and where cables enter buildings, the cables shall be installed in 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, and 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 attached quality specification (Part 3 of this document), suitable for the relevant supply voltage, and frequency and must be approved by the Employers Electrical Engineer.

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 SWITCHES AND SOCKET OUTLETS

The installation of switches and socket outlets must conform to clause 13 of Part 1 of this specification.

8 LIGHT FITTINGS AND LAMPS

The installation and mounting of luminaires must conform to clause 19 of Part 1 of this specification.

All fittings to be supplied by the Contractor shall have the approval of the Employer.

The light fittings must be of the type specified in the Schedule of Light Fittings.

9 EARTHING AND BONDING

The Contractor will be responsible for all earthing and bonding of the building and installation. The earthing and bonding is to be carried out strictly as described in clause 18 of Part 1 of this specification and to the satisfaction of the Employer/s Electrical Engineer.

10 MAINTENANCE OF ELECTRICAL SUPPLY

All interruptions of the electrical supply that may be necessary for the execution of the work, will be subject to prior arrangement between the Contractor and the Client and the Employer's Electrical Engineer.

11 EXTENT OF WORK

The work covered by this contract comprises the complete electrical installation, in working order, as shown on the drawings and as per this specification, including the supply and installation of all fittings and also the installation of such equipment supplied by the Employer.

12 SUPPLY AND CONNECTION

The supply will be at 400/230 Volt 50Hz.

The Contractor will be responsible for the supply and installation of the supply cable from the meter box to the main low-tension distribution board (MDB). The size and length of the cable is listed in the Schedule of Cables and measured in the Bills of Quantities.

Standby Plant

The 60 kVA standby plant complete with automatic changeover control panel be supplied, installed and commissioned by others.

The Contractor will only be responsible for the supply and installation of the cable connections between the Main Distribution Board and the Charge-over Control Panel.

The supply cables are listed in the Schedule of Cables and measured in the Bills of Quantities.

13 CONDUIT AND WIRING

Conduit and conduit accessories shall be black enameled/galvanized screwed conduit or black enameled/galvanized plain end conduit in accordance with SANS 61386.

All conduits, regardless of the system employed, shall be installed strictly as described in the applicable paragraphs of clauses 4 to 8 of Part 1 of the specification. Wiring of the installation shall be carried out as directed in clause 9 part 1 of this specification.

Where plain end conduit is offered all switches and light fittings must be supplied with a permanent earth terminal for the connection of the earth wire.

Lugs held by switch fixing screws or self tapping screws will not be acceptable.

13.1 Telephone Installation

The Contractor shall allow for the complete installation of all conduits, outlet boxes, the communication service provider Distribution boards, sleeve pipes, etc., required for the telephone system as shown on the drawings.

The sizes of all telephone conduits are indicated on the drawings and must be installed in the floor slab. Galvanized steel draw-wires shall be installed in all conduits.

End boxes must consist of a 50mm x 100 mm x 100mm outlet box fitted with suitable blank cover plates, flush mounted 0,4m above floor level.

13.2 Intercom Installation (Not applicable)

The supply and installation of the intercom system is not included in this Contract.

The Contractor shall allow for the complete supply and installation of all conduits and outlet boxes required for the intercom installation as shown on the drawings.

The size of all conduits, boxes and mounting heights of the end boxes are indicated on the drawings. Galvanized steel draw-wires shall be installed in all conduits and the boxes fitted with suitable blank cover plates.

13.3 Power Trunking

The Contractor shall be responsible for the supply and installation of all power trunking complete with corner pieces, end pieces, junction pieces, supply conduits, cover plates and power outlets as specified and indicated on the drawings.

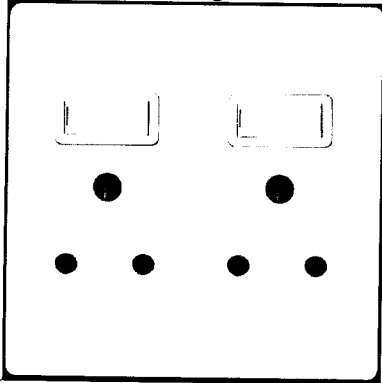
The power trunking must comply with SANS 61084. The Contractor must ensure that the power trunking is installed to satisfaction of the Employer's Electrical Engineer before commencing with the wiring of the power trunking.

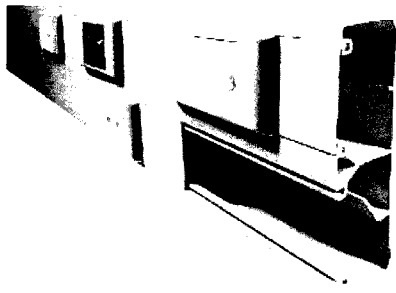
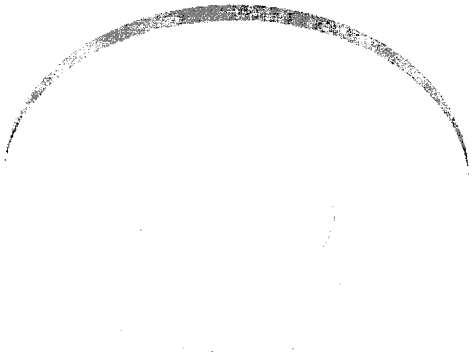
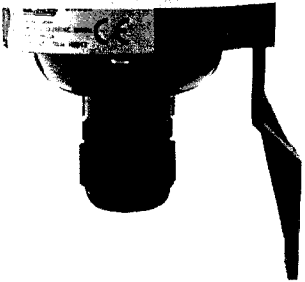
Two channel galvanized steel power skirting shall be provided to match existing. Workstation for each office shall be provided as indicated on the drawings. Each workstation shall include 1x White Normal socket, 1x White Euro socket, 1x Red dedicated socket, 1x R1J45 data outlet and 1x RJ 11 outlet. The contractor is to only wire the power circuits. Data and telephone wiring is to be done by others.

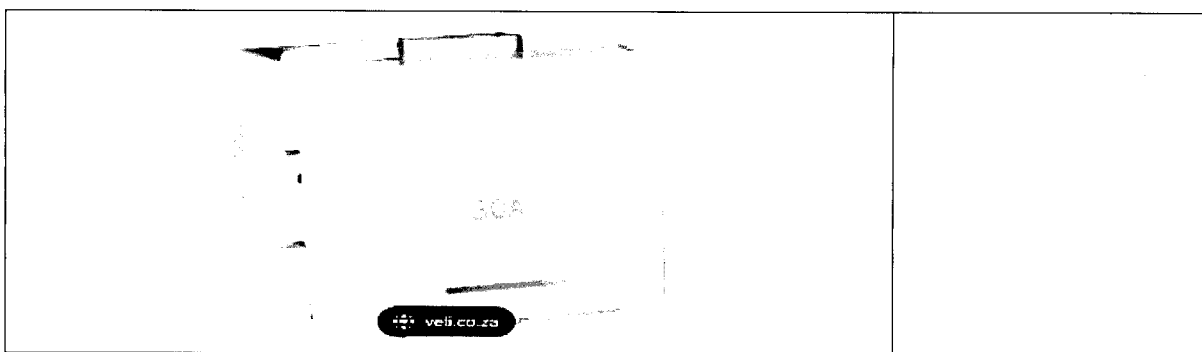
Galvanised steel trunking must be provided in the roof space for power circuits (P9000) and for data and telephone cables (P4000). There shall be no power and communication cables must be in separate trunking. From the trunking in the roof space, cables will enter the power skirting along the wall.

14 POWER POINTS

The table below shows the power points required for the installation:

DESCRIPTION	LOCATION OF USE
16 Amp normal single switch socket 	Office walls and kitchen.
Galvanised steel power skirting with 1 x Normal socket, 1 x Euro socket, 1 x Dedicated docket, 1x RJ45, 1x RJ11	Offices.

	
16 Amp 1 lever 1 way light switch 	All indoor areas.
Occupancy sensor 	Offices.
Weatherproof Day/night switch 	Outdoor walls.
30 Amp isolators in weatherproof box	Air-conditioners.



15 CABLES

The Contractor shall supply and completely install all distribution cables as indicated on the drawings, and listed in the Schedule of Cables.

The storage, transportation, handling and laying of the cables shall be according to first class practice, and the contractor shall have adequate and suitable equipment and labour to ensure that no damage is done to cables during such operations.

The cable-trenches shall be excavated to a depth of 0,9m deep below ground level and shall be 450mm wide for one to three cables, and the width shall be increased where more than three cables are laid together so that the cables may be placed at least two cable diameters apart throughout the run. The bottom of the trench shall be level and clean and the bottom and sites free from rocks or stones liable to cause damage to the cable.

The Contractor must take all necessary precautions to prevent the trenching work being in any way a hazard to the personnel and public and to safeguard all structures, roads, sewage works or other property on the site from any risk of subsidence and damage.

In the trenches the cables shall be laid on a 75mm thick bed of earth and be covered with a 150-mm layer of earth before the trench is filled in.

All joints in underground cables and terminations shall be made either by means of compound filled boxes according to the best established practice by competent cable jointers using first class materials or by means of approved epoxy-resin pressure type jointing kits. Epoxy-resin joints must be made entirely in accordance with the manufacturer's instructions and with materials stipulated in such instructions. Low tension PVCA cables are to be made off with sealing glands and materials designed for this purpose which must be of an approved make. Where cables are cut and not immediately made off, the ends are to be sealed without delay.

The laying of cables shall not be commenced until the trenches have been inspected and approved. The cable shall be removed from the drum in such a way that no twisting, tension or mechanical damage is caused and must be adequately supported at intervals during the whole operation. Particular care must be exercised where it is necessary to draw cables through pipes and ducts to avoid abrasion, elongation or distortion of any kind. The ends of such pipes and ducts shall be sealed to approval after drawing in of the cables.

Backfilling (after bedding) of the trenches is to be carried out with a proper grading of the material to ensure settling without voids, and the material is to be tamped down after the addition of every 150mm. The surface is to be made good as required.

On each completed section of the laid and jointed cable, the insulation resistance shall be tested to approval with an approved "Megger" type instrument of not less than 500 V for low tension cables.

Earth continuity conductors are to be run with all underground cables constituting part of a low tension distribution system. Such continuity conductors are to be stranded bare copper of a cross-sectional area equal to at least half that of one live conductor of the cable, but shall not be less than 4mm² or more than

70mm². A single earth wire may be used as earth continuity conductor for two or more cables run together, branch earth wires being brazed on where required.

15.1 LAYING, JOINTING AND MAKING OFF OF ELECTRICAL CABLES

[The requirements specified hereafter, are aimed essentially at high tension cable but are also valid for low tension cable, where applicable.]

1. The use of the term "Inspector", includes the engineer or inspector of the Department or an empowered person of the concerned supervising consulting engineer's firm.
2. No cable is to be laid before the cable trench is approved and the soil qualification of the excavation is agreed upon by the Contractor and inspector.
3. After the cable has been laid and before the cable trench is back-filled the inspector must ensure that the cable is properly bedded and that there is no undesirable material included in the bedding layer.
4. All cable jointing and the making off of the cables must only be carried out by qualified experienced cable jointers. Helpers of the jointers may not saw, strip, cut, solder, etc. The cable and other work undertaken by them must be carried out under the strict and constant supervision of the jointer.
5. Before the Contractor allows the jointer to commence with the jointing work or making off of the cable (making off is recognized as half a joint) he must take care and ensure:
 - 5.1 That he has adequate and suitable material available to complete the joint properly and efficiently. Special attention must be given to ensure the cable ferrules and cable lugs are of tinned copper and of sufficient size. The length of the jointing lugs must be at least six times the diameter of the conductor,
 - 5.2 That the joint pit is dry and that all loose stones and material are removed,
 - 5.3 That the walls and banks of the joint pit are reasonable firm and free from loose material which can fall into the pit,
 - 5.4 That the necessary coffer-dams or retaining walls are made to stop the flow of water into the joint pit,
 - 5.5 That the joint pit is provided with suitable groundsheet so that the jointing work is carried out in clean conditions,
 - 5.6 That the necessary tents or sails are installed over the joint pit to effectively avert unexpected rainfall and that sufficient light or lighting is provided,
 - 5.7 That the necessary means are available to efficiently seal the jointing or cable end when an unexpected storm or cloudburst occurs, regardless of how far the work has progressed,
 - 5.8 That the cables and other materials are dry, undamaged and in all respects are suitable for the joint work or making off,
 - 5.9 That the heating of cable oil, cable compound, plumbers metal and solder is arranged that they are at the correct temperature when required so that the cable is not unnecessarily exposed to the atmosphere and consequently the ingress of moisture (care must be taken of overheating)

Flow temperatures of cable oil and compound must be determined with suitable thermometers. Cable oil and compound must not be heated to exceed the temperatures given on the containers and precaution must be taken to ensure that the tin is not overheated in one position. The whole mass must be evenly and proportionally heated.

(Temperatures of solder and plumbers metal may be tested with brown paper (testing time: 3 seconds). The paper must colour slightly - not black or burnt).

6. Before the paper-insulated cables are joined, they must be tested for the presence of moisture by the cable jointers test. This consists of the insertion of a piece of unhandled insulated impregnated paper tape in warm cable oil heated to a temperature of $130 \pm 5^{\circ}\text{C}$.

Froth on the surface of the oil is an indication that moisture is present in the impregnated insulation and the amount of the froth gives an indication of the moisture present.

7. If the cable contains moisture or is found to be otherwise unsuitable for jointing or making of the inspector is to be notified immediately and he will issue the necessary instruction to cope with the situation.
8. The joint or making off of paper insulated cables must not be commenced during rainy weather.
9. Once a joint is in progress the jointer must proceed with the joint until it is complete and before he leaves the site.
10. The jointer must ensure that the material and his tools are dry at all times, reasonably clean and absolutely free from soil.

11. Relating to the jointing of the cable the following requirements apply:

- 11.1 All jointing must be carried out in accordance with recognized and tried techniques and comply strictly with the instructions given by the supplier of the jointing kit.
- 11.2 The cables must be twisted by hand so that the cores can be joined according to the core numbers. If necessary the cable is to be exposed for a short distance to accomplish this. Under no circumstances may the cores in a joint be crossed so as to enable cores to be joined according to the core numbers. If it is not possible to twist the cables so that the preceding requirements can be met, then cores are to be joined in the normal way without any consideration of the core numbers.
- 11.3 Normally the cables will have profile conductors. The conductors shall be pinched with gas pliers to form a circular section, bound with binding wire so that they do not spread, and then tinned before jointing.
- 11.4 Jointing ferrules, the length of which are at least 6 times the diameter of the conductors, must be slid over the conductor ends to be joined and pinched tightly. Then they are soldered by means of the ladle process whilst being pinched further closed.

Use resin only as a flux. The slot opening in the ferrule must be completely filled, including all depressions.

Remove all superfluous metal with a cloth dipped in tallow. Work during the soldering process must be from top to bottom. Rub the ferrule smooth and clean with aluminium oxide tape after it has cooled down to ensure that there are not any sharp points or edges.

NB: The spaces between the conductor strands must be completely filled by soldering process and must be carried out quick enough to prevent the paper insulation from burning or drying out unnecessarily.

- 11.5 After the ferrules have been rubbed smooth and clean, they and the exposed cores must be treated with hot cable oil (110°C) to remove all dust and moisture. These parts are to be thoroughly basted with the oil.
- 11.6 The jointer must take care that his hands are dry and clean before the joint is insulated. Also the insulating tape which is to be used must first be immersed in warm cable oil (110°C) for a sufficient period to ensure that no moisture is present.
- 11.7 After the individual cores have been installed they must be well basted with hot cable oil and again

after the applicable separator and/or belt insulation tape is applied before the lead joint sleeve is placed in position.

- 11.8 The lead joint sleeve must be thoroughly cleaned and prepared before it is placed on the cable and must be kept clean during the whole jointing process. Seal the filling apertures of the sleeve with tape until the sleeve is ready for compound filling.
- 11.9 The plumbing joints employed to solder the joint sleeve to the cable sheath, must be cooled off with tallow and the joint sleeve is to be filled with compound while it is still warm. Top up continuously until the joint is completely filled to compensate for the compound shrinkage.
- 11.10 The outer joint box must be clean and free from corrosion. After it has been placed in position it must be slightly heated before being filled with compound. Top up until completely full.
- 12. As far as cable end boxes are concerned the requirements as set out above are valid where applicable.

16. DISTRIBUTION BOARDS

In addition to clause 14 and clause 15 of Part 1 of this specification the following shall also be applicable to switchboards required for this service.

The Contractor shall supply and install the distribution boards as indicated on the drawings and listed in the distribution Board Schedule. All distribution boards shall comply with the quality specification in Part 3 of this specification, and be approved by the Employer's Electrical Engineer.

Refer to clause 21 for the list of distribution boards.

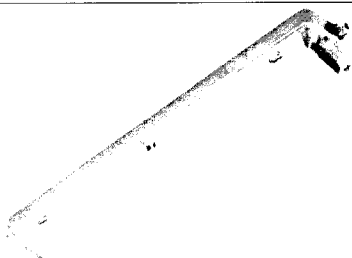
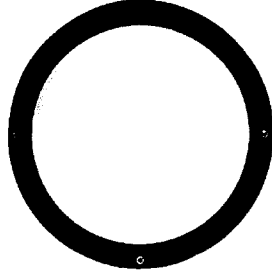
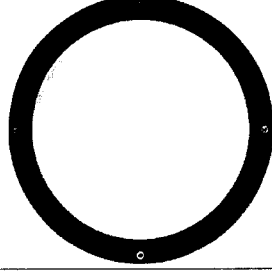
17. SUBSTATION (Not applicable)

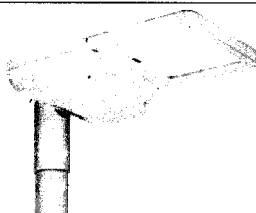
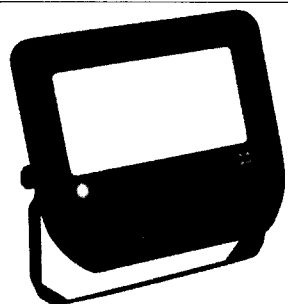
- 17.1 GENERAL SUB-STATION WORK
- 17.2 SUB-STATION EARTHING
- 17.3 CONTRACTOR'S RESPONSIBILITY

18. SCHEDULE OF LIGHT FITINGS

The light fittings and accessories are to be according to the quality specifications in Part 3 and shall be approved by the Employer. The table below shows the light fittings required. All emergency type luminaries are required to have an output of 10% power for 1 hour after power failure.

Description	Type	Area	Picture
1435mmx56mm 59w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 7257 lumens, 10ka surge protection.	Type A	Offices	
1149mmx56mm 48w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 5904 lumens, 10ka surge protection.	Type B/Type BE(with emergency)	Offices	
578mmx56mm 24w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 2952 lumens, 10ka surge protection.	Type C/Type CE(with emergency)	Passages	

1149mmx56mm 36w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 4644 lumens, 10ka surge protection.	Type D	Storeroom	
1195mmx595mm 57w led panel light with white aluminium body and opal diffuser, 4000k , cri 80, 6043 lumens, 10ka surge protection.	Type E/Type EE(with emergency)	Courtroom	
165 Ø 15w led downlighter with aluminium metal body, 4000k , cri 80, 2100 lumens, 10ka surge protection.	Type F	Toilet	
595mmx595mm 38w led panel light with white aluminium body and opal diffuser, 4000k , cri 80, 4144 lumens, 10ka surge protection.	Type G	Offices	
742mmx138mm 56w led channel light with black aluminium body and opal diffuser, 4000k , cri 80, 8200 lumens, 10ka surge protection, vandalproof.	Type H/Type HE(with emergency)	Cells and cell passage	
280 Ø 15w round led bulkhead with black aluminium body and opal diffuser, 4000k , cri 80, 2250 lumens, 10ka surge protection.	Type I1	Outdoor wall	
280 Ø 15w round led bulkhead with black aluminium body and opal diffuser, 4000k , cri 80, 2250 lumens, 10ka surge protection, vandalproof.	Type I2	Cell	

445mmx250mm 36w led outdoor pole light with black aluminium body and clear diffuser, 4000k , cri 80, 4850 lumens, 20ka surge protection.	Type J	Perimeter	
155mmx180mm 50w led flood light with black aluminium body and clear diffuser, 4000k , cri 80, 5500 lumens, 20ka surge protection.	Type K	Outdoor wall	
430MMX215MM 7W EMERGENCY EXIT RUNNING MAN LED LIGHT WITH WHITE ALUMINIUM BODY, 4000K , CRI 80, 10KA SURGE PROTECTION, 1HR BATTERY BACK-UP.	Type L	Indoor	

19. SCHEDULE OF POWER POINTS

Refer to line diagram drawing for complete list of power points.

20. SCHEDULE OF CABLES, CONDUIT AND WIRING

Supply, install and connect the following cable, conduit and wiring:

FROM	TO	SIZE AND TYPE	LOAD (AMP 3Φ)
Kiosk Normal power	Generator	50mm ² 4-core PVCA cable and 25mm ² earth wire – 110mm HDPE sleeve.	75.01
Kiosk Normal power	DB-A-N	10mm ² 4-core PVCA cable and 10mm ² earth wire – 110mm HDPE sleeve.	48.39
Kiosk Normal power	DB-D-N	4mm ² 4-core PVCA cable and 4mm ² earth wire – 110mm HDPE sleeve.	20.51
Generator Emergency power	DB-A-E	10mm ² 4-core PVCA cable and 10mm ² earth wire – 110mm HDPE sleeve.	38.68
Generator Emergency power	DB-D-E	16mm ² 4-core PVCA cable and 16mm ² earth wire – 110mm HDPE sleeve.	36.32
DB-A-N	DB-B-N	10mm ² 4-core PVCA cable and 10mm ² earth wire – 76x76mm trunking.	17.80
DB-A-E	DB-B-E	6mm ² 4-core PVCA cable and 6mm ² earth wire – 76x76mm trunking.	12.81
DB-D-N	DB-C-N	4mm ² 4-core PVCA cable and 4mm ² earth wire – 76x76mm trunking.	9.09
DB-D-E	DB-C-E	6mm ² 4-core PVCA cable and 6mm ² earth wire – 76x76mm trunking.	17.37

21. SCHEDULE OF DISTRIBUTION BOARDS

The front panels of normal supply, standby power and no-break supply sections shall be painted in distinctive colours as follows:

Normal supply : Light Orange, colour B26 of SANS 1091.
 Standby power : Signal Red, colour A11 of SANS 1091.
 No-break supply: Dark Violet, colour F06 or Olive Green, Colour H05 of SANS 1091.

Indicated is the probable fault level rating (kA) of the busbars. Refer to the Summary of Switchgear and Circuits for the minimum fault level rating of specified equipment.

BOARD	TYPE	PANEL	FAULT LEVEL	LOAD (AMP 3Φ)
DB-A-N	Surface mount with door	Normal power	6	48.39
DB-A-E	Surface mount with door	Standby power	6	38.68
DB-D-N	Surface mount with door	Normal power	6	20.51
DB-D-E	Surface mount with door	Standby power	6	36.32
DB-B-N	Surface mount with door	Normal power	3	17.80
DB-B-E	Surface mount with door	Standby power	3	12.81
DB-C-N	Surface mount with door	Normal power	3	9.09
DB-C-E	Surface mount with door	Standby power	3	17.37

22. SUMMARY OF SWITCHGEAR AND CIRCUITS

The indicated fault current rating (kA) is the minimum value that the switchgear must comply with for connecting to the busbars of the respective panels-distribution boards.

DB A

PANEL - 1 : NORMAL POWER

Main switch : 1x80A three pole 6kA circuit breaker.
 Socket outlets P1-10 : 3x63A two pole 6kA E/L 30Ma
 10x20A single pole 6kA circuit breaker
 Air-conditioners AC1-7 : 1x100A three pole contactor with timer
 7x30A single pole 6kA circuit breaker
 DB-B-N : 1x40A three pole 6kA circuit breaker.
 Surge arrestor : 1x40kA four pole

PANEL-2 : EMERGENCY POWER

Main switch : 1x50A three pole 6kA circuit breaker.
 Socket outlets DP1-5 : 5x20A single pole 6kA circuit breaker
 Lights L1-7 : 7x10A single pole 6kA circuit breaker
 Air-conditioners AC8-9 : 1x30A two pole contactor with timer
 2x30A single pole 6kA circuit breaker
 DB-B-E : 1x30A three pole 6kA circuit breaker.
 Surge arrestor : 1x40kA four pole

DB D

PANEL - 1 : NORMAL POWER

Main switch : 1x30A three pole 6kA circuit breaker.
 Socket outlets P1-6 : 2x63A two pole 6kA E/L 30Ma
 6x20A single pole 6kA circuit breaker
 Air-conditioners AC1-3 : 1x30A three pole contactor with timer
 3x30A single pole 6kA circuit breaker
 DB-C-N : 1x20A three pole 6kA circuit breaker.
 Surge arrestor : 1x40kA four pole

PANEL-2 : EMERGENCY POWER

Main switch	:	1x50A three pole 6kA circuit breaker.
Socket outlets DP1-3	:	3x20A single pole 6kA circuit breaker
Lights L1-5	:	5x10A single pole 6kA circuit breaker
Air-conditioners AC4-6	:	1x50A three pole contactor with timer 3x30A single pole 6kA circuit breaker
DB-C-E	:	1x30A three pole 6kA circuit breaker.
Surge arrestor	:	1x40kA four pole

DB B**PANEL - 1 : NORMAL POWER**

Main switch	:	1x40A three pole 3kA circuit breaker.
Socket outlets P1-7	:	2x63A two pole 3kA E/L 30mA 7x20A single pole 3kA circuit breaker
Air-conditioners AC2-5	:	1x50A three pole contactor with timer 4x30A single pole 3kA circuit breaker
Surge arrestor	:	1x40kA four pole

PANEL-2 : EMERGENCY POWER

Main switch	:	1x40A three pole 3kA circuit breaker.
Socket outlets DP1-2	:	2x20A single pole 3kA circuit breaker
Lights L1-3	:	3x10A single pole 3kA circuit breaker
Air-conditioners AC4-6	:	1x20A single pole contactor with timer 1x30A single pole 3kA circuit breaker
UPS	:	1x50A two pole 3kA circuit breaker.
Surge arrestor	:	1x40kA four pole

DB C**PANEL - 1 : NORMAL POWER**

Main switch	:	1x20A three pole 3kA circuit breaker.
Socket outlets P1-4	:	1x63A two pole 3kA E/L 30mA 4x20A single pole 3kA circuit breaker
Air-conditioners AC1-3	:	1x30A three pole contactor with timer 3x30A single pole 3kA circuit breaker
Surge arrestor	:	1x40kA four pole

PANEL-2 : EMERGENCY POWER

Main switch	:	1x30A three pole 3kA circuit breaker.
Socket outlets DP1-3	:	3x20A single pole 3kA circuit breaker
Lights L1-5	:	5x10A single pole 3kA circuit breaker
Air-conditioners AC4-6	:	1x50A single pole contactor with timer 3x30A single pole 3kA circuit breaker
Surge arrestor	:	1x40kA four pole

PART 3: QUALITY SPECIFICATION FOR MATERIALS AND EQUIPMENT OF ELECTRICAL INSTALLATIONS

“Part 3: Quality specification for materials and equipment” manual of the Department of Public Works is applicable for this Contract and the manual can be obtained from the Department of Public Works.

[ONLY ITEMS OF MATERIAL applicable to the Contract must be included in Part 3]

CONTENTS

<u>CLAUSE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1.		
1.1		
1.2		
1.3		
1.4		
1.5		
1.6		
1.7		
2.		
2.1		
2.2		
2.3		
2.4		

ADDITIONAL REQUIREMENTS OR SPECIFICATIONS NOT COVERED IN QUALITY SPECIFICATIONS ABOVE

LED LIGHTS

All Light fittings installed for this project is to be of the LED type, unless otherwise stated.

The following international standard specifications and South-African Bureau of Standards shall apply to the LED luminaire specification:

SANS 475	Luminaires for interior lighting, street lighting and floodlighting – Performance and requirements
SANS 10114-1	Interior lighting part 1: Artificial lighting of interiors
SANS 10114-2	Interior lighting part 2: Emergency lighting
SANS 60598-1	Luminaires part 1: General requirements and tests
SANS 60598-2.1	Luminaires part 2: Particular requirements section 1 – Fixed general purpose luminaires.
SANS 60598-2.2	Luminaires part 2: Particular requirements section 2 – Recessed luminaires.
SANS 60598-2.3	Luminaires part 2: Particular requirements section 3 – Luminaires for road and street lighting.

SANS 60598-2.5	Luminaires part 2: Particular requirements section 5 – Flood lighting.
SANS 61347-1 to 13	Lamp control gear
SANS 62031	LED modules for general lighting – Safety specifications
SANS 62384	DC or AC supplied electronic control gear for LED modules – Performance requirements.
SANS 62560	Self-ballasted LED lamps for general lighting services with supply voltages > 50V – Safety specification.
SANS 62612	Self-ballasted LED lamps for general lighting services with supply voltages > 50V – Performance requirements
EN 55015	Limits and methods of measurement of radio disturbance of electrical lighting or equipment.
EN 61000-3.2	Electromagnetic compatibility (EMC) limits for harmonic current emissions.
EN 61000-3.3	Electromagnetic compatibility (EMC) limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.
EN 61547	Equipment for general lighting purposes: EMC immunity requirements.
IEC-EN 62471	Photo biological safety of lamps and lamp systems for LEDs
IES LM-79-08	Approved method: Electrical and photometric measurement of solid-state lighting products.
IES LM-80	Approved method: Measuring lumen maintenance of LED light sources.

General requirements:

The luminaire shall be suitable for operation with mid-power LEDs. **Note that no LED tubes are allowed to be used.**

The luminaire shall be suitable for operation on a 230V single phase 50Hz mains supply.

Power factor capacitors shall be supplied to correct the power factor to at least 0.95 or higher.

The luminaire shall be marked with identification labels stating the brand name and model and shall bear the SANS approval mark.

The driver shall comply with IEC 61347-1 and IEC 61347-2B as applicable and shall be suitable for operation on 230V +10%, 50Hz single phase system and it must be insured that harmonics filter is provided as per SANS 61000-3-2. The drivers and LED circuitry shall be protected against lighting and power surges. Suitable surge arrestors with a 10kA rating shall be provided for indoor installations and 20kA for outdoor installations.

Colour rendering (Ra) shall be not less than 80 and lumen depreciation of not more than 30% L70 at 50 000 hours @ Tq 25°C. Colour temperature of the LED lamp shall be 4000K, unless otherwise stated.

Thermal requirements:

The luminaire must be able to withstand an ambient temperature of 35°C. Storage temperature of this luminaire should be able to handle -40°C < T < 60°C.

To this end internal electrical and mechanical components shall not be allowed to exceed their maximum temperature ratings of 75°C. Test reports from an independent authorised testing facility proving this requirement shall be made available on request.

Noise requirements:

The noise level emitted from the luminaire shall be kept as low as possible. Drivers/electronic components shall therefore fully comply with the latest edition of SANS 55015.

= END OF SPECIFICATION =

PART 4: BILLS OF QUANTITIES

Electrical, mechanical and/or any other engineering work must be measured by the quantity surveyor and must be prepared in accordance with the latest edition of the Standard System of Measuring Building Work.

No additional provision for Preliminaries may be included in the engineering sections of the bills of quantities.

Bills of Quantities are included in part C2.2 of the tender document.

PART 5: ELECTRICAL WORK MATERIAL SCHEDULE

The Contractor shall complete the following schedules and submit them to the Electrical Engineer within 21 days of the date of the acceptance of the tender.

The schedules will be scrutinised by the Electrical Engineer and should any material offered not comply with the requirements contained in the specification, the Contractor will be required to supply material in accordance with the contract at no additional cost.

NB: Only one manufacturer's name to be inserted for each item.

Item	Material	Make or trade name	Country of origin
1.	Distribution boards		
2.	Circuit breakers 1P, 2P, 3P		
3.	On load isolators without trips		
4.	Contactors 1P, 2P, 3P		
5.	Earth leakage relays 1 & 3 phase		
6.	Daylight sensitive switch		
7.	Time switch		
8.	Conduit		
9.	Conduit boxes		
10.	Power skirting		
11.	Surface switches		
12.	16A flush socket outlets		
13.	16A surface socket outlets		
14.	LED luminaires		
15.	Type A		
16.	Type B		
17.	Type C		
18.	Type D		
19.	Type E		
20.	Type F		
21.	Type G		
22.	Type H		
23.	Type I1		
24.	Type I2		
25.	Type J		
26.	Type K		
27.	Type L		
28.	PVCA cable		
29.	Cable trays		

PARTICULARS OF ELECTRICAL CONTRACTOR

Note to consultants

Please ensure that DPW -22(EC) Particulars of electrical contractor is inserted in main tender document.

PART 6: DRAWINGS

ES/EE/SL/01-SITE LAYOUT
ES/EE/FD/01-FIRE DETECTION LAYOUT
ES/EE/SP/01-SMALL POWER LAYOUT
ES/EE/LL/01-LIGHTING LAYOUT
ES/EE/TL/01-TRUNKING LAYOUT
ES/EE/LD/01-LINE DIAGRAM
ES/EE/GB/01-GENERATOR BASE AND SIGNAGE

(c:/my doc/qs/elect.doc/sample spec(pw346)-03-2018)



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

NATIONAL DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE

ELECTRICAL ENGINEERING SERVICES

SPECIFICATION FOR THE SUPPLY, INSTALLATION AND COMMISSIONING OF AN OUTDOOR EMERGENCY GENERATOR SET

Engineering Services Chief Directorate
Electrical Engineering Directorate
Electrical Engineering Standards & Specifications Committee
256 Madiba Street
Pretoria
0001

Table of Contents

1.	SECTION 1 – GENERAL	2
1.1.	Intent of Specification	2
1.2.	Standards and Codes	2
1.3.	Compliance with Regulations	2
1.4.	Scope of Work	2
1.5.	Co-ordinating	3
1.6.	Tests Certificates and Inspections	3
1.7.	Operating and Maintenance Manuals	3
1.8.	Guarantee	3
1.9.	Materials and Workmanship	4
1.10.	Brochures	4
2.	SECTION 2 – EQUIPMENT REQUIREMENTS	6
2.1.	Engine	6
2.1.1.	General	6
2.1.2.	Rating	6
2.1.3.	De-Rating	6
2.1.4.	Starting and Stopping	6
2.1.5.	Starter Battery	6
2.1.6.	Cooling	7
2.1.7.	Lubrication	7
2.1.8.	Fuel Pump	7
2.1.9.	Fuel Tank	7
2.1.10.	Governor	8
2.1.11.	Flywheel	8
2.1.12.	Exhaust Silencer	8
2.1.13.	Accessories	8
2.1.14.	Exhaust emissions	8
2.2.	Alternator	9
2.2.1.	General	9
2.2.2.	Regulation	9
2.2.3.	Performance	9
2.2.4.	Coupling	9
2.3.	Switchboard	9
2.3.1.	General	9
2.3.2.	Construction	9
2.3.3.	Protection and Alarm Devices	10
2.3.4.	Modular Generator Set controller	11
2.3.5.	Manual Starting	14
2.3.6.	Battery Charging Equipment	14
2.3.7.	Switchboard Instruments	15
2.3.8.	Marking	15
2.3.9.	Earthing	15
2.3.10.	Operation Selector Switch	15
2.3.11.	Automatic Change-over System	15
2.3.12.	By-pass Switch and Main Isolator	16
2.3.13.	Start Delay	16
2.3.14.	Stop Delay	16
2.4.	Installation	16
2.5.	Warning Notices	16
2.6.	Construction	17
2.7.	Operation	17
3.	SECTION 3 – TECHNICAL SPECIFICATION	19
3.1.	General	19
3.2.	Site Information and Conditions	19
3.2.1.	Location	19

3.2.2.	Site Conditions.....	19
3.3.	Output and Voltage.....	19
3.4.	Switchboard/Control Panel Unit.....	20
3.5.	Cables.....	20
3.6.	Engine.....	20
3.7.	Alternator	20
3.8.	Load Acceptance	20
3.9.	Enclosure.....	21
3.10.	Alarms.....	22
3.11.	Remote Control Generator Switch.....	22
3.12.	Fuel Drip Tray	22
3.13.	Completion Time.....	23
3.14.	Inform	23
3.15.	Fuel Supply Tank.....	23
4.	SECTION 4 – SCHEDULES OF TECHNICAL INFORMATION	25
4.1.	Engine.....	25
4.2.	Alternator	27
4.3.	Switchboard	28
4.4.	Battery	29
4.5.	Dimensions	29
4.6.	Deviation from the Specification as an Alternative (State Briefly)	29
4.7.	Spare Parts and Maintenance Facilities	29
5.	SECTION 5 – PRICE SCHEDULES	31
5.1.	General	31

SECTION 1 – GENERAL

TABLE OF CONTENTS

1.1.	Intent of Specification	2
1.2.	Standards and Codes	2
1.3.	Compliance with Regulations	2
1.4.	Scope of Work	2
1.5.	Co-ordinating	3
1.6.	Tests Certificates and Inspections.....	3
1.7.	Operating and Maintenance Manuals.....	3
1.8.	Guarantee	3
1.9.	Materials and Workmanship	4
1.10.	Brochures	4

1. SECTION 1 – GENERAL

1.1. 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.

1.2. 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)	

1.3. 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

1.4. 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 316 steel housing powder coated. The exhaust shall be manufactured from stainless steel.

The housing is to be provided on galvanized 3CR12 stainless steel skids so that the generator set can be transported to site and placed in position on a concrete plinth, casted by the successful tenderer. The skids must be of sufficient height to allow for the passage of storm water under the set.

1.5. 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.

1.6. 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 Department 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.

1.7. 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.

1.8. 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 Department, 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 Department 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.

1.9. 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 Department.
- 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.

1.10. Brochures

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

SECTION 2 – EQUIPMENT REQUIREMENTS

TABLE OF CONTENTS

2.1.	Engine.....	6
2.1.1.	General	6
2.1.2.	Rating	6
2.1.3.	De-Rating.....	6
2.1.4.	Starting and Stopping	6
2.1.5.	Starter Battery.....	6
2.1.6.	Cooling.....	7
2.1.7.	Lubrication	7
2.1.8.	Fuel Pump	7
2.1.9.	Fuel Tank.....	7
2.1.10.	Governor.....	8
2.1.11.	Flywheel.....	8
2.1.12.	Exhaust Silencer.....	8
2.1.13.	Accessories	8
2.1.14.	Exhaust emissions	8
2.2.	Alternator	9
2.2.1.	General	9
2.2.2.	Regulation.....	9
2.2.3.	Performance	9
2.2.4.	Coupling.....	9
2.3.	Switchboard	9
2.3.1.	General	9
2.3.2.	Construction.....	9
2.3.3.	Protection and Alarm Devices	10
2.3.4.	Modular Generator Set controller	11
2.3.5.	Manual Starting.....	14
2.3.6.	Battery Charging Equipment	14
2.3.7.	Switchboard Instruments	15
2.3.8.	Marking	15
2.3.9.	Earthing	15
2.3.10.	Operation Selector Switch	15
2.3.11.	Automatic Change-over System	15
2.3.12.	By-pass Switch and Main Isolator	16
2.3.13.	Start Delay	16
2.3.14.	Stop Delay	16
2.4.	Installation.....	16
2.5.	Warning Notices	16
2.6.	Construction.....	17
2.7.	Operation	17

2. SECTION 2 – EQUIPMENT REQUIREMENTS

2.1. Engine

2.1.1. 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.

2.1.2. 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.

2.1.3. 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 Department and must be motivated in detail. Such de-rating must be guaranteed in writing and proved by the successful Tenderer at the site test.

2.1.4. 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.

2.1.5. 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, housed in a suitable battery box.

2.1.6. 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.

2.1.7. 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.

2.1.8. Fuel Pump

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

2.1.9. 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.

2.1.10. 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.

2.1.11. 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.

2.1.12. 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 3CR12 steel for inland areas (greater than 50km from the coast) or Grade 304 stainless steel in coastal areas.

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 cladded 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.

2.1.13. Accessories

The engine must be supplied complete with all accessories, air and oil filters, 3 instruction manuals, spare parts lists, the first fill of all lubricating oils, fuel, etc.

2.1.14. Exhaust emissions

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

2.2. Alternator

2.2.1. 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.

2.2.2. 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.

2.2.3. 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%.

2.2.4. 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.

2.3. Switchboard

2.3.1. 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.

2.3.2. 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.

2.3.3. 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.

2.3.4. 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 contactors.

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 $\pm 10\%$) 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 $\pm 5\%$) 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 regenerator set. 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.

2.3.5. Manual Starting

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

2.3.6. 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.

2.3.7. 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.

2.3.8. Marking

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

2.3.9. 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.

2.3.10. 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.

2.3.11. 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.

2.3.12. 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 to 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.

2.3.13. 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.

2.3.14. 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.

2.4. 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.

2.5. 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 Department'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

2.6. 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.

2.7. 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.

SECTION 3 – TECHNICAL SPECIFICATION

TABLE OF CONTENTS

3.1.	General	19
3.2.	Site Information and Conditions	19
3.2.1.	Location	19
3.2.2.	Site Conditions.....	19
3.3.	Output and Voltage.....	19
3.4.	Switchboard/Control Panel Unit.....	20
3.5.	Cables.....	20
3.6.	Engine.....	20
3.7.	Alternator	20
3.8.	Load Acceptance	20
3.9.	Enclosure.....	21
3.10.	Alarms.....	22
3.11.	Remote Control Generator Switch.....	22
3.12.	Fuel Drip Tray	22
3.13.	Completion Time.....	23
3.14.	Inform	23
3.15.	Fuel Supply Tank.....	23

3. SECTION 3 – TECHNICAL SPECIFICATION

3.1. General

Supply, deliver, install, commission, test and maintain an emergency generating set Ficksburg Magistrate Court (-28.871057; 27.873863).

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 as per drawing ES/EE/GB/01.

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 are detailed on the drawings.

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.

3.2. Site Information and Conditions

3.2.1. Location

The site is at Ficksburg, Free State.

3.2.2. 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 | : 1628 Meter |
| b) Maximum ambient temperature | : 29 °C |
| c) Maximum ambient humidity at lowest temperature | : 60 % |

3.3. 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	:	60 kVA
Power at 0.8 power factor	:	48 kW

Frequency : 50Hz
Fault Level : 10kA

The generating set is required to feed an electrical load of 58 Amps 3 phase. See line diagram for details.

3.4. Switchboard/Control Panel Unit

All switch- and control gear shall be rated for a fault current level of 10kA.

The switchboard/control panel unit shall be enclosed in the IP65 canopy/container.

NOTE: CONTRACTOR MUST ALLOW FOR INDIVIDUAL CIRCUIT BREAKERS IN CONTROL PANEL TO FEED EMERGENCY SECTION OF DB A AND DB D. REFER TO LINE DIAGRAM.

3.5. 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 by others. Adequate provision shall be made for the termination of these cables at the Switchboard:

No	CABLE SIZE	FED FROM	FED TO	DISTANCE
1	50mm ² 4 core PVC with 25mm ² bcew	KIOSK	GEN	59m
2	10mm ² 4 core PVC with 10mm ² bcew	KIOSK	DB-A-N	20m
3	4mm ² 4 core PVC with 4mm ² bcew	KIOSK	DB-D-N	20m
4	10mm ² 4 core PVC with 10mm ² bcew	GEN	DB-A-E	34m
5	16mm ² 4 core PVC with 16mm ² bcew	GEN	DB-D-E	85m
6	10mm ² 4 core PVC with 10mm ² bcew	DB-A-N	DB-B-N	30m
7	10mm ² 4 core PVC with 10mm ² bcew	DB-A-E	DB-B-E	30m
8	4mm ² 4 core PVC with 4mm ² bcew	DB-D-N	DB-C-N	25m
9	6mm ² 4 core PVC with 6mm ² bcew	DB-D-E	DB-C-E	25m

3.6. 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.

3.7. Alternator

The Alternator shall be of the low harmonic type.

3.8. 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.

3.9. Enclosure

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

3.9.1 General

The enclosure, shall be completely vermin-proof, powder coated and shall be constructed of 3CR12 stainless steel or within 50km from the coast with grade 316 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 3CR12 stainless steel or within 50km from the coast with grade 316 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.

9.2 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.

9.3 Roof

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

9.4 Lamp fitting

A lamp 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.

9.5 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.

9.6 Padlock and keys

The contractor shall supply padlocks and keys for all the doors of the enclosure. The padlock shall be off the "Viro A82 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.

3.10. 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 Department'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 40W 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 security room. 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.

3.11. Remote Control Generator Switch (NOT APPLICABLE)

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.

3.12. 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.

3.13. Completion Time

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

3.14. Inform

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

3.15. 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 a thickness of not less than 2mm.

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.

**SECTION 4 – SCHEDULES OF TECHNICAL INFORMATION
(TO BE FULLY COMPLETED BY TENDERER)**

TABLE OF CONTENTS

4.1.	Engine.....	25
4.2.	Alternator	27
4.3.	Switchboard	28
4.4.	Battery	29
4.5.	Dimensions	29
4.6.	Deviation from the Specification as an Alternative (State Briefly)	29
4.7.	Spare Parts and Maintenance Facilities	29

4. SECTION 4 – SCHEDULES OF TECHNICAL INFORMATION

4.1. Engine

NO	ITEM	REMARKS
1.	Manufacturer's Name	
2.	Country of Origin	
3.	Manufacturer's model No. and year of manufacture	
4.	Continuous sea level rating after allowing for ancillary equipment : a) In b.h.p. b) In kW	
5.	Percentage de-rating for site conditions, in accordance with SANS 8528 a) For altitude b) For temperature c) For humidity d) Total de-rating	
6.	Net output on site in kW	
7.	Nominal speed in r.p.m.	
8.	Number of cylinders	
9.	Strokes per working cycle	
10.	Stroke in mm	
11.	Cylinder bore in mm	
12.	Swept volume in cm ³	
13.	Mean piston speed in m/min	
14.	Compression ratio	
15.	Cyclic irregularity	
16.	Fuel consumption of the complete generating set on site in l/h of alternator output at : a) Full load b) ¾ load c) ½ load NOTE : A tolerance of 5% shall be allowed above the stated value of fuel consumption.	
17.	Make of fuel injection system.	
18.	Capacity of fuel tank in litres	
19.	Is gauge glass fitted to tank?	
20.	Is electric pump for filling the fuel tank included?	

NO	ITEM	REMARKS
21.	Method of starting	
22.	Voltage of starting system	
23.	Method of cooling	
24.	Type of radiator if water-cooled	
25.	Type of heater for warming cylinder heads	
26.	Capacity of heater in kW	
27.	Method of protection against high temperature	
28.	Method of protection against low oil pressure	
29.	Type of governor	
30.	Speed variation in % a. Temporary b. Permanent	
31.	Minimum time required for as assumption of full load in seconds	
32.	Recommended interval in running hours for : a. Lubricating oil change b. Oil filter element change c. Decarbonising	
33.	Type of base	
34.	Can plant be placed on solid concrete floor?	
35.	Are all accessories and ducts included?	
36.	Is engine naturally aspirated?	
37.	Are performance curves attached?	
38.	Diameter of exhaust pipe	
39.	Noise level in plant room in dBA	N/A
40.	Noise level at tail of exhaust pipe in dBA	
41.	BMEP (4 stroke) at continuous rating (kPa)	
42.	% Load acceptance to SANS 8528, with 10% transient speed drop	

4.2. Alternator

NO	ITEM	REMARKS
1.	Maker's name and model no.	
2.	Country of Origin and year of manufacture	
3.	Type of enclosure	
4.	Nominal speed in r.p.m.	
5.	Number of bearings	
6.	Terminal voltage	
7.	Sea level rating kVA at 0,8 power factor	
8.	De-rating for site conditions	
9.	Input required in kW	
10.	Method of excitation	
11.	Efficiency at 0,8 power factor and : a) Full load b) $\frac{3}{4}$ load c) $\frac{1}{2}$ load	
12.	Maximum permanent voltage variation in %	
13.	Transient voltage dip on full load	
14.	Voltage recovery on full load application in milli-seconds	
15.	Is alternator brushless?	
16.	Class of insulation of windings	
17.	Is alternator tropicalised?	
18.	Symmetrical short circuit current at terminals n Ampere	
19.	Type of Coupling	

4.3. Switchboard

NO	ITEM	REMARKS
1.	Maker's Name	
2.	Country of Origin	
3.	Is board floor mounted?	
4.	Finish of board	
5.	Make of volt, amp, and frequency meters	
6.	Dial size of meters in mm	
7.	Scale range of voltmeter	
8.	Scale range of ammeters	
9.	Ratio of current transformers	
10.	Make of hour meter	
11.	Range of cyclometer counter	
12.	Smallest unit shown on counter (Item 11)	
13.	Make of circuit breaker	
14.	Type of circuit breaker	
15.	Rating of circuit breaker in Amp and fault level in kA	
16.	Setting range of overload trips	
17.	Setting range of instantaneous trips	
18.	Make of change-over equipment	
19.	Make of voltage relay	
20.	Is control and protection equipment mounted on a small removable panel?	
21.	Type of control equipment	
22.	Make of mains isolator	
23.	Type of indicators for protective devices	
24.	Make of rectifier	
25.	Type of rectifier	
26.	Is battery charging	
27.	Are volt- and ammeters provided for charging circuit?	
28.	Is the alarm hooter of the continuous duty type?	
29.	Rating in Amps of : a. Change-over equipment b. Mains on load isolator c. By-pass switch d. Circuit breaker to outgoing feed	
30.	Is manufacture of switchboard/control panel to be sub-let?	

NO	ITEM	REMARKS
31.	If yes, state name and address of specialist manufacturer	

4.4. Battery

NO	ITEM	REMARKS
1.	Maker's Name	
2.	Country of Origin	
3.	Type of battery	
4.	Voltage of battery	
5.	Number of cells	
6.	Capacity in cold crank amp	

4.5. Dimensions

NO	ITEM	REMARKS
1.	Overall dimensions of set in mm	
2.	Overall mass	
3.	Is the canopy/container adequate for the installation of the set, switch board and fuel tank	

4.6. Deviation from the Specification as an Alternative (State Briefly)

NO	DESCRIPTION

4.7. Spare Parts and Maintenance Facilities

NO	ITEM	REMARKS
1	Approximate value of spares carried in stock for this particular diesel engine and alternator	
2	Where are these spares held in stock	
3	What facilities exist for the servicing of the equipment offered	
4	Where are these facilities available	

SECTION 5 – PRICE SCHEDULES

TABLE OF CONTENTS

5.1. General31

5. SECTION 5 – PRICE SCHEDULES

5.1. General

- 1) The conditions of contract and the application of the Contract Price Adjustment Provisions shall be as set out in Part A: Section 1: Preliminaries.
- 2) The descriptions in this Price Schedule shall be read in conjunction with the specification.
- 3) The unit rate for each item in the Price Schedules shall include for all materials, labour, profit, transport, etc., everything necessary for the execution and complete installation of the work in accordance with the description.
- 4) The Price Schedules shall not be used for ordering purposes. The Contractor shall check the lengths of cables and overhead conductors on site before ordering any of the cables. Any allowance for off-cuts shall be made in the unit rates.
- 5) The rates shall exclude Value Added Tax and the total carried over to the final summary in PART A.
- 6) All material covered by this Specification shall, wherever possible, be of South African manufacture.

NATIONAL DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE

TECHNICAL SPECIFICATIONS

FICKSBURG MAGISTRATE COURT - HVAC INSTALLATIONS, SERVICING, REPAIRS, REPLACEMENTS AND MAINTENANCE

TABLE OF CONTENTS

A. GENERAL	1
1. SCOPE OF WORKS.....	1
2. GENERAL	1
3. MATERIAL AND WORKMANSHIP	2
4. DRAWINGS	2
5. COMPREHENSIVE CONTRACTS AND SUB-CONTRACTORS	3
6. MANUFACTURER'S RATINGS	3
7. SHOP DRAWINGS	3
8. BUILDING WORK	3
9. SITE INSPECTION	4
10. DETAILS OF MAINTENANCE WORK	4
11. GUARANTEE.....	4
12. SANS SPECIFICATION	4
13. INSTRUCTIONS MANUALS SIMILAR OR EQUAL	4
14. SPARE PARTS	4
15. DAMAGE.....	5
B. PARTICULAR TECHNICAL SPECIFICATIONS FOR THE SUPPLY, DELIVERY, AND INSTALLATION OF HVAC EQUIPMENT.....	6
1. SITE	6
2. MECHANICAL HVAC SERVICES WORKS	6

3.	WORK, PLANT, EQUIPMENT AND SERVICES ETC. EXCLUDED	6
4.	WORK, PLANT, EQUIPMENT AND SERVICES ETC. INCLUDED.....	7
5.	RELATED WORKS BY MECHANICAL HVAC CONTRACTOR	7
6.	GENERAL DESCRIPTION AND REQUIREMENTS: HVAC SYSTEM.....	8
7.	SPLIT TYPE UNITS.....	9
7.1.	General	9
7.2.	Technical Specifications for Mid-wall Unit Type Air Conditioners.....	10
8.	REFRIGERANT CIRCUITS.....	12
9.	AIR FILTERS.....	13
9.1.	General	13
9.2.	Panel Filters	14
9.3.	Pad Type Filters.....	14
9.4.	Filter Holding Frame.....	14
10.	INSULATION.....	15
11.	NOISE AND VIBRATION CONTROL.....	15
12.	CONDENSATE DRAINS.....	16
13.	FIXING OF EQUIPMENT.....	16
14.	ASSOCIATED ELECTRICAL WORK	17
15.	MAINTENANCE AND SERVICING	18

A. GENERAL

1. SCOPE OF WORKS

This particular Technical Specification is for the supply and installation and servicing of the air conditioning units at the Ficksburg Magistrate Court. The specification covers installations, repairs, servicing and maintenance of Mid-wall Units.

- a) This specification covers the particulars of the air conditioning installations in the offices areas of the Ficksburg magistrate court.
- b) The HVAC layout drawing accompanies this Specification.
- c) The equipment to be installed and serviced under this contract includes the following systems and equipment:
 - Mid-wall Type Air Conditioning Unit
- d) All electrical and drain piping connections for the complete air conditioning units to be installed.
- e) Commissioning and testing of the air conditioning units, controls, equipment supports etc. and the handover of a complete operational installation.

2. GENERAL

This supplementary specification is to be read as forming part of one or more Department of Public Works and Infrastructure Standard Specifications. The Department Standard Specifications for the Electrical Installations and Electrical Equipment pertaining to Mechanical Services shall also apply.

All equipment and installations shall comply with the requirements of the Occupational Health and Safety Act.

Where conditions are at variance this supplementary specification shall have preference over both the standards specifications and the drawings.

The installation shall be erected in compliance to the following standards and regulations:

- SANS 10400-O: Lighting and Ventilation
- SANS 1238 - Air conditioning duct work
- SANS 1424 - Filters for use in air conditioning and general ventilation
- SANS 1287: 1 - Ventilation brattices and ducting: Flexible ducting

- SANS 1287: 2 - Ventilation brattices and ducting: Brattices, unsupported
- SANS 1424 - Filters for use in air-conditioning and general ventilation
- SANS 10147 - Refrigerating systems, including plants associated with air-conditioning systems
- SANS 10173 - The installation, testing and balancing of air conditioning duct work
- SANS 1125 - Room air conditioning and heat pumps
- SANS 10103 - The measurement of rating of environmental noise with respect to annoyance and to speech communication
- SANS 193 - Fire dampers
- SANS 10400: XA - Energy usage on buildings
- SANS 204 - Energy efficiency in buildings
- SANS 460 - Plain-ended solid drawn copper tubes for potable water
- The Occupational Health and Safety Act 85 of 1993
- PW325 – Manual for Electrical and Mechanical Consulting Engineers

3. MATERIAL AND WORKMANSHIP

All material and equipment shall be new, free from rust, defects, undamaged and suitable for the purpose for which it will be used. Material shall comply with the latest issue of the relevant SANS specifications where applicable.

If any material or workmanship is not to the satisfaction of the Department, it shall be rectified and /or replaced at the contractor's cost and all rejected material shall immediately be removed from the site. The contractor is responsible for the correct and complete erection of the installation and inspections executed by the Department do not exempt the contractor of this obligation.

4. DRAWINGS

Any drawing which accompanies this specifications illustrates schematics and do not show exact dimensions or positions of equipment. Tenders must satisfy themselves that the equipment offered by them shall fit in the available space and can be positioned so that access for maintenance, repair or removal is not encumbered.

Note: Final dimensions must be taken on site before any equipment or material is either purchased or manufactured.

5. COMPREHENSIVE CONTRACTS AND SUB-CONTRACTORS

Only specialists sub-contractors who have previously successfully completed mechanical installations of the extent and type specified in this document shall be considered.

Note: No change in make, type, or capacity of equipment specified in the schedule of particulars shall be allowed after acceptance of the tender without the written approval of the Department.

6. MANUFACTURER'S RATINGS

All equipment shall be able to work within the rated capacity, as determined by the manufacturer. Any equipment offered for the use out of these limits shall not be considered. Contractors shall hand in the rated capacities of all equipment as well as descriptive literature with the tender documents.

7. SHOP DRAWINGS

Within 14 days of being awarded the contract the contractor will produce a complete layout in the form of a shop drawings with all the required service connections detailed and dimensioned. Any other shop drawings required to effect the installation shall be produced as required. At the end of the contract, three full sets of "as built" drawings and manuals shall be provided for this contract.

The successful tenderer shall before commencing manufacture of any of the equipment provide a dimensioned shop drawing for approval.

Approval of the contractor's drawings in no way indemnifies him from being responsible for the correctness of the drawings and satisfactory operation of the installations and for equipment.

8. BUILDING WORK

All building work to be done by the building contractor as shown on the mechanical shop drawings. All other small building work such as cutting and drilling of holes forms part of this contract.

9. SITE INSPECTION

Tenderers are advised to visit the site to acquaint themselves with the local conditions, accessibility, etc. No claims for compensations due to lack of knowledge of conditions will be accepted.

10.DETAILS OF MAINTENANCE WORK

The contractor shall be responsible for the complete maintenance of all the equipment, components, installations and systems forming part of this installation for 12 months.

11.GUARANTEE

The tenderer shall guarantee equipment for a period of twelve months from the date on which the installation /fixing of all the units is satisfactorily completed.

The contractor shall repair, at his own cost, defects that may become defective during the guarantee period due to the inferior materials or workmanship (fair wear and tear excluded). Any part so replaced, shall be guaranteed for a further year from the date of replacement.

12.SANS SPECIFICATION

All references to the South African National Standards and Codes of Practice shall be deemed to be references to the latest issues of such specifications and codes.

13.INSTRUCTIONS MANUALS SIMILAR OR EQUAL

A maintenance and operation instruction manual, including spare parts list shall be provided with each mechanical and electrical unit.

14.SPARE PARTS

Spare parts for each mechanical and electrical appliance shall be readily available in the Republic of South Africa, for a minimum period of 10 years.

15.DAMAGE

The tenderer will be held entirely responsible for any damage which may occur to equipment during the transportation, setting into position and fixing and must make good any such damage at his/her own risk.

No patching or repairing of damaged units will be allowed unless such damage can be completely effectively repaired and to the entire satisfactions of the Representative/Agent.

B. PARTICULAR TECHNICAL SPECIFICATIONS FOR THE SUPPLY, DELIVERY, AND INSTALLATION OF HVAC EQUIPMENT.

1. SITE

The Ficksburg Magistrate Court is located on 16 Voortrekker Street, Ficksburg, Free State.

2. MECHANICAL HVAC SERVICES WORKS

Unless otherwise indicated, the Mechanical HVAC Services Works are to include the design development/coordination, supply, delivery, receiving, off-loading, handling, storing, installation, placement positioning, safety, assembling, erection of equipment, testing, commissioning, demonstration and handover of all Mechanical HVAC Services systems and associated works specified and/or shown on the drawings as follows:

3. WORK, PLANT, EQUIPMENT AND SERVICES ETC. EXCLUDED

The items of plant, equipment and work listed hereunder are specifically excluded from the scope of the HVAC contractor's obligations

The tenderer shall however furnish full details in the tender data sheets of any further items of equipment, material and work not provided for in its tender

List of exclusions

- Power supply from the isolator to the DB board
- Civil Plinths for the plant on the roof
- Service ducts

All items of plant, equipment and work not listed above and in the tender data sheets as being excluded, shall be deemed to be included in the tender and / or contract prices.

4. WORK, PLANT, EQUIPMENT AND SERVICES ETC. INCLUDED

This Specification provides and includes for;

- The design, manufacture, inspection, testing, supply, packing, forwarding and delivery of plant, equipment and materials to the site, including the payment of all freight, insurance, import, customs, excise and other duties, levies, forwarding, railage and all other transportation and delivery charges
- The furnishing of "know-how", for the successful operation/functioning of the plant/equipment/process
- Drawings of the equipment i.e. VRF plant, Laminar flow hoods, etc. These shall be submitted for approval prior to manufacture
- Management of manufacturing and delivery of components or Air conditioning, extraction and ventilation systems
- Interface with main building contractor, electrical, fire and wet's contractor during commissioning
- The supply and delivery of commissioning spares
- The supervision of and responsibility for the commissioning including preliminary trials, final testing, starting, setting to work, proving and handing over to Client of all plant, equipment and materials in full working order under the stated operating conditions and complying with the performance and other guarantees specified
- The supply of all specified operating, training and maintenance information including complete parts data, parts manuals (if applicable) and drawings as specified
- The remedy of the plant and equipment during the "Defects Liability Period"
- The supply of all services, information and data
- Any other items not covered by the foregoing, but forming part of the contractor's obligations and responsibilities

5. RELATED WORKS BY MECHANICAL HVAC CONTRACTOR

- Core drill services penetrations 100mm diameter and smaller.
- Weather seal mechanical services works penetrations.
- Seal mechanical services works penetrations to prevent air leakage.
- Seal mechanical services works penetrations to prevent noise transfer.

- Provide items, accessories or apparatus which may not have been specifically mentioned but which are usual or necessary for the fabrication, handling during installation, or to achieve and maintain the performance requirements and safe operation.
- Provide secondary and tertiary steelwork, supports and hangers including final builders work design and detailing, member sizing, calculations, connection detailing and suchlike.

6. GENERAL DESCRIPTION AND REQUIREMENTS: HVAC SYSTEM

The General Description must be read in conjunction with the bill of quantity and data sheets.

A summary of the systems at the site is listed below:

- Mid-wall DX split units

The air conditioning units shall be completely self-contained units of the direct expansion unitary or split type system. Room air side shall be equipped with a suitable and easily accessible filter, at least two adjustable fan speed, adjustable air discharge louvre, thermostat, heating and cooling modes with associated heating and cooling coils, drain pan and drain piping, control panel (Hard-wired) and interlocking with outdoor unit.

The air conditioning units shall not produce sound levels exceeding those specified in SANS 10103.

The outdoor unit shall contain the notching compressor unit, air-cooled condenser, condenser fan with waterproof, painted and corrosion resistant casing.

The indoor/outdoor units shall be interconnected with insulated refrigerant piping, electric wiring and interlocking control cabling. Refrigerant piping and cabling, where exposed to weather and can potentially damage any part of installation, shall be run through galvanized sheet metal trunking or PVC type trunking, neatly erected and painted.

Provision shall be made in all cases for the drainage of excessive condensate to the nearest building drain by means of uPVC/PVC tubing not less than 18mm diameter.

For reverse cycle heating units, including split type units, a proper drip pan with drainage piping by means of uPVC/PVS shall be provided for the outdoor units where dripping can create unacceptable conditions.

Drainage to points other than a building drain shall comply with SANS 10400:P.

Electrical interlocking shall be provided to ensure that:

- Compressors cannot run without both indoor and outdoor fans running.
- Electric heating can only be switched on if the indoor fan is running.
- It shall not be possible to switch cooling and heating on simultaneously.

Electric terminals and connections shall be corrosion resistant with non-hardening mastic or equal coating. Overload protection shall be provided.

Any tests and measurements which may be performed or required shall be recorded and made available to the Department engineer upon request. Any equipment make shall be approved by the Department prior to installation.

7. SPLIT TYPE UNITS

7.1. General

Split type units shall consist of a direct expansion indoor unit and a separate outdoor air-cooled unit. The indoor unit shall be wall mounted or ceiling cassette type as specified in the drawings and design report.

Remote control shall be wired in conduit and mounted at eye level in the position indicated on the drawings. No joints will be allowed in the control wiring.

Each refrigerant pipe shall have its own insulation.

Outdoor units shall be installed and fixed on raised plinths or mounted steel frame, brackets. Anti-vibration mounts shall be installed between the unit and the plinth/frame/bracket.

Refrigerant piping shall be sized and fitted with the necessary oil traps strictly in accordance with the manufacturer's requirements.

Each unit is complete with fan/s, direct expansion cooling coil, compressor unit, air cooled condenser, expansion valve, refrigerant tubing and accessories, air filters, control thermostat. Units are totally outdoor type.

Remote on/off control and sensing shall be provided where specified, and fitted in the position indicated on the drawings.

General arrangement and configuration required is indicated on the drawings.

The air conditioners shall generally be in accordance with SANS 1125 with sound levels not exceeding the values specified

7.2. Technical Specifications for Mid-wall Unit Type Air Conditioners

Scope:

The supply, installation as per scope given below, testing and commissioning the following air conditioning units:

Location	Area (m²)	Heat Load(W/m²)	Heat Load (KW)	Standard Unit Size (KW)	Number of Units
Court Manager office	16,3	181,80	3,0	3,5	1
Criminal court office	17,3	161,70	2,8	3,5	1
Maintenance office	19,7	164,30	3,5	3,5	1
Interpreters office	38,7	128,20	5,0	7,0	1
Cash hall 2	65,3	129,70	8,5	9,0	1
Court office A	16,0	150,40	2,4	2,6	1
Prosecutor office 1	16,2	166,60	2,7	3,5	1
Prosecutor office 2	16,2	166,60	2,7	3,5	1

The removal of the existing unit, the supply, installation as per scope given below, testing and commissioning the following air conditioning units:

Location	Area (m²)	Existing Unit Size (KW)	Number of Units	Replacement Unit Size (kW)	Number of Units
Courtroom B	38,5	7,0	1	7,0	1
Regional court room	86,0	7,0	3	7,0	3
Magistrate office	20,3	7,0	1	7,0	1
Senior prosecutor office	20,0	7,0	1	7,0	1
Regional court office	16,0	7,0	1	7,0	1
Courtroom A	87,0	7,0	1	7,0	1
Civil court	29,8	4,8	1	4,8	1
Cash Hall	60,0	7,0	2	7,0	2

The servicing of the following air conditioner units:

Location	Area(m ²)	Heat Load(W/m ²)	Heat Load (KW)	Unit Size (KW)	Number of Units
Office 8	20,1	160,0	3,2	3,5	1
Domestic violence office	33,3	180,0	6,0	3,5	1
Court B office	19,0	160,0	3,0	3,5	1
Courtroom B	38,5	160,0	6,2	7,0	1
Courtroom A	87,0	180	15,7	7,0	2

Features:

- Auto restart
- Dust filter
- Swing mode
- Fan mode
- Timer
- Air swing
- Anticorrosive coating on condenser coil
- Heating and cooling capability

Successful tenders shall bring all tools and tackles required for installation, testing & commissioning and servicing of air conditioner units. Down rods with all accessories like washer, bolts etc. for mounting indoor unit of air conditioners shall be supplied and installed by the successful tenderer.

Hangers required for routing the drain pipe, refrigerant piping and control or power cables from indoor unit to outdoor unit shall be supplied by the successful tenderer.

All drilling works required for successful installation of air conditioner units shall be done by the successful tenderer.

Mounting brackets required for installing outdoor unit and indoor unit shall be supplied by the successful tenderer. Gas charging if required shall be done at the site at free of cost for successful commissioning.

Installation of the air conditioners shall be carried out using proper tools and procedures as per manufacturer guide lines. O&M manual shall be supplied for each set of air conditioner.

Acceptance shall be based on the testing, performance and satisfactory working of air conditioners.

Testing to be done after Installation:

- Compressor current and cooling temperature shall be tested
- Air conditioners will be switched ON and cooling effect will be checked
- Air conditioners will be switched ON/OFF 10 times in one hour following recommended procedures.
- Water drain shall be checked by flowing water.
- Remote operation checking.

8. REFRIGERANT CIRCUITS

The condensing units shall be connected with refrigerant pipes to their respective indoor units as indicated on the drawings. The pipe work design shall comply with the manufacturer's specification in terms of piping sizes, refnets joints, design philosophy and distribution for proper refrigerant flow, so as not to compromise the capacity or functioning of the individual air-conditioning indoor unit.

Refrigerant tubing shall generally be in accordance with the latest SANS 1453 sizes of copper tubes. The tubing shall be seamless cold drawn copper tubing with soldered copper capillary fittings. Pipe sizes shall ensure moderate low velocities flow through the pipes while ensuring:

Proper oil return to the compressor minimising lubricating oil being trapped in the system. Practical lines without excessive pressure drops and with proper feed of evaporators.

Prevention of liquid refrigerant from entering the compressor during operation and at shutdown. Piping shall be supported (unless otherwise indicated on the drawings) as follows:

Pipe size (mm)	Maximum distance between supports (m)
10 and smaller	0.6
10 – 18	1.0
22	1.5
28 – 35	2.0
42	2.5
54	2.75
67 and bigger	3.0

Refrigerant piping shall be arranged such that normal inspection and servicing of the compressor and other equipment is not hindered. Locations where copper tubing will be exposed to mechanical damage shall be avoided.

Anti-vibration mounts shall be fitted at compressor discharge and suction connections.

Oil separators shall be used in systems where it is impossible to prevent substantial absorption of refrigerant in the crankcase oil during normal operation or during shutdown periods. Provision shall be made to prevent drainage of condensed refrigerant into the crankcase.

All pipes operating below ambient point shall be insulated and vapour barrier provided.

All refrigerant pipes to be covered with a trunking to prevent the insulation from UV rays.

All piping circuits shall be tested to a pressure of at least 1,5x times working pressure for a duration of 4 hours. No static pressure loss shall be acceptable during the test period.

All pressure tests shall be witnessed and certified by the Engineer.

9. AIR FILTERS

9.1. General

Filters of the type, size and quantity as specified in the technical details of the units shall be provided. Replacement of filters may be done only with filters matching the existing. Change of type or introduction of new filters in the system to meet requirements as set out in the standards specification and this specification.

Filters and filter holding frames shall be of approved manufacture with standardised dimensions to enable replacement with equivalent filters of all recognised manufacturers. Construction and manufacture of all components shall be such that under no circumstances any unfiltered air can by-pass filters or filter banks.

Sufficient space shall be allowed in front or behind filters, as applicable, to enable inspection and servicing. Proper access doors shall be fitted to filter service areas.

Fan and system selection shall allow for expected final filter resistance to ensure a supply air quantity in excess of 90% of design air quantity immediately prior to filter replacement.

Only dry media filters are required. Where specified, pressure monitoring across a filter bank or banks shall be fitted for alarm purposes using differential pressure switches to activate the warning alarm or indicator required. Where washable filters are specified one complete set of spare filters shall be provided.

9.2. Panel Filters

Panel filters shall be of the pleated type and not less than 50mm thick. The filter shall be washable or disposable as specified.

Synthetic media shall be used bounded together with galvanised wire for reinforcing and bonded in the frame ensuring no air bypass.

Initial synthetic dust arrestance shall be not less than 70% with dust holding capacity needed in excess of 300g per square metre nominal face area.

Initial dust spot efficiency shall be not less than 20%.

Nominal filter face velocity shall not exceed 1,5m/s with initial clean filter resistance 60Pa or less and recommended resistance at specified arrestance not more than 250Pa.

9.3. Pad Type Filters

Pad type panel filters shall make use of disposable replacement media of thickness as specified by air conditioning unit's manufacturer, but generally not less than 25mm thick.

The media shall be held in galvanised steel frames with galvanised steel screen supports on both sides. The downstream screen shall be fixed in the frame with the upstream screen removable.

9.4. Filter Holding Frame

Filter holding frames shall be the manufacturer's standard product installed and used in accordance with his recommendations.

Holding frames shall be manufactured from at least 16 gauge galvanised or epoxy powder coated steel. Holding frames may be bolted or riveted together and shall be suitably reinforced in larger arrangements to withstand all possible operating conditions.

Fasteners shall be positive sealing type that clip in and a minimum of four fasteners per filter is required. Fasteners shall match the particular filter, filter arrangement and frame.

10.INSULATION

Insulation shall in all instances be applied by specialist contractors and be of the highest standard. Any section not installed to the approval of the Department shall be re-done at the Contractor's expense.

Prior to insulation being fitted, all pressure testing shall be completed satisfactorily. Insulation, cladding and vapour barriers shall be painted as specified.

All items of plant likely to operate at temperatures below the surrounding ambient dew point shall be insulated and provided with a vapour barrier.

Insulated pipe work penetrating through masonry or concrete elements shall have its insulation extended right through the penetration to ensure the vapour proof integrity of the insulation. All penetrations shall be sealed and caulked to approval by the HVAC contractor.

11.NOISE AND VIBRATION CONTROL.

The Contractor shall install sufficient noise and vibration control measures on the plant/equipment, the interconnected piping, ductwork and conduit so that when the installed plant/equipment are put into operation, the resulting noise and vibration levels at locations within the building and at adjacent or nearby buildings shall not exceed the acceptable limits.

The total noise level in occupied areas within the building, whether it be airborne or structure-borne, shall not exceed the following limits when all the plant/equipment installed by the Contractor are put into operation.

Noise Control Criteria:

Broadcasting and recording studios	NC 25
Concert and opera halls	NC 25
Theatres, assembly halls and churches	NC 30
Homes, bedrooms	NC 35
Private offices, libraries, courtrooms and schoolrooms	NC 35
General offices	NC 40
Mechanised offices	NC 45

Restaurants, bars, cafeterias and canteens	NC 45
Department stores and shops	NC 45
Kitchens	NC 50

The specified noise criteria shall apply to all areas as measured at a level of 1.5 m above the floor, and the measuring points shall be 1.5 m away from the walls or doors of the rooms.

The Corrected Noise Level at potential Noise Sensitive Receiver in the adjacent or nearby building, if so identified in the Contract Documents, shall not exceed the Acceptable Noise Level stipulated in the SANS and CIBSE Standards.

Vibration transmitted from any item of equipment or material to the building structure shall be 5 % maximum.

12.CONDENSATE DRAINS

The subcontractor shall supply and install all condensate drain piping required for the works (indoor and outdoor units), whether shown on the drawings or not.

Others shall only provide a trapped connection point in the relevant ceilings directly above the connection to the buildings waste drainage system, unless otherwise indicated on the drawings. The internal condensate lines shall have a minimum fall of 1:100.

The drain lines from individual air-conditioning units shall have a minimum internal diameter of 20 mm.

Condensate pumps shall only be provided where it is specifically shown on the drawings, or where it is factory installed as an integral component of the air-conditioner. The condensate pumps shall be insulated as per the refrigerant lines.

External condensate drain lines shall be in Class 0 or better copper piping. Elbows and fittings shall be of the compression or capillary type. Bending of Class 0 copper piping will not be allowed. Internal condensate drain lines shall be in u-PVC.

13.FIXING OF EQUIPMENT

The Subcontractor shall identify the location of hangers and/or other support points of all equipment with a mass in excess of 25 kg to the Structural Engineer. Approval of the proposed

hanging and fixing shall be obtained from the Structural Engineer, prior to carrying out the work.

All lightweight fixing to brick or concrete shall be made with steel screws and other approved plugs. Holes of the required size for the plugs, which shall suit the screws used, are to be neatly drilled in the concrete or brickwork (not in the joints between bricks) to a depth excluding plaster or soft wall finish equal to at least the length of the plugs. The plug lengths shall be such that all the threaded length of the screws are in the plugs.

Fixings to timber shall be made with greased brass wooden screws. For fixing to hollow tiles, etc., screw anchor type fixings shall be used, fitted as above as far as possible. Fixing to soft or hard fibre boards, etc., which are inaccessible to the back, shall be made with sherardized self-tapping screws of appropriate sizes.

All heavy weight fixings to brick or concrete shall be by means of appropriately sized grouted galvanised bolts or by one of the various types of suitable expanding bolt fixings. After erection of equipment all exposed metalwork of fixings shall be treated with two coats of paint to match the finish of the equipment. Bolts shall in all instances be secured by means of a washer on the bolt head side and a lock washer on the nut side of the items being bolted.

Where the Subcontractor is in any way uncertain of the method of fixing of any plant or material, the proposed fixing and loading involved shall be cleared with the Engineer prior to carrying out the work on site.

14. ASSOCIATED ELECTRICAL WORK

All electrical switchgear and wiring required for the proper operation of the works shall be provided by the Subcontractor.

Others will, however, provide waterproof maintenance isolators adjacent to the outdoor sections of the split units. The air-conditioning contractor will allow for the necessary wiring between the isolators and the individual units.

Maintenance Isolators shall furthermore be provided by others within 1 m of all ventilation fans. The air-conditioning contractor is to allow for the connection between these isolators and his equipment.

Others will furthermore provide the following conduits and draw boxes:

Ø20 mm Conduits with draw wires between the indoor unit and remote control station of each hide-away in ceiling split type air-conditioner.

The conduits shall terminate in 100x50 mm recessed draw boxes at the remote control sensor positions, at the height as light switch at 1 200 mm above finished floor level.

Tenderers shall indicate whether the above power supplies are sufficient or not and whether additional plug points, conduits and draw boxes are required. All costs arising from the failure to comply with this instruction will be for the Subcontractors account.

The HVAC contractor shall liaise with the Principal Contractor and Electrical Subcontractor and provide all necessary assistance, information (such circuit breaker type and overload protection required), etc., to ensure that the correct power supplies are provided to the HVAC equipment. The HVAC contractor shall ensure that the power supply to the equipment is installed correctly and that, once switched on, it will not damage the equipment.

All costs arising from the failure to comply with the above instructions will be for the Subcontractors account.

15. MAINTENANCE AND SERVICING

The Contractor shall be responsible for all maintenance for the full 12 months period. During this period, the Contractor shall make good any defect due to inferior materials or workmanship and maintain all plant and equipment in perfect operating condition.

Maintenance Specifications, Checklists and Quality Control Plan subject to the O&M Manual of the installed equipment, DPWI Standard Maintenance Manuals and Supplementary Specification as well as revisions as and when the engineer sees necessary.

The Contractor shall be entirely responsible for carrying out regular monthly inspections and for full servicing of all components of the installation in accordance with the manufacturer's instructions at intervals not greater than 3 months.

The Contractor shall prepare a detailed inspection and service report in the form of a checklist and log sheet showing all functions to be carried out at each inspection and service. Copies of these service reports shall be regularly submitted to the Department after each service.

The Contractor shall also maintain a plant logbook on site in which he shall record, sign and date all work carried out at each inspection.

The Contractor shall allow for all expendable materials necessary for servicing such as lubricating oils, grease, and cleaning materials. The Contractor shall also allow for cost of labour, travelling, etc. The following are examples of maintenance checklist and score cards to be used for assessment of the maintenance work monthly.

DEPARTMENT OF PUBLIC WORKS & INFRASTRUCTURE		 Department Public Works and Infrastructure REPUBLIC OF SOUTH AFRICA	
MAINTENANCE SCORE CARD			
CONTRACT NUMBER:			
CONTRACT:			
CONTRACTOR:			
ENGINEER:	NDPWI: GEORGE MOLOMO (MECHANICAL)		
INSTALLATION:	HVAC	MONTH: OF	
The following components of the installation were selected as performance indicators to be tested according to specifications:			
1. ENGINEER'S SELECTION		0	1
1.1 Clean filters or replace if required. Ensure filters are correctly installed.			
1.2 Inspect air intake and discharge for blockages. Address all blockages as per maintenance tasks. Ensure proper air flow for down blowers in control room.			
1.3 Check all refrigerant and drainage pipes for damages and leaks. Repair or replace where necessary. Ensure refrigerant pipes are insulated.			
1.4 Carry out visual inspection of condenser coil and evaporator coil for blockages and correct operation of fans.			
1.5 Check enclosures or panels for damages. Ensure all equipment are properly mounted and do not cause safety hazards.			
1.6 Check electric connections for tightness. Test thermostat and control operations.			
1.7 Clean condensate tray and test drainage for proper operation.			
1.8 Check cooling and heating cycles. Report on the condition of the compressor, all valves and fittings making the unit complete.			
1.9 Re-gas air conditioners when necessary. Ensure all leaks detected are repaired as per maintenance tasks.			
1.10 Maintain records and ensure all maintenance tasks are logged. Report to the engineer all results from the maintenance tasks conducted. Address all damages forming part of maintenance tasks.			
Total Score:			
Engineer's Representative		Signature	Date

Insert Company Details

REFERENCE:

SCOPE OF PROJECT:

MONTHLY MAINTENANCE WORKDOONE: HEATING, VENTILATION AND AIR-CONDITIONING SYSTEM

COMPILED BY:

This section present maintenance work done on all HVAC installations done monthly to cover but not limited to the following points:

- Inspect air intake and discharge for blockage
- Check sightglass: clear or flash gas
- Carry out visual inspection of evaporator coil
- Check encloser for damages
- Check electric motor running temperatures
- Check electric connections for tightness
- Test thermostat and control operation
- Clean condensate tray and test drainage for proper operation
- Check cooling and heating cycles

AIR CON NO	MAKE	LOCATION	MODEL	GAS TYPE	CHECK COMPRESSOR	CHECK CAPACITOR	CHECK GAS & LEAKS	CHECK PC BOARD	CLEAN INSIDE	CLEAN OUTSIDE	CHECK AMPS	CHECK FAN & MOTOR	CHECK DRAIN	CONTROLLER	COMMENTS
NO 1															
NO 2															
NO 3															
NO 4															
NO 5															
NO 6															
NO 7															

Detailed description of work completed:

Dates

TECHNICIAN:

T2.2 Returnable Documents required for tender evaluation purposes

PA-11: 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 interest (1) 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 State institution

(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.

- 2.2 Do you, or any person connected with the bidder, have a relationship 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.
 3.5 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.
 3.6 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring 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.

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.

- 3.7 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

This form has been aligned with SBD4

PA-15.1: RESOLUTION OF BOARD OF DIRECTORS

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

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

Held at _____ (place)

on _____ (date)

RESOLVED that:

- The Enterprise submits a Bid / Tender to the Department of Public Works in respect of the following project:

(Project description as per Bid / Tender Document)

Bid / Tender Number: _____ (Bid / Tender Number as per Bid / Tender Document)

- *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign the Bid / Tender, and any and all other documents and/or correspondence in connection with and relating to the Bid / Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid / Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
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20			

The bidding enterprise hereby absolves the Department of Public Works from any liability whatsoever that may arise as a result of this document being signed.

Note:

1. * Delete which is not applicable.
2. **NB:** This resolution must, where possible, be signed by *all* the Directors / Members / Partners of the Bidding Enterprise.
3. In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (attach proof of shareholding / ownership hereto).
4. Directors / Members / Partners of the Bidding Enterprise may alternatively appoint a person to sign this document on behalf of the Bidding Enterprise, which person must be so authorized by way of a duly completed power of attorney, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (proof of shareholding / ownership and power of attorney are to be attached hereto).
5. Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

ENTERPRISE STAMP

PA-15.2: RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

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

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

Held at _____ (place)

on _____ (date)

RESOLVED that:

1. The Enterprise submits a Bid /Tender, in consortium/Joint Venture with the following Enterprises:

(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Consortium/Joint Venture)

to the Department of Public Works in respect of the following project:

(Project description as per Bid /Tender Document)

Bid / Tender Number: _____ (Bid / Tender Number as per Bid / Tender Document)

2. *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under item 1 above.

3. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Department in respect of the project described under item 1 above.
4. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:

Physical address: _____

_____ (code)



Postal Address: _____

_____ (code)

Telephone number: _____

Fax number: _____

	Name	Capacity	Signature
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The bidding enterprise hereby absolves the Department of Public Works from any liability whatsoever that may arise as a result of this document being signed

Note:

1. * Delete which is not applicable.
2. **NB:** This resolution must, where possible, be signed by all the Directors / Members / Partners of the Bidding Enterprise.
3. In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (attach proof of shareholding / ownership hereto).
4. Directors / Members / Partners of the Bidding Enterprise may alternatively appoint a person to sign this document on behalf of the Bidding Enterprise, which person must be so authorized by way of a duly completed power of attorney, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (proof of shareholding / ownership and power of attorney are to be attached hereto).
5. Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

ENTERPRISE STAMP



PA-15.3: SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a consortium/joint venture to jointly bid for the project mentioned below: *(legally correct full names and registration numbers, if applicable, of the Enterprises forming a Consortium/Joint Venture)*

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Held at _____ (place)

on _____ (date)

RESOLVED that:

RESOLVED that:

- A. The above-mentioned Enterprises submit a Bid in Consortium/Joint Venture to the Department of Public Works in respect of the following project:

(Project description as per Bid /Tender Document)

Bid / Tender Number: _____ (Bid / Tender Number as per Bid /Tender Document)



PA-15.3: Special Resolution of Consortia or Joint Ventures

B. *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign the Bid, and any and all other documents and/or correspondence in connection with and relating to the Bid, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid to the Enterprises in Consortium/Joint Venture mentioned above.

C. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of:

D. The Enterprises to the Consortium/Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Consortium/Joint Venture deriving from, and in any way connected with, the Contract entered into with the Department in respect of the project described under item A above.

E. Any of the Enterprises to the Consortium/Joint Venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Department 30 days written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Department for the due fulfilment of the obligations of the Consortium/Joint Venture as mentioned under item D above.

F. No Enterprise to the Consortium/Joint Venture shall, without the prior written consent of the other Enterprises to the Consortium/Joint Venture and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the Contract with the Department referred to herein.

G. The Enterprises choose as the *domicilium citandi et executandi* of the Consortium/Joint Venture for all purposes arising from the consortium/joint venture agreement and the Contract with the Department in respect of the project under item A above:

Physical address: _____

_____ (Postal code) _____

Postal Address: _____

_____ (Postal code) _____

Telephone number: _____

Fax number: _____



PA-15.3: Special Resolution of Consortia or Joint Ventures

	Name	Capacity	Signature
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The bidding enterprise hereby absolves the Department of Public Works & Infrastructure from any liability whatsoever that may arise as a result of this document being signed.

Note:

1. * Delete which is not applicable.
2. **NB:** This resolution must be signed by all the Duly Authorised Representatives of the Legal Entities to the consortium/joint venture submitting this tender, as named in item 2 of Resolution PA-15.2.
3. Should the number of the Duly Authorised Representatives of the Legal Entities joining forces in this tender exceed the space available above, additional names, capacity and signatures must be supplied on a separate page.
4. Resolution PA-15.2, duly completed and signed, from the separate Enterprises who participate in this consortium/joint venture, must be attached to this Special Resolution (PA-15.3).

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



Department
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

PA-16: 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 Preference Points System to be applied

(Tick whichever is applicable).

- ☒ The applicable preference point system for this tender is the **80/20** preference point system.
- ☐ The applicable preference point system for this tender is the **90/10** preference point system.
- ☐ 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 shall be awarded for:

1.3.1 Price; and

1.3.2 Specific Goals

1.4 The maximum points for this tender are allocated as follows:

CHOOSE APPLICABLE PREFERENCE POINT SCORING SYSTEM	☒ 80/20	☐ 90/10
PRICE	80	
SPECIFIC GOALS	20	
Total points for Price and Specific Goals		

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

1.5 Breakdown Allocation of Specific Goals Points

1.5.1 **For Procurement transactions with rand value greater than R2 000.00 and up to R1 Million (Inclusive of all applicable taxes), the specific goals as listed in table 1 below are applicable.**

All Acquisitions

Table 1

Serial No	Specific Goals	Preference Points allocated out of 20	Documentation to be submitted by bidders to validate their claim for points
1.	An EME or QSE which is at least 51% owned by black people	10	ID Copy Or SANAS Accredited BBBEE Certificate or sworn affidavit where applicable Or CSD Report Or CIPC (company registration)
2.	Located in a specific Local Municipality or District Municipality or Metro or Province area for work to be done or services to be rendered in that area	2	Office Municipal Rates Statement Or Permission To Occupy from local chief in case of rural areas (PTO) Or Lease Agreement
3.	An EME or QSE which is at least 51% owned by women	4	ID Copy Or CSD Report Or CIPC (company registration)

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

Serial No	Specific Goals	Preference Points allocated out of 20	Documentation to be submitted by bidders to validate their claim for points
4.	An EME or QSE which is at least 51% owned by people with disability	2	Medical Certificate Or South African Social Security Agency (SASSA) registration Or National Council for Persons with Physical Disability in South Africa registration (NCPDSA)
5.	An EME or QSE which is at least 51% owned by youth .	2	ID Copy Or CSD Report Or CIPC (company registration)

1.5.2 **For procurement transactions with rand value greater than R1 Million and up to R50 Million (Inclusive of all applicable taxes) the specific goals as listed in table 2 below are applicable:**

All Acquisitions

Table 2

Serial No	Specific Goals	Preference Points allocated out of 20	Documentation to be submitted by bidders to validate their claim for points
1.	An EME or QSE or any entity which is at least 51% owned by Historically Disadvantaged Individuals (HDI)	10	ID Copy Or SANAS Accredited BBBEE Certificate or sworn affidavit where applicable Or CSD Report

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

Serial No	Specific Goals	Preference Points allocated out of 20	Documentation to be submitted by bidders to validate their claim for points
			Or CIPC (company registration)
2.	Located in a specific Local Municipality or District Municipality or Metro or Province area for work to be done or services to be rendered in that area	2	Office Municipal Rates Statement Or Permission To Occupy from local chief in case of rural areas (PTO) Or Lease Agreement
3.	An EME or QSE or any entity which is at least 51% owned by women	4	ID Copy Or CSD Report Or CIPC (company registration)
4.	An EME or QSE or any entity which is at least 51% owned by people with disability	2	Medical Certificate Or South African Social Security Agency (SASSA) registration Or National Council for Persons with Physical Disability in South Africa registration (NCPDSA)
5.	An EME or QSE or any entity which is at least 51% owned by youth .	2	ID Copy Or CSD Report Or CIPC (company registration)

1.5.3 For procurement transactions with rand value greater than R50 Million (Inclusive of all applicable taxes) the specific goals as listed in table 3 below are applicable

All Acquisitions

Table 3

Serial No	Specific Goals	Preference Points allocated out of 10	Documentation to be submitted by bidders to validate their claim for points
1.	An EME or QSE or any entity which is at least 51% owned by Historically Disadvantaged Individuals (HDI)	4	ID Copy Or SANAS Accredited BBBEE Certificate or sworn affidavit where applicable Or CSD Report Or CIPC (company registration)
2.	Located in a specific Local Municipality or District Municipality or Metro or Province area for work to be done or services to be rendered in that area	2	Office Municipal Rates Statement Or Permission To Occupy from local chief in case of rural areas (PTO) Or Lease Agreement
3.	An EME or QSE or any entity which is at least 51% owned by women	2	ID Copy Or CSD Report Or CIPC (company registration)
4. ☐	An EME or QSE or any entity which is at least 51% owned by people with disability	2	Medical Certificate Or

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

Serial No	Specific Goals	Preference Points allocated out of 10	Documentation to be submitted by bidders to validate their claim for points
5. ☐	OR An EME or QSE or any entity which is at least 51% owned by youth. (only one specific goal is applicable between specific goal number 4 and specific goal number 5 under 90/10 Preference Point System)		South African Social Security Agency (SASSA) registration Or National Council for Persons with Physical Disability in South Africa registration (NCPDPA) ID Copy Or CSD Report Or CIPC (company registration)

- 1.6 Failure on the part of the tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals, if the service provider/ tenderer did not submit proof or documentation required to claim for specific goals will be interpreted to mean that preference points for specific goals are not claimed.
- 1.7 The organ of state reserves the right to require of a service provider/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

- “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;
- “price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- “rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- “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
- “the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No.

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:

$$\begin{array}{ccc} \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\ \\ \mathbf{Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)} \end{array}$$

Where

Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmin = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

$$\begin{array}{ccc} \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\ \\ \mathbf{Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)} \end{array}$$

Where

Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR 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 1,2 and 3 above as may be supported by proof/ documentation stated in the conditions of this tender:

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

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 (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
1. An EME or QSE or any entity which is at least 51% owned by Historically Disadvantaged Individuals (HDI)	4	10		
2. Located in a specific Local Municipality or District Municipality or Metro or Province area for work to be done or services to be rendered in that area	2	2		
3. An EME or QSE or any entity which is at least 51% owned by women	2	4		

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
4. An EME or QSE or any entity which is at least 51% owned by people with disability	2	2		
or				
5. An EME or QSE or any entity which is at least 51% owned by youth .*		2		
(only one specific goal is applicable between specific goal number 4 and specific goal number 5 under 90/10 Preference Point System)				

Note: *in respect of the 90/10 point system a selection of either disability or youth may be made with an allocation of 2 points for either of them.

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,

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

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:	
	

DPW-09 (EC): PARTICULARS OF TENDERER'S PROJECTS

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>		
Tender / quotation no:	BL23/009	Closing date:	08 August 2023
Advertising date:	14 July 2023	Validity period:	84 days

1. PARTICULARS OF THE TENDERER'S CURRENT AND PREVIOUS COMMITMENTS

1.1. Current projects

Projects currently engaged in	Name of Employer or Representative of Employer	Contact tel. no.	Contract sum	Contractual commencement date	Contractual completion date	Current percentage progress
1						
2						
3						
4						
5						
6						
7						
8						

Tender no: **BL23/009**

1.2. Completed projects

Projects completed in the previous 5 (five) years		Name of Employer or Representative of Employer	Contact tel. no.	Contract sum	Contractual commencement date	Contractual completion date	Date of Certificate of Practical Completion
1							
2							
3							
4							
5							
6							
7							
8							
9							

Name of Tenderer	Signature Date



Guidance Document for the Calculation of Local Content

1. DEFINITIONS

Unless explicitly provided in this guideline, the definitions given in SATS 1286:2011 apply.

2. GENERAL

2.1. Introduction

This guideline provides tenderers with a detailed description of how to calculate local content of products (goods, services and works) by components/material/services and enables them to keep an updated record for verification requirements as per the SATS 1286:2011 Annexure A and B.

The guideline consists of two parts, namely:

- a written guideline; and
- three declarations that must be completed:
 - Declaration C: “Local Content Declaration – Summary Schedule” (see Annexure C);
 - Declaration D: “Imported Content Declaration – Supporting Schedule to Annex C” (see Annexure D); and
 - Declaration E: “Local Content Declaration – Supporting Schedule to Annex C” (see Annexure E).

The guidelines and declarations should be used by tenderers when preparing a tender. A tenderer must complete Declarations D and E, and consolidate the information on Declaration C.

Annexure C must be submitted with the tender by the closing date and time as determined by the Tender Authority. The Tender Authority reserves the right to request that Declarations D and E also be submitted.

If the tender is successful, the tenderer must continuously update Declarations C, D and E with actual values for the duration of the contract.

NOTE:

Annexure A is a note to the purchaser in SATS 1286:2011; and
Annexure B is the Local Content Declaration IN SATS 1286:2011.

2.2. What is local content?

According to SATS 1286:2011, the local content of a product is the tender price less the value of imported content, expressed as a percentage. It is, therefore, necessary to first compute the imported value of a product to determine the local content of a product.

2.3. Categories: Imported and Local Content

The tenderer must differentiate between imported content and local content.

Imported content of a product by components/material/services is separated into two categories, namely:

- products imported directly by the tenderer; and
- products imported by a third party and supplied to the tenderer.

2.3.1. Imported Content

Identify the imported content, if any, by value for products by component/material/services. In the case of components/materials/services sourced from a South African manufacturer, agent, supplier or subcontractor (i.e. third party), obtain that information and Declaration D from the third party.

Calculate the imported content of components/materials/services to be used in the manufacture of the total quantity of the products for which the tender is to be submitted.

As stated in clause 3.2.4 of SATS 1286:2011: "If information on the origin of components, parts or materials is not available, it will be deemed to be imported content."

2.3.1.1. Imported directly by the tenderer:

When the tenderer import products directly, the onus is on the tenderer to provide evidence of any components/materials/services that were procured from a non-domestic source. The evidence should be verifiable and pertain to the tender as a whole. Typical evidence will include commercial invoices, bills of entry, etc.

When the tenderer procures imported services such as project management, design, testing, marketing, etc and makes royalty and lease payments, such payments relating to the tender must be included when calculating imported content.

2.3.1.2. Imported by a third party and supplied to the tenderer:

When the tenderer supplies components/material/services that are imported by any third party (for example, a domestic manufacturer, agent, supplier or subcontractor in the supply chain), the onus is on the tenderer to obtain verifiable evidence from the third party.

The tenderer must obtain Declaration D from all third parties for the related tender. The third party must be requested by the tenderer to continuously update Declaration D. Typical evidence of imported content will include commercial invoices, bills of entry etc.

When a third party procures imported services such as project management, design, testing, marketing etc. and makes royalty and lease payments, such payments relating to the tender must be included when calculating imported content.

2.3.1.3. Exempt Imported Content:

Exemptions, if any, are granted by the Department of Trade and Industry (**the dti**). Evidence of the exemptions must be provided and included in Annexure D.

2.3.2. **Local Content**

Identify and calculate the local content, by value for products by components/materials/services to be used in the manufacture of the total quantity of the products.

3. ANNEXURE C

3.1. Guidelines for completing Annexure C: Local Content Declaration – Summary Schedule

Note: The paragraph numbers correspond to the numbers in Annexure C.

C1. Tender Number

Supply the tender number that is specified on the specific tender documentation.

C2. Tender description

Supply the tender description that is specified on the specific tender documentation.

C3. Designated products

Supply the details of the products that are designated in terms of this tender (i.e. buses).

C4. Tender Authority

Supply the name of the tender authority.

C5. Tendering Entity name

Provide the tendering entity name (for example, Unibody Bus Builders (Pty) Ltd).

C6. Tender Exchange Rate

Provide the exchange rate used for this tender, as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

C7. Specified local content %

Provide the specified minimum local content requirement for the tender (i.e. 80%), as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MDB) 6.2.

C8. Tender item number

Provide the tender item number(s) of the products that have a local content requirement as per the tender specification.

C9. List of items

Provide a list of the item(s) corresponding with the tender item number.
This may be a short description or a brand name.

Calculation of local content

C10. Tender price

Provide the unit tender price of each item excluding VAT.

C11. Exempted imported content

Provide the ZAR value of the exempted imported content for each item, if applicable. These value(s) must correspond with the value(s) of column D16 on Annexure D.

C12. Tender value net of exempted imported content

Provide the net tender value of the item, if applicable, by deducting the exempted imported content (C11) from the tender price (C10).

C13. Imported value

Provide the ZAR value of the items' imported content.

C14. Local value

Provide the local value of the item by deducting the Imported value (C13) from the net tender value (C12).

C15. Local content percentage (per item)

Provide the local content percentage of the item(s) by dividing the local value (C14) by the net tender value (C12) as per the local content formula in SATS 1286.

Tender Summary

C16. Tender quantity

Provide the tender quantity for each item number as per the tender specification.

C17. Total tender value

Provide the total tender value by multiplying the tender quantity (C16) by the tender price (C10).

C18. Total exempted imported content

Provide the total exempted imported content by multiplying the tender quantity (C16) by the exempted imported content (C11). These values must correspond with the values of column D18 on Annexure D.

C19. Total imported content

Provide the total imported content of each item by multiplying the tender quantity (C16) by the imported value (C13).

C20. Total tender value

Total tender value is the sum of the values in column C17.

C21. Total exempted imported content

Total exempted imported content is the sum of the values in column C18. This value must correspond with the value of D19 on Annexure D.

C22. Total tender value net of exempted imported content

The total tender value net of exempt imported content is the total tender value (C20) less the total exempted imported content (C21).

C23. Total imported content

Total imported content is the sum of the values in column C19. This value must correspond with the value of D53 on Annexure D.

C24. Total local content

Total local content is the total tender value net of exempted imported content (C22) less the total imported content (C23). This value must correspond with the value of E13 on Annexure E.

C25. Average local content percentage of tender

The average local content percentage of tender is calculated by dividing total local content (C24) by the total tender value net of exempted imported content (C22).

4. ANNEXURE D

4.1. Guidelines for completing Annexure D: “Imported Content Declaration – Supporting Schedule to Annexure C”

Note: The paragraph numbers correspond to the numbers in Annexure D.

D1. Tender number

Supply the tender number that is specified on the specific tender documentation.

D2. Tender description

Supply the tender description that is specified on the specific tender documentation.

D3. Designated products

Supply the details of the products that are designated in terms of this tender (i.e. buses).

D4. Tender authority

Supply the name of the tender authority.

D5. Tendering entity name

Provide the tendering entity name (i.e. Unibody Bus Builders (Pty) Ltd).

D6. Tender exchange rate

Provide the exchange rate used for this tender, as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

Table A. Exempted Imported Content

D7. Tender item number

Provide the tender item number(s) of the product(s) that have imported content.

D8. Description of imported content

Provide a list of the exempted imported product(s), if any, as specified in the tender.

D9. Local supplier

Provide the name of the local supplier(s) supplying the imported product(s).

D10. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the exempted imported product(s).

D11. Imported value as per commercial invoice

Provide the foreign currency value of the exempted imported product(s) disclosed in the commercial invoice accepted by the South African Revenue Service (SARS).

D12. Tender exchange rate

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D13. Local value of imports

Convert the value of the exempted imported content as per commercial invoice (D11) into the ZAR value by using the tender exchange rate (D12) disclosed in the tender documentation.

D14. Freight costs to port of entry

Provide the freight costs to the South African Port of the exempted imported item.

D15. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the exempted imported product(s) as stipulated in the SATS 1286:2011.

D16. Total landed costs excl VAT

Provide the total landed costs (excluding VAT) for each item imported by adding the corresponding item values in columns D13, D14 and D15. These values must be transferred to column C11 on Annexure C.

D17. Tender quantity

Provide the tender quantity of the exempted imported products as per the tender specification.

D18. Exempted imported value

Provide the imported value for each of the exempted imported product(s) by multiplying the total landed cost (excl. VAT) (D16) by the

tender quantity (D17). The values in column D18 must correspond with the values of column C18 of Annexure C.

D19. Total exempted imported value

The total exempted imported value is the sum of the values in column D18. This total must correspond with the value of C21 on Annexure C.

Table B. Imported Directly By Tenderer

D20. Tender item numbers

Provide the tender item number(s) of the product(s) that have imported content.

D21. Description of imported content:

Provide a list of the product(s) imported directly by tender as specified in the tender documentation.

D22. Unit of measure

Provide the unit of measure for the product(s) imported directly by the tenderer.

D23. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the imported product(s).

D24. Imported value as per commercial Invoice

Provide the foreign currency value of the product(s) imported directly by tenderer disclosed in the commercial invoice accepted by the South African Revenue Service (SARS).

D25. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D26. Local value of imports

Convert the value of the product(s) imported directly by the tenderer as per commercial invoice (D24) into the ZAR value by using the tender exchange rate (D25) disclosed in the tender documentation.

D27. Freight costs to port of entry

Provide the freight costs to the South African Port of the product(s) imported directly by the tenderer.

D28. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the product(s) imported directly by the tenderer as stipulated in the SATS 1286:2011.

D29. Total landed costs excl VAT

Provide the total landed costs (excluding VAT) for each item imported directly by the tenderer by adding the corresponding item values in columns D26, D27 and D28.

D30. Tender quantity

Provide the tender quantity of the product(s) imported directly by the tenderer as per the tender specification.

D31. Total imported value

Provide the total imported value for each of the product(s) imported directly by the tenderer by multiplying the total landed cost (excl. VAT) (D29) by the tender quantity (D30).

D32. Total imported value by tenderer

The total value of imports by the tenderer is the sum of the values in column D31.

Table C. Imported by Third Party and Supplied to the Tenderer

D33. Description of imported content

Provide a list of the product(s) imported by the third party and supplied to the tenderer as specified in the tender documentation.

D34. Unit of measure

Provide the unit of measure for the product(s) imported by the third party and supplied to tenderer as disclosed in the commercial invoice.

D35. Local supplier

Provide the name of the local supplier(s) supplying the imported product(s).

D36. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the imported products.

D37. Imported value as per commercial invoice

Provide the foreign currency value of the product(s) imported by the third party and supplied to the tenderer disclosed in the commercial invoice accepted by SARS.

D38. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D39. Local value of imports

Convert the value of the product(s) imported by the third party as per commercial invoice (D37) into the ZAR value by using the tender exchange rate (D38) disclosed in the tender documentation.

D40. Freight costs to port of entry

Provide the freight costs to the South African Port of the product(s) imported by third party and supplied to the tenderer.

D41. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the product(s) imported by third party and supplied to the tenderer as stipulated in the SATS 1286:2011.

D42. Total landed costs excluding VAT

Provide the total landed costs (excluding VAT) for each product imported by third party and supplied to the tenderer by adding the corresponding item values in columns D39, D40 and D41.

D43. Quantity imported

Provide the quantity of each product(s) imported by third party and supplied to the tenderer for the tender.

D44. Total imported value

Provide the total imported value of the product(s) imported by third party and supplied to the tenderer by multiplying the total landed cost (D42) by the quantity imported (D43).

D45. Total imported value by third party

The total imported value from the third party is the sum of the values in column D44.

Table D. Other Foreign Currency Payments

D46. Type of payment

Provide the type of foreign currency payment. (i.e. royalty payment for use of patent, annual licence fee, etc).

D47. Local supplier making the payment

Provide the name of the local supplier making the payment.

D48. Overseas beneficiary

Provide the name of the overseas beneficiary.

D49. Foreign currency value paid

Provide the value of the listed payment(s) in their foreign currency.

D50. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D51. Local value of payments

Provide the local value of each payment by multiplying the foreign currency value paid (D49) by the tender rate of exchange (D50).

D52. Total of foreign currency payments declared by tenderer and/or third party

The total of foreign currency payments declared by tenderer and/or a third party is the sum of the values in column D51.

D53. Total of imported content and foreign currency payment

The total imported content and foreign currency payment is the sum of the values in column D32, D45 and D52. This value must correspond with the value of C23 on Annexure C.

5. ANNEXURE E

5.1. Guidelines to completing Annexure E: “Local Content Declaration-Supporting Schedule to Annexure C”

The paragraph numbers correspond to the numbers in Annexure E

E1. Tender number

Supply the tender number that is specified on the specific tender documentation.

E2. Tender description

Supply the tender description that is specified on the specific tender documentation.

E3. Designated products

Supply the details of the products that are designated in terms of this tender (for example, buses/canned vegetables).

E4. Tender authority

Supply the name of the tender authority.

E5. Tendering entity name

Provide the tendering entity name (for example, Unibody Bus Builders (Pty) Ltd) Ltd).

Local Goods, Services and Works

E6. Description of items purchased

Provide a description of the items purchased locally in the space provided.

E7. Local supplier

Provide the name of the local supplier that corresponds to the item listed in column E6.

E8. Value

Provide the total value of the item purchased in column E6.

E9. Total local products (Goods, Services and Works)

Total local products (goods, services and works) is the sum of the values in E8.

E10. Manpower costs:

Provide the total of all the labour costs accruing only to the tenderer (i.e. not the suppliers to tenderer).

E11. Factory overheads:

Provide the total of all the factory overheads including rental, depreciation and amortisation for local and imported capital goods, utility costs and consumables. (Consumables are goods used by individuals and businesses that must be replaced regularly because they wear out or are used up. Consumables can also be defined as the components of an end product that are used up or permanently altered in the process of manufacturing, such as basic chemicals.)

E12. Administration overheads and mark-up:

Provide the total of all the administration overheads, including marketing, insurance, financing, interest and mark-up costs.

E13. Total local content:

The total local content is the sum of the values of E9, E10, E11 and E12. This total must correspond with C24 of Annexure C.



PA-36: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

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

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

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.
- 1.2. Regulation 8.(2) prescribes that in the case of designated sectors, organs of state must advertise such tenders with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

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

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) on the date of advertisement of the bid as indicated in paragraph 3.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.



PA36: Declaration Certificate for Local Production and Content for Designated Sectors.

(This form has been aligned with NT - SBD 6.2)

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

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
AIR CONDITIONING INSTALLATIONS	100%
ELECTRICAL CABLES	90%
STEEL PRODUCTS	100%
HDPE PIPES	100%

3. Does any portion of the goods or services offered have any imported content?

(Tick applicable box)

YES		NO	
-----	--	----	--

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

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

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

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

LOCAL CONTENT DECLARATION

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

Page 2 of 4



PA36: Declaration Certificate for Local Production and Content for Designated Sectors.

(This form has been aligned with NT - SBD 6.2)

(REFER TO ANNEX B OF SATS 1286:2011)

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

IN RESPECT OF BID NO.

ISSUED BY: (Procurement Authority / Name of Institution):
.....

NB

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thedti.gov.za/industrial_development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

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

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

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

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

Page 3 of 4



PA36: Declaration Certificate for Local Production and Content for Designated Sectors.

(This form has been aligned with NT - SBD 6.2)

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

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

SIGNATURE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

1. Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	BL23/009
(C2)	Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development
(C3)	Designated product(s)	Steel products
(C4)	Tender Authority:	DPWI
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula
(C7)	Specified local content %	100%

GBP

Note: VAT to be excluded from all calculations

		100	Calculation of local content					Tender summary				
Tender item no's	List of items		Tender price - each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)	Tender Qty	Total tender value	Total exempted imported content	Total Imported content
(C8)	(C9)		(C10)	(C11)	(C12)	(C13)	(C14)	(C15)	(C16)	(C17)	(C18)	(C19)
Section 2, Part A, Bill 3, Item 114, pg 31	Supply and install 25mm ² galvanised steel conduit complete with all accessories and wall fixing saddles spaced at 1m intervals								200m			
Section 2, Part A, Bill 3, Item 115, pg 31	Supply and install 25mm ² galvanised steel conduit complete with all accessories and wall fixing saddles spaced at 1m intervals								700m			
Section 2, Part A, Bill 3, Item 116, pg 31	Side entry round conduit box for 20mm diameter conduit (average 1 to 4-way)								200			
Section 2, Part A, Bill 3, Item 117, pg 31	Side entry round conduit box for 25mm diameter conduit (average 1 to 4-way)								50			
Section 2, Part A, Bill 3, Item 124, pg 32	Supply and P4000 galvanised steel trunking with cover including all wall fixing accessories, fixed at 0,5m intervals								200m			
Section 2, Part A, Bill 3, Item 125, pg 32	Supply and install P4000 junction box								15			
Section 2, Part A, Bill 3, Item 126, pg 32	Supply and install P4000 termination into power skirting								20			
Section 2, Part A, Bill 3, Item 127, pg 32	Supply and P9000 galvanised steel trunking with cover including all wall fixing accessories, fixed at 0,5m intervals								200m			

1. Annex D

Imported Content Declaration - Supporting Schedule to Annex C

(D1) Tender No.	BL23/009	Note: VAT to be excluded from all calculations
(D2) Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development	
(D3) Designated Products:	Steel products	
(D4) Tender Authority:	DPWI	
(D5) Tendering Entity name:		
(D6) Tender Exchange Rate:	Pula	EU GBP

A. Exempted imported content

				Calculation of imported content						Summary	
Tender item no's	Description of imported content	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Exchange Rate	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted importer value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D14)	(D15)	(D16)	(D17)	(D18)
(D19) Total exempt imported value R										This total must correspond with Annex C - C 21	

B. Imported directly by the Tenderer

				Calculation of imported content						Summary	
Tender item no's	Description of imported content	Unit of measure	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total imported value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
(D32) Total imported value by tenderer R											

C. Imported by a 3rd party and supplied to the Tenderer

				Calculation of imported content						Summary	
Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Quantity imported	Total imported value
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)	(D43)	(D44)
(D52) Total of foreign currency payments declared by tenderer and/or 3rd party											

Signature of tenderer from Annex B

Date:

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

This total must correspond with Annex C - C 23

(E1)	Tender No.	BL23/009
(E2)	Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back- up generator to the existing building: Department of Justice and Constitutional Development
(E3)	Designated products:	Steel products
(E4)	Tender Authority:	DPWI
(E5)	Tendering Entity name:	

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value
	(E6)	(E7)	(E8)
(E9) Total local products (Goods, Services and Works)			R

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

(E10)	Manpower costs	(Tenderer's manpower cost)	R
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(E11)	Factory overheads (Rental, depreciation & amortisation, utility costs, consumables etc.)	R
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(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc.)	R
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(E13) Total local content R

This total must correspond with Annex C - C24

Signature of tenderer from Annex B

Date: _____

2. Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	BL23/009
(C2)	Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development
(C3)	Designated product(s)	Low voltage electrical cables
(C4)	Tender Authority:	DPWI
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula EU
(C7)	Specified local content %	90%

GBP

Note: VAT to be excluded from all calculations

(C/)

Specified local content %

90%

Tender item no's		List of items	Tender price - each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)	
Section 2, Part A, Bill 1, Item 1, pg 20	Supply and install 50mm ² 4 core cable PVC/SWA							
Section 2, Part A, Bill 1, Item 2, pg 20	Supply and install 16mm ² 4 core cable PVC/SWA							
Section 2, Part A, Bill 1, Item 3, pg 20	Supply and install 10mm ² 4 core cable PVC/SWA							
Section 2, Part A, Bill 1, Item 4, pg 21	Supply and install 6mm ² 4 core cable PVC/SWA							
Section 2, Part A, Bill 1, Item 5, pg 21	Supply and install 4mm ² 4 core cable PVC/SWA							
Section 2, Part A, Bill 1, Item 6, pg 21	Supply and install 25mm ² BCEW							
Section 2, Part A, Bill 1, Item 7, pg 21	Supply and install 16mm ² BCEW							
Section 2, Part A, Bill 1, Item 8, pg 21	Supply and install 10mm ² BCEW							
Section 2, Part A, Bill 1, Item 9, pg 21	Supply and install 6mm ² BCEW							
Section 2, Part A, Bill 1, Item 10, pg 21	Supply and install 4mm ² BCEW							
Section 2, Part A, Bill 3, Item 118, pg 31	2.5mm ² PVC housewire							

Calculation of local content						Tender summary			
Tender Qty	Total tender value	Total exempted imported content	Total Imported content						
(C16)	(C17)	(C18)	(C19)						
70m									
100m									
130m									
35m									
60m									
70m									
100m									
130m									
35m									
60m									
2000m									

(D1)	Tender No.	BL23/009	
(D2)	Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development	
(D3)	Designated Products:	Low voltage electrical cables	
(D4)	Tender Authority:	DPWI	
(D5)	Tendering Entity name:		
(D6)	Tender Exchange Rate:	Pula	

FU GBP

Calculation of imported content

(D19) Total exempt imported value	R
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Calculation of imported content

(D32) Total imported value by tenderer	R
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Calculation of imported content

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

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

Date: _____

2. Annex E

Local Content Declaration - Supporting Schedule to Annex C

(E1)	Tender No.	BL23/009
(E2)	Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back- up generator to the existing building: Department of Justice and Constitutional Development
(E3)	Designated products:	Low voltage electrical cables
(E4)	Tender Authority:	DPWI
(E5)	Tendering Entity name:	

Note: VAT to be excluded from all calculations

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value
	(E6)	(E7)	(E8)
(E9) Total local products (Goods, Services and Works)			R

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

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

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

(E13) **Total local content** R

This total must correspond with Annex C - C24

Signature of tenderer from Annex B

Date: _____

Local Content Declaration - Summary Schedule

Note: VAT to be excluded from all calculations

Tender No.	BL23/009
Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development
Designated product(s)	HDPE pipes
Tender Authority:	DPWI
Tendering Entity name:	
Tender Exchange Rate:	Pula EU
Specified local content %	100%

Appendix 10: Local content %		Calculation of local content					
Tender item no's	List of items	Tender price - each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)
Section 2, Part A, Bill 1, Item 26, pg 23	Supply and install 110mm HDPE sleeve						
Section 2, Part A, Bill 1, Item 27, pg 23	Supply and install 50mm HDPE sleeve						
Section 2, Part A, Bill 1, Item 28, pg 23	Supply and install 90 degree 110mm HDPE elbow						
Section 2, Part A, Bill 1, Item 29, pg 23	Supply and install 90 degree 50mm HDPE elbow						

Tender summary			
Tender Qty	Total tender value	Total exempted imported content	Total Imported content
(C16)	(C17)	(C18)	(C19)
22m			
16m			
6			
3			

Signature of tenderer from Annex B

Date: _____

3. Annex D

Imported Content Declaration - Supporting Schedule to Annex C

(D1) Tender No. BL23/009

(D2) Tender description: Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development

(D3) Designated Products: HDPE pipes

(D4) Tender Authority: DPWI

(D5) Tendering Entity name:

(D6) Tender Exchange Rate: Pula

Note: VAT to be excluded from all calculations

EU

GBP

A. Exempted imported content

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

(D19) Total exempt imported value R

This total must correspond with Annex C - C 21

B. Imported directly by the Tenderer

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

(D32) Total imported value by tenderer R

C. Imported by a 3rd party and supplied to the Tenderer

Calculation of imported content										Summary	
Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Quantity imported	Total imported value
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)	(D43)	(D44)

(D45) Total imported value by 3rd party R

D. Other foreign currency payments

Calculation of foreign currency payments					Summary of payments	
Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange	Local value of payments	
(D46)	(D47)	(D48)	(D49)	(D50)	(D51)	

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

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

This total must correspond with Annex C - C 23

Signature of tenderer from Annex B

Date:

3. Annex E

Local Content Declaration - Supporting Schedule to Annex C

(E1)	Tender No.	BL23/009
(E2)	Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back- up generator to the existing building: Department of Justice and Constitutional Development
(E3)	Designated products:	HDPE pipes
(E4)	Tender Authority:	DPWI
(E5)	Tendering Entity name:	

Note: VAT to be excluded from all calculations

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value
	(E6)	(E7)	(E8)
(E9) Total local products (Goods, Services and Works)			R

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

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

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

(E13) Total local content R

This total must correspond with Annex C - C24

Signature of tenderer from Annex B

Date: _____

4. Annex C

Local Content Declaration - Summary Schedule

(C1) **Tender No.** BL23/009

(C2) **Tender description:** Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development

(C3) **Designated product(s)** Air Conditioning Installations

(C4) **Tender Authority:** DPWI

(C5) **Tendering Entity name:**

(C6) **Tender Exchange Rate:**

(C7) **Specified local content %** 100%

Pula EU GBP

Note: VAT to be excluded from all calculations

Calculation of local content				Tender summary			
Tender item no's	List of items	Tender price - each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)
Section 2, Part B, Bill 1, Item 1, pg 41	Split Unit, 2.6 kW(9000 BTU) midwall unit						
Section 2, Part B, Bill 1, Item 2, pg 41	Split Unit, 3.5 kW(12000 BTU) midwall unit						
Section 2, Part B, Bill 1, Item 3, pg 41	Split Unit, 7.0 kW(24000 BTU) midwall unit						
Section 2, Part B, Bill 1, Item 4, pg 41	Split Unit, 9.0 kW(30000 BTU) midwall unit						
Section 2, Part B, Bill 1, Item 5, pg 41	Set off wall mounted brackets						
Section 2, Part B, Bill 1, Item 6, pg 42	Refrigerant pipe between indoor and outdoor unit, including all necessary fittings, branches, refnet fittings c/w armoflex / insulation						
Section 2, Part B, Bill 1, Item 9, pg 42	Condensation Piping 20 mm c/w insulation						
Section 2, Part B, Bill 2, Item 12, pg 43	Split Unit, 4.8 kW(16000 BTU) midwall unit						
Section 2, Part B, Bill 2, Item 13, pg 43	Split Unit, 7.0 kW(24000 BTU) midwall unit						
Section 2, Part B, Bill 2, Item 14, pg 43	Set off wall mounted brackets						
Section 2, Part B, Bill 2, Item 15, pg 43	Refrigerant pipe between indoor and outdoor unit, including all necessary fittings, branches, refnet fittings c/w armoflex / insulation						
Section 2, Part B, Bill 2, Item 18, pg 43	Condensation Piping 20 mm c/w insulation						
				(C20) Total tender value R			
				(C21) Total Exempt imported content R			
				(C22) Total Tender value net of exempt imported content R			
				(C23) Total Imported content R			
				(C24) Total local content R			
				(C25) Average local content % of tender			

Signature of tenderer from Annex B

Date:

4. Annex D

Imported Content Declaration - Supporting Schedule to Annex C

(D1)	Tender No.	BL23/009
(D2)	Tender description:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development
(D3)	Designated Products:	Air Conditioning Installations
(D4)	Tender Authority:	DPWI
(D5)	Tendering Entity name:	
(D6)	Tender Exchange Rate:	Pula

Note: VAT to be excluded from all calculations

EU

GBP

A. Exempted imported content

[illegible]

(D19) Total exempt imported value	R
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This total must correspond with
Annex C - C 21

B. Imported directly by the Tenderer

[illegible]

	(D32) Total imported value by tenderer	R
--	--	---

C. Imported by a 3rd party and supplied to the Tenderer

[illegible]

			(D45) Total imported value by 3rd party	R
--	--	--	---	---

D. Other foreign currency payments

[illegible]

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

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

This total must correspond with
Annex C - C 23

Signature of tenderer from Annex B

Date: _____

Local Content Declaration - Supporting Schedule to Annex C

Note: VAT to be excluded from all calculations

(E10)	Manpower costs	(Tenderer's manpower cost)	R
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc.)	R

This total must correspond with Annex C - C24

Date: _____

T2.2 Returnable Documents that will be incorporated into the contract

PA- 40: DECLARATION OF DESIGNATED GROUPS FOR PREFERENTIAL PROCUREMENT

Tender no: BL23/009

Name of Tenderer ☐ EME¹ ☐ QSE² ☐ Non EME/QSE (tick applicable box)

1. LIST ALL PROPRIETORS, MEMBERS OR SHAREHOLDERS BY NAME, IDENTITY NUMBER, CITIZENSHIP AND DESIGNATED GROUPS.

Name and Surname #	Identity/ Passport number and Citizenship##	Percentage owned	Black	Indicate if youth	Indicate if woman	Indicate if person with disability	Indicate if living in Rural (R) / Under Developed Area (UD) / Township (T) / Urban (U).	Indicate if military veteran
1.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
2.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
3.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
4.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
5.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
6.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
7.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
8.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
9.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
10.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
11.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No
12.		%	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ R ☐ UD ☐ T ☐ U	☐ Yes ☐ No

Where Owners are themselves a Company, Close Corporation, Partnership etc, identify the ownership of the Holding Company, together with Registration number
State date of South African citizenship obtained (not applicable to persons born in South Africa)

¹ EME: Exempted Micro Enterprise
² QSE: Qualifying Small Business Enterprise

PA- 40: DECLARATION OF DESIGNATED GROUPS FOR PREFERENTIAL PROCUREMENT

Tender no: BL23/009

2. DECLARATION:

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the Tenderer, hereby confirms that:

- 1 The information and particulars contained in this Affidavit are true and correct in all respects;
- 2 The Broad-based Black Economic Empowerment Act, 2003 (Act 53 of 2003), Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000), the Preferential Procurement Regulations, 2017, National Small Business Act 102 of 1996 as amended and all documents pertaining to this Tender were studied and understood and that the above form was completed according to the definitions and information contained in said documents;
- 3 The Tenderer understands that any intentional misrepresentation or fraudulent information provided herein shall disqualify the Tenderer's offer herein, as well as any other tender offer(s) of the Tenderer simultaneously being evaluated, or will entitle the Employer to cancel any Contract resulting from the Tenderer's offer herein;
- 4 The Tenderer accepts that the Employer may exercise any other remedy it may have in law and in the Contract, including a claim for damages for having to accept a less favourable tender as a result of any such disqualification due to misrepresentation or fraudulent information provided herein;
- 5 Any further documentary proof required by the Employer regarding the information provided herein, will be submitted to the Employer within the time period as may be set by the latter;

Signed by the Tenderer

Name of representative	Signature	Date

DPW-21 (EC): RECORD OF ADDENDA TO TENDER DOCUMENTS

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>		
Tender no:	<i>BL23/009</i>	Reference no:	<i>14/1/7/1/18/6718</i>

1. I / We confirm that the following communications received from the Department of Public Works and Infrastructure before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer: *(Attach additional pages if more space is required)*

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		

Name of Tenderer	Signature	Date

2. I / We confirm that no communications were received from the Department of Public Works and Infrastructure before the submission of this tender offer, amending the tender documents.

Name of Tenderer	Signature	Date

DPW-15 (EC): SCHEDULE OF PROPOSED SUBCONTRACTORS

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>		
Tender no:	<i>BL23/009</i>	Reference no:	<i>14/1/7/1/18/6718</i>

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

We confirm that all subcontractors who are contracted to construct a house are registered as home builders with the National Home Builders Registration Council.

	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor
1			
2			
3			
4			
5			

Name of representative	Signature	Capacity	Date

Name of organisation:	
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DPW-22 (EC): PARTICULARS OF ELECTRICAL CONTRACTOR

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>		
Tender no:	BL23/009	Reference no:	14/1/7/1/18/6718

Name of Electrical Contractor:	
Address:	
Electrical Contractor registration number at the Department of Labour	

Name of Tenderer	Signature	Date

DPW-23 (EC): SCHEDULE FOR IMPORTED MATERIALS AND EQUIPMENT

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>		
Tender no:	<i>BL23/009</i>	Reference no:	<i>14/1/7/1/18/6718</i>

This schedule should be completed by the tenderer. *(Attach additional pages if more space is required)*

Item	Material / Equipment	Rand (R) (Excluding VAT)
1.		R
2.		R
3.		R
4.		R
5.		R
6.		R

The Contractor shall list imported items, materials and/or equipment which shall be excluded from the Contract Price Adjustment Provisions (if applicable) and shall be adjusted in terms of currency fluctuations only. Copies of the supplier's quotations for the items, materials or equipment (provided that such costs shall not be higher than the relevant contract rate as listed above) should be lodged with the Principal Agent / Engineer of the Department of Public Works and Infrastructure within 60 (sixty) days from the date of acceptance of the tender. No adjustment of the local VAT amount, nor the contractor's profit, discount, mark-up, handling costs, etc. shall be allowed.

These net amounts will be adjusted as follows:

FORMULA:

The net amount to be added to or deducted from the contract sum:

$$A = V \left(\frac{Z}{Y} - 1 \right)$$

A = the amount (R) of adjustment

V = the net amount (supplier's quotation) (R) of the imported item

Y = exchange rate at the closing date of tender submission

Z = exchange rate on the date of payment.

Name of Tenderer	Signature	Date



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

TENDER NO.: BL23/009

PROCUREMENT DOCUMENTS

FOR

**FICKSBURG MAGISTRATES OFFICE: UPGRADING OF
DB AND ELECTRICITY. INSTALLATION OF EIGHT (8)
AIR CONDITIONER SPLIT UNITS AND BACK-UP
GENERATOR TO THE EXISTING BUILDING:
DEPARTMENT OF JUSTICE AND CONSTITUTIONAL
DEVELOPMENT**

VOLUME 3 OF 3: CONTRACT

DEPARTMENT OF PUBLIC WORKS

Bloemfontein Regional Office
18 President Brand Street
Private Bag X20605
Bloemfontein
9300

ENQUIRIES

NAME: Mr C. DYANTYI
TEL: 051 408 7366
REF: 14/1/7/1/18/6718

NAME OF TENDERER: _____

CIDB NO.: _____

CSD NO.: _____

INDEX

Description	PAGE NO.	DOCUMENT
Cover Page		DPWI Procurement Document Cover Sheet
C1.2 Contract data		Separation sheet
Contract Data	1 to 12	Project specific. DPW-05(EC)
C1.3: Form of Guarantee		Separation sheet
Variable construction guarantee	1 to 3	DPW-10.2 (EC)
Fixed construction guarantee	1 to 2	DPW-10.4 (EC)
C2.1 Pricing Instructions		Separation sheet
Pricing Instructions	1 to 9	Project specific. PG-02.1(EC)
C3 Scope of Work		Separation sheet
Scope of Work	1 to 17	Project specific. PG-01.1(EC)
HIV/AIDS Specification and Schedules	15 pages	Standard PW 1544 Specification and Schedules
Occupational Health and Safety Specifications	80 pages	OHS specifications including COVID amendments
EPWP form	1	Declaration of EPWP
C4 Site Information		Separation sheet
Site Information	1 to 1	Project specific. PG-03.2(EC)
Drawings		

C1.2: Contract Data

DPW-05: (EC) CONTRACT DATA - (GCC (2010) 2nd EDITION: 2010)

Project title:	Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development		
Tender no:	BL23/009	Reference no:	14/1/7/1/18/6718

	PART 1: DATA PROVIDED BY THE EMPLOYER
	CONDITIONS OF CONTRACT
	The General Conditions of Contract for Construction Works, Second Edition, 2010, published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from www.saice.org.za

CONTRACT SPECIFIC DATA	
The following contract specific data, referring to the General Conditions of Contract for Construction Works, Second Edition, 2010, are applicable to this Contract:	
CLAUSES	COMPULSORY DATA
1.1.1.8	Amend Clause 1.1.1.8 to include the word "rights" to read as follows: "Contract Data" means the specific data which, together with these General Conditions of Contract, collectively describe the rights, risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract.
1.1.1.13	Amend Clause 1.1.1.13 as follows, clarify when the defects liability period starts: "Defects Liability Period" means the period stated in the Contract Data, commencing on the date indicated on the Certificate of Completion or Certificates of Completion in the event of more than one Certificate of Completion is issued for different parts of the Works, during which the Contractor has both the right and the obligation to make good defects in the materials, Plant and workmanship covered by the Contract. Defects liability period is: 12 months .
1.1.1.14 & 5.14.7	The time for achieving Practical Completion of the whole of the works is: 15 months measured from the <u>Commencement Date</u> . The time thus stated includes special non-working days and the year-end break. <u>or, if Practical Completion in portions is required,</u> The times for achieving Practical Completion for the portions as set out in the Scope of Works are <i>mutatis mutandi</i> : For portion 1 within N/A For portion 2 within N/A For portion 3 within N/A For portion 4 within N/A (followed by further portions as required) The time for achieving Practical Completion of the whole of the Works is: 15 months, measured from the Commencement Date. The time thus stated includes special non-working days and the year-end break.

Tender no: BL23/009

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

For Internal & External Use

Effective date 20 September 2021

Page 1 of 12
Version: 2.2



1.1.1.15	The name of the Employer is: The Government of the Republic of South Africa in its Department of Public Works and Infrastructure.
1.1.1.16	The name of the Engineer is: <i>Moganum Govender</i>
1.1.1.26	The Pricing Strategy is a: Re-measurement Contract.
1.1.1.31	Not applicable to this Contract.
1.1.1.35	Insert the definition of "Value of Works" as Clause 1.1.1.35: "Value of Works" means the value of the Works certified by the Engineer as having been satisfactorily executed and shall include the value of the works done, the value of the materials and/or plant and Contract Price Adjustments.
1.2.1.2	Employer's address: Physical Address: 18 President Brand Street Bloemfontein 9301 Postal Address: 18 President Brand Street Bloemfontein 9301 Facsimile: <i>N/A</i> Telephone:
	Engineer's address: Physical Address: 18 President Brand Street Bloemfontein 9301 Postal Address: 18 President Brand Street Bloemfontein 9301 Facsimile: <i>N/A</i> Telephone:
1.3.4	Not applicable to this Contract.

Tender no: **BL23/009**

1.3.5	Replace Clause 1.3.5 with the following provisions: (a) The Employer will become the owner of the information, documents, advice, recommendation and reports collected, furnished and/or compiled by the Contractor during the course of, and for the purposes of executing this Contract, all of which will be handed over to the Employer on request, but in any event on the termination and/or cancellation of this Contract for whatever reason. The Contractor relinquishes its retention or any other rights thereon to which it may be entitled. (b) The copyright of all documents, recommendations and reports compiled by the Contractor during the course of and for the purposes of finalizing the Works will vest in the Employer, and may not be reproduced or distributed or made available to any person outside the Employer's service, or to any institution in any way, without the prior written consent of the Employer. The Employer shall have the right to use such material for any other purpose without the approval of information or payment to the Contractor. (c) The copyright of all electronic aids, software programmes etc. prepared or developed in terms of the Contract shall vest in the Employer, who shall have the right to use such material for any other purpose without the approval of, information or payment to the Contractor. (d) In case of the Contractor providing documents, electronic aids, software programs or like material to the Employer, the development of which has not been at the expense of the Employer, copyright shall not vest in the Employer. The Contractor shall be required to indicate to which documents, electronic aids, software programs or like material this provision applies. (e) The Contractor hereby indemnifies the Employer against any action, claim, damages or legal cost that may be instituted against the Employer on the grounds of an alleged infringement of any copyright, patents or any other intellectual property right in connection with the Works outlined in this Contract. (f) All information, documents, recommendations, programs and reports collected or compiled must be regarded as confidential and may not be communicated or made available to any person outside the Employer's service and may not be published either during the currency of this Contract or after termination thereof without the prior written consent of the Employer.
3.1.3	1. The Engineer's authority to act and/or to execute functions or duties or to issue instructions are expressly excluded in respect of the following: (a) Appointment of nominated Sub-contractors – clause 4.4.3; (b) Granting of an extension of time and/or ruling on claims associated with claims for extension of time – clauses 5.12.3, 10.1.5; (c) Acceleration of the rate of progress and determination of the cost for payment of such acceleration – clause 5.12.4; (d) Rulings on claims and disputes – clauses 10.1.5, 10.2.3 and 10.3.3; (e) Suspension of the Works – clause 5.11.1; (f) Final Payment Certificate – clause 6.10.9; (g) Issuing of <i>mora</i> notices to the Contractor – clauses 9.1.1, 9.1.2.1 and 9.2.1; (h) Cancellation of the contract between the Employer and Contractor – clauses 9.1.1, 9.1.2.1 and 9.2.1.

Tender no: **BL23/009**

	2. In order to be legally binding and have legal bearing and consequence, any ruling in respect of the above matters (a) to (h) must be on an official document, signed and issued by the Employer to the Contractor. 3. The Contractor must submit claims, demands, notices, notifications, updated particulars and reports in writing, as well as any other supporting documentation pertaining thereto, in respect of any of the above listed matters (a) to (h), to the Engineer within the time periods and in the format(s) as determined in the relevant clauses of the Conditions of Contract. Failing to deliver such to the Engineer timeous and in the correct format will invalidate any claim and the consequences of such failure will <i>mutatis mutandis</i> be as stated in clause 10.1.4. 4. Clauses 6.10.9 and 10.1.5 shall be amended as follows to indicate the limitation on the Engineer's authority in respect thereof: Clause 6.10.9 – Amend to read as follows: Within 14 days of the date of final approval as stated in the Final Approval Certificate, the Contractor shall deliver to the Engineer a final statement claiming final settlement of all moneys due to him (save in respect of matters in dispute, in terms of Clauses 10.3 to 10.11, and not yet resolved). The Employer shall within 14 days issue to the Contractor a Final Payment Certificate the amount of which shall be paid to the Contractor within 28 days of the date of such certificate, after which no further payments shall be due to the Contractor (save in respect of matters in dispute, in terms of Clauses 10.3 to 10.11 and not yet resolved). Clause 10.1.5 – Amend to read as follows: Unless otherwise provided in the Contract, the Employer shall, within 28 days after the Contractor has delivered his claim in terms of Clause 10.1.1 as read with Clause 10.1.2, deliver to the Contractor his written and adequately reasoned ruling on the claim (referring specifically to this Clause). The amount thereof, if any, allowed by the Employer shall be included to the credit of the Contractor in the next payment certificate. 5. Insert the following under 3.1.3: Provided that, notwithstanding any provisions to the contrary in the Contract, the Employer shall have the right to reverse and, should it deem it necessary, to amend any certificate, instruction, decision or valuation of the Engineer and to issue a new one, and such certificate instruction, decisions or valuations shall for the purposes of the Contract be deemed to be issued by the Engineer, provided that the Contractor shall be remunerated in the normal manner for work executed in good faith in terms of an instruction issued by the Engineer and which has subsequently been rescinded.
3.2.2.1	Amend Clause 3.2.2.1 to insert the word "Plant" to read as follows: Observe the execution of the Works, examine and test material, Plant and workmanship, and receive from the Contractor such information as he shall reasonably require.
3.2.3.2	Amend Clause 3.2.3.2 to insert the word "Plant" to reads as follows: Notwithstanding any authority assigned to him in terms of Clauses 3.2.2 and 3.2.4, failure by the Engineer's Representative to disapprove of any work, workmanship, Plant or materials shall not prejudice the power of the Engineer thereafter to disapprove thereof and exercise any of his powers in terms of the Contract in respect of thereof.
4.8.2.1	Amend Clause 4.8.2.1 to include the word "person", as follows: Makes available to the Employer, or to any such contractor, person or authority, any roads or ways for the maintenance of which the Contractor is responsible, or



Tender no: **BL23/009**

4.8.2.2	Amend Clause 4.8.2.2 to include "Employer" and "contractors", as follows: Provides any other facility or service of whatsoever nature to the Employer or to any of the said contractors, persons or authorities,
5.3.1	The documentation required before commencement with Works execution are: Health and Safety Plan (Refer to Clause 4.3) Initial programme (Refer to Clause 5.6) Security (Refer to Clause 6.2) Insurance (Refer to Clause 8.6) N/A N/A N/A
5.3.2	The time to submit the documentation required before commencement with Works execution is: 21 days .
5.4.2	The access to, and possession of, the Site referred to in Clause 5.4.1 shall be not exclusive to the Contractor. In the event of access to, and possession of, the Site is not exclusive to the Contractor, the following limitations apply: <i>Normal court operations will occur The contractor must work around offices that will be occupied.</i>
5.8.1	The non-working days are: Saturdays and Sundays The special non-working days are: (1) Public Holidays; (2) The year-end break commencing on 16 December until the Sunday preceding the first working Monday of January of the succeeding year.
5.9.1	Amend Clause 5.9.1 as follows: On the Commencement Date, the Engineer shall deliver to the Contractor three (3) copies, at no cost to the Contractor, of the drawings and any instructions required for the commencement of the Works. The cost of any additional copies of such drawings and/or instructions, as may be required by the Contractor, will be for the account of the Contractor.
5.13.1	The penalty for failing to complete the Works is: R560 per day <u>or, if completion in portions is required,</u> The penalty for failing to complete portion 1 of the Works is: R0.00 per day . The penalty for failing to complete portion 2 of the Works is: R0.00 per day . The penalty for failing to complete portion 3 of the Works is: R0.00 per day . The penalty for failing to complete portion 4 of the Works is: R0.00 per day . <i>Followed by further portions as required.</i> The penalty for failing to complete the whole of the works is: R560 per day .



Tender no: **BL23/009**

5.14.1	Amend the second paragraph of Clause 5.14.1 as follows: When the Works are about to reach the said stage, the Contractor shall, in writing, request a Certificate of Practical Completion and the Engineer shall, within 14 days after receiving such request, issue to the Contractor a written list setting out the work to be completed to justify Practical Completion. Should the Engineer not issue such a list within the 14 days, the Contractor shall notify the Employer accordingly. Should the Employer not issue such a list within 7 days of receipt of such notice, Practical Completion shall be deemed to have been achieved on the 14th day after the contractor requested the Certificate of Practical Completion.
5.16.1	Amend Clause 5.16.1 to delete the proviso in the third paragraph of this clause.
5.16.2	Amend Clause 5.16.2 as follows: No certificate other than the Final Approval Certificate referred to in Clause 5.16.1 shall be deemed to constitute approval of the Works or shall be taken as an admission of the due performance of the Contract or any part thereof, nor of the accuracy of any claim made by the Contractor, nor shall any other certificate exclude or prejudice any of the powers of the Engineer and/or the Employer.
5.16.3	The latent defect period for all works is: 5 years.
6.2.1	The type of security for the due performance of the Contract, as selected by the Contractor in the Contract Data, must be delivered to the Employer.
6.2.3	Amend Clause 6.2.3 as follows: If the Contractor has selected a performance guarantee as security, he shall ensure that it remains valid and enforceable as required in terms of the Contract.
6.5.1.2.3	The percentage allowance to cover overhead charges is: 33%, except on material cost where the percentage allowance is 10%.
6.8.2	Contract Price Adjustment (CPA) will be applicable: Yes. If CPA is indicated as 'Yes' above the value of payment certificates is to be adjusted by a Contract Price Adjustment Factor: The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: The value of "x" is 0.15. The values of the coefficients are: a = 0.25. (Labour) b = 0.3 (Contractor's equipment) c = 0.3 (Material) d = 0.15 (Fuel) The values of the coefficients for "Repair and Maintenance Project" (RAMP) contracts are: a = 0.35 (Labour) b = 0.20 (Contractor's equipment) c = 0.35 (Material) d = 0.10 (Fuel)

Tender no: **BL23/009**

6.8.2	The urban area nearest the Site is Free State. (Select urban area from Statistical News Release, P0141, Table 7.1.) The applicable industry for the Producer Price Index for materials is electrical engineering. (Select the applicable industry from Statistical News Release, P01421, Table 11.) The area for the Producer Price Index for fuel is South Africa. (Select the area from Statistical News Release, P01421, Table 12.) The base month is July 2023. (The month prior to the closing of the tender.)
6.8.3	Price adjustments for variations in the costs of special materials are not allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is: 85 % .
6.10.3	The limit of retention money is dependent on the security to be provided by the Contractor in terms of Clause 6.2.1.
6.10.5	Replace Clause 6.10.5 with the following: <u>In respect of contracts up to R2 million and in respect of contracts above R2 million where the Contractor elects a security by means of a 10% retention, 50% of the retention shall be released to the Contractor when the Engineer issues the Certificate of Completion in terms of clause 5.14.4. The remaining 50% of the retention shall be released in accordance with the provisions of the conditions of contract and will become due and payable when the Contractor becomes entitled, in terms of Clause 5.16.1, to receive the Final Approval Certificate.</u> <u>In respect of contracts above R2 million, where the Contractor elects a security by means of a cash deposit or fixed guarantee of 5% of the Contract Sum (excl. VAT) and a 5% retention of the Value of the Works (excl. VAT), the cash deposit or fixed guarantee, whichever is applicable, shall be refunded to the Contractor or return to the guarantor, respectively, when the Engineer issues the Certificate of Completion in terms of Clause 5.14.4. The 5% retention of the Value of the Works (excl. VAT) shall become due and payable when the Contractor becomes entitled, in terms of Clause 5.16.1, to receive the Final Approval Certificate.</u> <u>In respect of contracts above R2 million, where the Contractor elects a security by means of a cash deposit or a variable guarantee of 10% of the Contract Sum (excl. VAT), the cash deposit or the variable guarantee, whichever is applicable, will be reduced to 5% of the Value of the Works (excl. VAT) when the Engineer issues the Certificate of Completion in terms of Clause 5.14.4. The balance of the cash deposit shall become due and payable or the variable guarantee shall expire when the Contractor becomes entitled in terms of Clause 5.16.1 to receive the Final Approval Certificate.</u>
7.9.1	Insert the following at the end of Clause 7.9.1: Provided that, should the Contractor on demand not pay the amount of such costs to the Employer, such amount may be determined and deducted by the Employer from any amount due to or that may become due to the Contractor under this or any other previous or subsequent contract between the Contractor and the Employer.
8.2.2.1	Insert the following as a second paragraph to Clause 8.2.2.1: The Contractor shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the Works and to rebuild, restore, replace and/or repair the Works, failing which the Employer may cause same to be done and recover the reasonable costs associated therewith from the Contractor.

Tender no: BL23/009

8.4.3	Insert a new Clause 8.4.3 as follows: The Contractor shall on receiving a written instruction from the Engineer immediately proceed at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the Works.
8.6.1.1.1	Amend Clause 8.6.1.1.1 to read as follows: Contract Sum plus 10%.
8.6.1.1.2	The value of Plant and materials supplied by the Employer to be included in the insurance sum is: Nil
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is: Nil
8.6.1.3	Amend Clause 8.6.1.3 to delete reference to limit of indemnity, to read as follows: Liability insurance that covers the Contractor against liability for the death of, or injury to any person, or loss of, or damage to any property (other than property while it is insured in terms of Clause 8.6.1.1) arising from or in the course of the fulfillment of the Contract, from the Commencement Date to the date of the end of the Defects Liability Period, if there is one, or otherwise to the issue of the Certificate of Completion.
8.6.1.5	1. Public liability insurance to be effect by the Contractor to a minimum value of: ☒ R5 million or ☐ R N/A With a deductible not exceeding 5% of each and every claim. 2. Support insurance is to be effected by the Contractor to a minimum value of: R N/A With a deductible not exceeding 5% of each and every claim.
8.6.5	Amend Clause 8.6.5 as follows: Save as otherwise provided in the Contract Data, the insurances referred to in Clause 8.6.1 shall be effected with an insurance company registered in the Republic of South Africa. The Contractor shall submit the insurance policy to the Employer for approval, if so requested.
8.6.7	Amend Clause 8.6.7 as follows: If the Contractor fails to effect and keep in force any of the insurances referred to in Clause 8.6.1, the Employer may cancel the Contract in terms of Clause 9.2.
8.6.8	Insert a new Clause 8.6.8 in provide for high risk insurance for projects executed on areas classified as "High Risk Areas". HIGH RISK INSURANCE In the event of the project being executed in a geological area classified as a "High Risk Area", that is an area which is subject to highly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:

Tender no: BL23/009

8.6.8	(1) Damage to the Works The Contractor shall, from the date of Commencement of the Works until the date of the Certificate of Completion, bear the full risk of and hereby indemnifies and holds harmless the Employer against any damage to and/or destruction of the Works consequent upon a catastrophic ground movement as mentioned above. The Contractor shall take such precautions and security measures and other steps for the protection of the Works as he may deem necessary. When so instructed to do so by the Engineer, the Contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the Works and to rebuild, restore, replace and/or repair the Works, at the Contractor's own costs. (2) Injury to Persons or Loss of or damage to Properties The Contractor shall be liable for and hereby indemnifies and holds harmless the Employer against any liability, loss, claim or proceeding arising during the Contract Period whether arising in common law or by Statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground movement as mentioned above. The Contractor shall be liable for and hereby indemnifies the Employer against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable or personal property or property contiguous to the Site, whether belonging to or under the control of the Employer or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the Contract Period. (3) It is the responsibility of the Contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in Clauses 8.6.8(1) and 8.6.8 (2) above. Without limiting his obligations in terms of the Contract, the Contractor shall, within 21 days of the Commencement Date and before Commencement of the Works, submit to the Employer proof of such insurance policy, if requested to do so. (4) The Employer shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the Contractor's default of his obligations as set out in Clauses 8.6.8 (1), 8.6.8 (2) and 8.6.8 (3). Provided that, should the Contractor on demand not pay the amount of such costs to the Employer, such amount may be determined and deducted by the Employer from any amount due to or that may become due to the Contractor under this or any other existing or subsequent contract between the Contractor and the Employer.
9.1.4	Amend Clause 9.1.4 as follows: In the circumstances referred to in Clauses 9.1.1, 9.1.2 or 9.1.3 (provided that the circumstances in 9.1.3 is not due to the fault of the Contractor, his employees, contractors or agents), and whether or not the Contract is terminated under the provisions of this Clause, the Contractor shall be entitled to payment of any increased cost of or incidental to the execution of the Works which is specifically attributable to, or consequent upon the circumstances defined in Clauses 9.1.1, 9.1.2 or 9.1.3;
9.1.5	Amend Clause 9.1.5 as follows: If the Contract is terminated on any account in terms of this Clause (provided that the circumstances in 9.1.3 is not due to the fault of the Contractor, his employees, contractors or agents), the Contractor shall be paid by the Employer (insofar as such amounts or items have not already been covered by payments on account made to the Contractor) for all measured work executed prior to the date of termination, the amount (without retention), payable in terms of the Contract and, in addition:
9.1.6	This Clause is not applicable to this Contract.

Tender no: BL23/009

9.2.1.3.8	Insert a new Clause 9.2.1.3.8 as follows: Has failed to effect and keep in force any of the insurances referred to in Clause 8.6.1,
9.2.4	Insert a new Clause 9.2.4 as follows, to provide for unilateral termination by the Employer: The Employer shall be entitled at any time to unilaterally terminate or cancel this Contract or any part thereof. Save for the following, the Contractor shall not be entitled to claim any other amounts whatsoever in respect of such termination or cancellation of this Contract. The Employer shall be obliged to pay the Contractor as damages and/or loss of profit the lesser of: 9.2.4.1 An amount not exceeding 10% of the Contract Sum; 9.2.4.2 10% of the value of incomplete work; or 9.2.4.3 The Contractor's actual damage or loss as determined by the Employer after receipt of evidence substantiating any such damage or loss.
9.3.2.2	Amend Clause 9.3.2.2 as follows to delete the proviso on lien: The ownership of Plant and unused materials brought onto the Site by the Contractor, and for which the Employer has not made any payment, shall revert to the Contractor and he shall, with all reasonable dispatch, remove from the Site such Plant, materials and all Construction Equipment and Temporary Works.
9.3.3	Insert the following at the end of Clause 9.3.3 After cancellation of the Contract by the Contractor, the Contractor, when requested by the Employer to do so, shall not be entitled to refuse to withdraw from the Works on the grounds of any lien or a right of retention or on the grounds of any other right whatsoever.
10.1.3.1	Amend Clause 10.1.3.1 as follows to insert the word "Plant": All facts and circumstances relating to the claims shall be investigated as and when they occur or arise. For this purpose, the Contractor shall deliver to the Engineer, records in a form approved by the Engineer, of all the facts and circumstances which the Contractor considers relevant and wishes to rely upon in support of his claims, including details of all Construction Equipment, labour, Plant and materials relevant to each claim. Such records shall be submitted promptly after the occurrence of the event giving rise to the claim.
10.1.6	Insert a new Clause 10.1.6 as follows: If the Employer fails to give his ruling within the period referred to in Clause 10.1.5 he shall be deemed to have given a ruling dismissing the claim.
10.2.1	Amend Clause 10.2.1 as follows: In respect of any matter arising out of or in connection with the Contract, which is not required to be dealt with in terms of Clause 10.1 or which does not require the decision or ruling of the Employer, the Contractor or the Employer shall have the right to deliver a written dissatisfaction claim to the Engineer. This written claim shall be supported by particulars and substantiated.
10.2.2	Amend Clause 10.2.2 as follows: If, in respect of any matter arising out of or in connection with the Contract, which is not required to be dealt with in terms of Clause 10.1 or which does not require the decision or ruling of the Employer, the Contractor or the Employer fails to submit a claim within 28 days after the cause of dissatisfaction, he shall have no further right to raise any dissatisfaction on such matter.

Tender no: BL23/009



10.3.2	Amend Clause 10.3.2 as follows to replace “adjudication” with “court”: If either party shall have given notice in compliance with Clause 10.3.1, the dispute shall be referred to court proceedings in terms of Clause 10.8, unless amicable settlement is contemplated.
10.3.3	Replace “Engineer” with “Employer”.
10.4.2	Amend Clause 10.4.2 as follows to provide for submission to court: If the other party rejects the invitation to amicable settlement in writing or does not respond in writing to the invitation with 14 days, or amicable settlement is unsuccessful, either party may submit the dispute to court.
10.4.4	Amend Clause 10.4.4 to delete reference to “adjudication” and “arbitration” to read as follows: Save for reference to any portion of any settlement or decision which has been agreed to be final and binding on the parties, no reference shall be made by or on behalf of either party in any subsequent court proceedings, to any outcome of an amicable settlement, or to the fact that any particular evidence was given, or to any submission, statement or admission made in the course of the amicable settlement.
10.5 10.6 & 10.7	The entire provisions of these Clauses are not applicable to this Contract.
10.10.3	Amend Clause 10.10.3 as follows to reword and remove reference to “arbitrator”: The court shall have full power to open up, review and revise any ruling, decision, order, instruction, certificate or valuation of the Engineer and Employer and neither party shall be limited in such proceedings before such court to the evidence or arguments put before the Engineer or Employer for the purpose of obtaining his ruling.

Tender no: **BL23/009**

	PART 2: DATA PROVIDED BY THE BIDDER
1.1.1.9	The name of the Bidder is: _____
1.2.1.2	The address of the Bidder is: Postal address: _____ _____ _____ Postal Code: _____ Tel: _____ Fax: _____ TAX / VAT Registration No: _____ Physical address: _____ _____ _____ Postal Code: _____ E-mail address: _____
6.2.1	The security to be provided by the Contractor shall be one of the following: (a) Cash deposit of 10 % of the Contact Sum (excl. VAT) ☐ YES or ☐ NO (b) Variable performance guarantee of 10 % of the Contract Sum (excl. VAT) ☐ YES or ☐ NO (c) Retention of 10 % of the value of the Works (excl. VAT) ☐ YES or ☐ NO (d) Cash deposit of 5 % of the Contract Sum (excl. VAT) plus retention of 5 % of the value of the Works (excl. VAT) ☐ YES or ☐ NO (e) Performance guarantee of 5 % of the Contract Sum (excl. VAT) plus retention of 5 % of the value of the Works (excl. VAT) ☐ YES or ☐ NO NB: Guarantees submitted must be issued by either an insurance company duly registered in terms of the Insurance Act [Long-Term Insurance Act, 1998 (Act 52 of 1998) or Short-Term Insurance Act, 1998 (Act 53 of 1998)] or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

C1.3 Form of Guarantee



DPW-10.2 (EC): VARIABLE CONSTRUCTION GUARANTEE (GCC (2010) 2nd EDITION: 2010)

Director-General
Department of Public Works and Infrastructure
Government of the Republic of South Africa

FOR ATTENTION

To: Department of Public Works and Infrastructure
Private Bag x20605
Bloemfontein
9300

Sir,

VARIABLE CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF GCC (2010) 2nd EDITION 2010

1. With reference to the contract between _____
_____ (hereinafter referred to as the "**contractor**") and the Government of the Republic of South Africa in its Department of Public Works and Infrastructure (hereinafter referred to as the "**employer**"), Contract/Tender No: _____, for the **Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development** (hereinafter referred to as the "**contract**") for the sum of R _____ **insert amount**, (_____ **insert amount in words**), (hereinafter referred to as the "**contract sum**").

I / We, _____

in my/our capacity as _____ and hereby

representing _____ (hereinafter referred to as the "**guarantor**") advise that the **guarantor** holds at the **employer's** disposal the sum of R _____ **insert amount**, (_____ **insert amount in words**) being 10% of the **contract sum** (excluding VAT), for the due fulfilment of the **contract**.

2. I / We advise that the **guarantor's** liability in terms of this guarantee shall be as follows:
- (a) From and including the date on which this guarantee is issued and up to and including the day before the date on which the last **certificate of completion** of works is issued, the **guarantor** will be liable in terms of this guarantee to the maximum amount of 10% of the **contract sum** (excluding VAT);
 - (b) The **guarantor's** liability shall reduce to 5 % of the **value of the works** (excluding VAT) as determined at the date of the last **certificate of completion** of works, subject to such amount not exceeding 10% of the **contract sum** (excluding VAT);
 - (c) This guarantee shall expire on the date of the last **final approval certificate**.
3. The **guarantor** hereby renounces the benefits of the exceptions *non numeratae pecunia; non causa debiti; excussionis et divisionis*; and *de duobus vel pluribus reis debendi* which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to pay the **employer** the amount guaranteed on receipt of a written demand from the **employer** to do so, stating that (in the **employer's** opinion and sole discretion):

- (a) the **contractor** has failed or neglected to comply with the terms and/or conditions of the **contract**;
or

Tender no: (Insert Tender Number)

- (b) the **contractor's** estate is sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa.
4. Subject to the above, but without in any way detracting from the **employer's** rights to adopt any of the procedures provided for in the **contract**, the said demand can be made by the **employer** at any stage prior to the expiry of this guarantee.
5. The amount paid by the **guarantor** in terms of this guarantee may be retained by the **employer** on condition that upon issue of the last **final approval certificate**, the **employer** shall account to the **guarantor** showing how this amount has been expended and refund any balance due to the **guarantor**.
6. 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 on account of any conduct alleged to be prejudicial to the **guarantor**. Without derogating from the foregoing, any compromise, extension of the construction period, indulgence, release or variation of the **contractor's** obligation shall not affect the validity of this guarantee.
7. The **guarantor** reserves the right to withdraw from this guarantee at any time by depositing the guaranteed amount with the **employer**, whereupon the **guarantor's** liability ceases.
8. This guarantee is neither negotiable nor transferable, and
- (a) must be surrendered to the **guarantor** at the time when the **employer** accounts to the **guarantor** in terms of clause 5 above, or
- (b) shall lapse in accordance with clause 2 (c) above.
9. This guarantee shall not be interpreted as extending the **guarantor's** liability to anything more than payment of the amount guaranteed.

SIGNED AT _____ **ON THIS** _____ **DAY OF** _____ **20** _____

AS WITNESS

1. _____

2. _____

By and on behalf of

(insert the name and physical address of the guarantor)

NAME: _____

CAPACITY: _____
(duly authorised thereto by resolution attached marked Annexure A)

DATE: _____

- A. No alterations and/or additions of the wording of this form will be accepted.**
- B. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor's *domicilium citandi et executandi*, for all purposes arising from this guarantee.**



C. This GUARANTEE must be returned to: _____

DPW-10.4 (EC): FIXED CONSTRUCTION GUARANTEE GCC (2010) 2nd EDITION: 2010

Director-General
Department of Public Works and Infrastructure
Government of the Republic of South Africa

FOR ATTENTION

To: Department of Public Works and Infrastructure
Private Bag x20605
Bloemfontein
9300

Sir,

FIXED CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF GCC 2ND EDITION 2010

- With reference to the contract between _____ (hereinafter referred to as the "**contractor**") and the Government of the Republic of South Africa in its Department of Public Works and Infrastructure (hereinafter referred to as the "**employer**"), Contract/Tender No: _____, for the **Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development** (hereinafter referred to as the "**contract**"), for the sum of R **insert amount**, (**insert amount in words**), (hereinafter referred to as the "**contract sum**").

I / We, _____
in my/our capacity as _____ and hereby
representing _____ (hereinafter referred to as the "**guarantor**") advise that the **guarantor** holds at the **employer's** disposal the sum of R **insert amount**, (**insert amount in words**) being 5% of the **contract sum** (excluding VAT), for the due fulfillment of the **contract**.
- The **guarantor** hereby renounces the benefits of the exceptions *non numeratae pecunia; non causa debiti; excussionis et divisionis*; and *de duobus vel pluribus reis debendi* which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to pay the **employer** the amount guaranteed on receipt of a written demand from the **employer** to do so, stating that (in the **employer's** opinion and sole discretion):
 - the **contractor** has failed or neglected to comply with the terms and/or conditions of the **contract**;
or
 - the **contractor's** estate is sequestered; liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa.
- Subject to the above, but without in any way detracting from the **employer's** rights to adopt any of the procedures provided for in the **contract**, the said demand can be made by the **employer** at any stage prior to the expiry of this guarantee.
- The amount paid by the **guarantor** in terms of this guarantee may be retained by the **employer** on condition that upon the issue of the last **final approval certificate**, the **employer** shall account to the **guarantor** showing how this amount has been expended and refund any balance due to the **guarantor**.



Tender No:

5. 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 on account of any conduct alleged to be prejudicial to the **guarantor**. Without derogating from the foregoing, any compromise, extension of the construction period, indulgence, release or variation of the **contractor's** obligation shall not affect the validity of this guarantee.
6. The **guarantor** reserves the right to withdraw from this guarantee at any time by depositing the guaranteed amount with the **employer**, whereupon the **guarantor's** liability ceases.
7. This guarantee is neither negotiable nor transferable, and
 - (a) must be surrendered to the **guarantor** at the time when the **employer** accounts to the **guarantor** in terms of clause 4 above, or
 - (b) shall lapse on the date of the last **certificate of completion** of works.
8. This guarantee shall not be interpreted as extending the **guarantor's** liability to anything more than the payment of the amount guaranteed.

SIGNED AT _____ ON THIS _____ DAY OF _____ 20____.

AS WITNESS

1. _____

2. _____

By and on behalf of

(insert the name and physical address of the guarantor)

NAME: _____

CAPACITY: _____
(duly authorised thereto by resolution attached marked
Annexure A)

DATE: _____

- A. No alterations and/or additions of the wording of this form will be accepted.
- B. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor's *domicilium citandi et executandi*, for all purposes arising from this guarantee.
- C. This GUARANTEE must be returned to: _____



C2.1 Pricing Instructions

PG-02.1 (EC) PRICING ASSUMPTIONS – GCC (2010) 2nd Edition 2010

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>		
Tender / Quotation no:	BL23/009	Reference no:	14/1/7/1/18/6718

C2.1 Pricing Assumptions

C2.1.1 GENERAL

The Bill of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents, which include the Conditions of Tender, Conditions of Contract, the Specifications (including the Project Specification) and the Drawings.

C2.1.2 DESCRIPTION OF ITEMS IN THE SCHEDULE

The Bill of Quantities has been drawn up generally in accordance with Civil Engineering Quantities 1990 issued by the SA Institution of Civil Engineers.

The short descriptions of the items in the Bill of Quantities are for identification purposes only and the measurement and payment clause of the Standardized Specifications and the Particular Specifications, read together with the relevant clauses of the Project Specification and directives on the drawings, set out what ancillary or associated work and activities are included in the rates for the operations specified.

C2.1.3 QUANTITIES REFLECTED IN THE SCHEDULE

The quantities given in the Bill of Quantities are estimates only, and subject to remeasuring during the execution of the work. The Contractor shall obtain the Engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements for it.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Bill of Quantities and in accordance with the General and Special Conditions of Contract, the Specifications and Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.

The validity of the contract will in no way be affected by differences between the quantities in the Bill of Quantities and the quantities finally certified for payment.

C2.1.4 PROVISIONAL SUMS

Where Provisional sums or Prime Cost sums are provided for items in the Bill of Quantities, payment for the work done under such items will be made in accordance with Clause 45 of the General Conditions of Contract 2004. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted in the "Amount" column of the Bill of Quantities and in the Summary of the Bill of Quantities unless ordered or authorized in writing by the Employer before closure of tenders. Unauthorized changes made by the Tenderer to provisional items in the Bill of Quantities, or to the provisional percentages and sums in the Summary of the Bill of Quantities will lead to the disqualification of the Tenderer.

C2.1.5 PRICING OF THE BILL OF QUANTITIES

The **bills of quantities / lump sum document** forms part of and must be read and priced in conjunction with all the other documents forming part of the **contract documents**, the Standard Conditions of Tender, Conditions of Contract, Specifications, Drawings and all other relevant documentation.

The prices and rates to be inserted by the Tenderer in the Bill of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all cost and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based.

Each item shall be priced and extended to the "Total" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.

The Tenderer is required to check the Bills of Quantities and the numbers of the pages and should any be found to be missing or in duplicate, or should any of the typing be indistinct, or any doubt of obscurity arise as to the meaning of any description or particulars of any item, or if this Tender Enquiry contains any obvious errors, then the Tenderer must immediately inform the Principal Agent and have them rectified or explained in writing as the case may be. No liability whatsoever will be admitted by reason of the Contractor having failed to comply with the foregoing instruction.

No alterations, erasures, omissions or additions is to be made in the text and/or conditions of these Bills of Quantities. Should any such alterations, amendments, note/s or addition be made, the same will not be recognized, but reading of these Bills of Quantities as originally prepared by the Quantity Surveyor will be adhered to.

The contractor is cautioned that the use of any quantities appearing in these Bills of Quantities for the purpose of ordering material, it is done at own risk and no liability whatsoever will be admitted by the Employer or Quantity Surveyor for the correctness of such Quantities. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

The prices and rates to be inserted by the Tenderer in the Bills of Quantities shall be the full inclusive prices to be paid by the Employer for the work described. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Market related prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out. The Employer reserves the right to balance the Bill rates where deemed necessary within the Tendered Amount.

A price or rate is to be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item. The Tenderer may be requested to clarify nil rates, or items regarded as having nil rates; and the Employer may also perform a risk analysis with regard to the reasonableness of such rates.

Should the full intent and meaning of any description not be clear, the bidder shall, before submission of his tender, call for a written directive from the principal agent, failing which it shall be assumed that the contractor has allowed in his pricing for materials and workmanship in terms of National Best Practice.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

The Tenderer shall fill in rates for all items where the words "rate only" appear in the "Total" column. "Rate Only" items have been included where:

- (a) variations of specified components in the make-up of a pay item may be expected; and
- (b) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For 'Rate Only' items no quantities are given in the "Quantity" column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall however note that in terms of the Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the "PW 371" and the principles contained in the latest version of the SANS 1200 in South Africa. It is the intention that the abbreviated descriptions be fully described when read with the applicable measuring system and the relevant preambles and/or specifications. However, should the full intent and meaning of any description not be clear, the bidder shall, before submission of his tender, call for a written directive from the principal agent, failing which it shall be assumed that the contractor has allowed in his pricing for materials and workmanship in terms of National Best Practice.

The price quoted against each item of this Bills of Quantities shall cover the full inclusive cost of the complete work to which it refers, as described in the Conditions of Contract and Specifications and as shown on the Drawings and shall allow for labour, material, transporting, loading, storage, supervision, commissioning, wastage, as well as the builders profit and attendance.

The Tenderer must ensure that he fully completes all columns of the Bill of Quantities including the Final Summary. The fully priced bill of quantities must be submitted with the tender or The Final Summary and the Section Summary pages MUST be returned with the tender document as indicated the PA-03 Notice and Invitation to Tender / PA-04 Notice and Invitation for quotation.

The tenderers are to ensure that they have read and understood the project specifications included in C3: Scope of Work. All the information provided in the Scope of Works form part of the work and must be included in the rates.

"The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself before submitting his tender (as far as is practicable) as to:

- (a) the form and nature of the Site and its surroundings, including subsurface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of work and materials necessary for the execution and completion of the Works,
- (d) the means of access to the Site and the accommodation he may require

and, in general, shall be deemed to have obtained all information (as far as is practicable) as to risks, contingencies and all other circumstances which may influence or affect his Tender"

C2.1.6 VALUE ADDED TAX

The **contract sum** must include for Value Added Tax (VAT). All rates, provisional sums, etc. in the **bills of quantities / lump sum document** shall be in Rands and cents and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Bill of Quantities. The rates must however be net (exclusive of VAT) with VAT calculated and added to the total value thereof in the Final Summary. All rates and amounts quoted in the Bill of Quantities

C2.1.7 CORRECTION OF ENTRIES

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

C2.1.8 ARITHMETICAL ERRORS

Arithmetical errors found in the Bill of Quantities as a result of faulty multiplication of addition, will be corrected by the Engineer at the tender evaluation stage, as set out in the Tender Data.

C2.1.9 CONTRACT DOCUMENTS

The Tenderers are advised to examine the bills of quantities, drawings and specifications including all other contract documents and make themselves thoroughly acquainted with the nature and requirements of the work, as no claim for extra payment in this regard will be entertained. Should any parts of the drawings not be clearly intelligible to the Tender, he must, before submitting his tender, obtain clarification from the Principal Agent.

C2.1.10 UNITS OF MEASUREMENT

The units of measurement described in the Bill of Quantities are metric units for which the standard international abbreviations are used. Non-standard abbreviations which may appear in the Bill of Quantities are as follows:

No.	=	Number
%	=	Percent
Sum	=	Lump sum
PCsum	=	Prime cost sum
Prov sum	=	Provisional sum
m ³ .km	=	Cubic metre - kilometre
Km-pas	=	kilometre - pass
m ² .pass	=	square metre – pass

C2.1.11 TRADE NAMES

Tenderers attention is drawn to the fact that wherever trade names or references to any catalogue have been made in these Bills of Quantities, it is purely to establish a standard for the required material. If use is made of any other equally approved material in lieu of the prescribed trade name or catalogue, the necessary price adjustments will be made.

C2.1.12 CONTRACT DOCUMENTS

The Tenderers are advised to examine the bills of quantities, drawings and specifications including all other contract documents and make themselves thoroughly acquainted with the nature and requirements of the work, as no claim for extra payment in this regard will be entertained. Should any parts of the drawings not be clearly intelligible to the Tender, he must, before submitting his tender, obtain clarification from the Principal Agent.

C2.1.13 PAYMENTS

Interim valuations and payments will be prepared on a monthly basis, all in terms of the conditions of contract.

The contractor is to note that no payment will be made for materials stored off site and in the case of materials being stored on site, payment will only be made for such materials on condition that they have not been delivered to the site prematurely, a tax invoice and proof of payment (ownership) is submitted by the Contractor.

C2.1.14 ACCOMMODATION ON SITE

It is imperative to note that no living quarters for construction workers on site will not be permitted for the full duration of the contract unless otherwise stated in the contract data or permission be granted by the Employer.

C2.1.15 LOCAL MATERIAL UTILISATION REPORT (LOCAL CONTENT)

Bidders to note that materials procured for the works should be from South African manufactures and suppliers. Imported materials shall only be considered under exceptional circumstances, based on compelling technical justifications, and subject to the approval by the NDPWI.

The contractor shall achieve in the performance of this contract the prescribed local content deliverables as listed in PA36 and annexures C thereto in the respective designated sectors as published by Department Trade Industry and Competition (DTIC). The Service Provider shall submit an accumulative monthly report to the Employer's representative indicating the percentage targets achieved which must be reconciled upon completion of the project and to form part of the final account.

The contractor shall be responsible for record keeping, documenting and submission of monthly local material utilization report with supporting documentation to the Employer's representative within 7 working days of the beginning of the successive month, in terms of DTI&C designated industry/sector/sub-sector schedule as per the PA36 and Annexures C attached to the tender document. The final percentage achievement to be reconciled upon completion of the project and form part of the final account.

C2.1.16 CONTRACT PARTICIPATION GOALS

The contractor shall achieve in the performance of this contract the following Contract Participation Goals (CPGs) as indicated below:

Provision for pricing of compliance with the achieving the CPGs is made in the Contract Participation Goal Section of the Bills of Quantities and it is explicitly pointed out that all requirements in respect of the aforementioned are deemed to be priced thereunder and no additional claims in this regard shall be entertained

Monthly progressive reports to be submitted to the Employer's representative indicating the percentage targets achieved which must be reconciled upon completion of the project and to form part of the final account.

C2.1.16.1 Minimum 30% Sub-contracting Contract Participation Goal

MINIMUM 30% MANDATORY SUBCONTRACTING TO SMMEs: IMPLEMENTATION OF PREFERENTIAL PROCUREMENT REGULATIONS 2017

30% Mandatory subcontracting is *NOT APPLICABLE* to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for thirty percent (30%) subcontracting to SMMEs in the execution of this project as described in PG-01.1 (EC) SCOPE OF WORKS C3.5.1. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.16.2 MINIMUM TARGETED LOCAL BUILDING MATERIAL MANUFACTURERS CONTRACT PARTICIPATION GOAL

The Minimum Targeted Local Building Material Manufacturers CPG is *NOT APPLICABLE* to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Local Building Material Manufacturers CPG in the execution of this project as described in PG-01.1 (EC) SCOPE OF WORKS C3.5.2. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be

made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.16.3 MINIMUM TARGETED LOCAL BUILDING MATERIAL SUPPLIERS CONTRACT PARTICIPATION GOAL

The Minimum Targeted Local Building Material Suppliers CPG is *NOT APPLICABLE* to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Local Building Material Suppliers CPG in the execution of this project as described in PG-01.1 (EC) SCOPE OF WORKS C3.5.3. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.16.4 MINIMUM TARGETED LOCAL LABOUR SKILLS DEVELOPMENT CONTRACT PARTICIPATION GOAL

The Minimum Targeted Local Labour Skills Development CPG is *NOT APPLICABLE* to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Local Labour Skills Development CPG in the execution of this project as described in PG-01.1 (EC) SCOPE OF WORKS C3.5.4. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.16.5 CIDB BUILD PROGRAMME: MINIMUM TARGETED ENTERPRISE DEVELOPMENT: CONTRACT PARTICIPATION GOALS (CPG)

The Minimum Targeted Enterprise Development CPG is *NOT APPLICABLE* to this project.

A provisional amount has been allowed for within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Enterprise Development CPG in the execution of this project as described in PG-01.1 (EC) SCOPE OF WORKS C3.5.5. The provisional amount allowed is for the appointment of training coordinator, mentor, training service providers and training of the beneficiary enterprises.

The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

The contractor shall complete a separate bill of quantities upon the award of the project and identification of the respective beneficiaries and the appointment of the training coordinator, mentor, training service providers of which the cost will be offset against the provisional amount allowed in the Bills of Quantities.

C2.1.16.6 CIDB BUILD PROGRAMME: MINIMUM TARGETED TARGETED CONTRACT SKILLS DEVELOPMENT GOALS (CSDG)

The Minimum Targeted Contract Skills Development CPG is *NOT APPLICABLE* to this project.

A provisional amount has been allowed for within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Skills Development CPG in the execution of this project as described in PG-01.1 (EC) SCOPE OF WORKS C3.5.6. The provisional amount allowed is for:

- stipends payable to the beneficiaries
- appointment of training coordinator
- appointment of mentor (where applicable)
- appointment of training service providers
- other additional costs as per table 3 of the Standard

The contractor shall price his Profit and Attendance (all inclusive of associated costs to the contractor for implementation and reporting), based on the provisional amount in the Contract Participation Goal section in the Bill of Quantities. The contractor shall complete a separate bill of quantities upon the award of the project and identification of the respective beneficiaries. The CPG value to be achieved will be based on the actual contract amount which will be offset against the provisional amount allowed for within the Contract Participation Goal section in the Bill of Quantities.

Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

Payment

The contractor shall upon the appointment of beneficiaries, provide a breakdown of all the associated costs. The contractor shall provide a payment schedule as to how the CPG costs will be claimed against for inclusion in the monthly payment certificates.

(a) Payment to the contractor to accommodate Part/Full Occupational qualification and Trade qualifications;

Should the contractor select Part/Full Occupational qualification and Trade qualifications learners, then the employer shall make provision for payment to the contractor as indicated in Table 3 of the Standard.

The contract skills participation goal, expressed in Rand, shall not be less than the contract amount multiplied by a percentage (%) factor given in Table 2 in the Standard for the applicable class of construction works. Should the contractor select Part/Full Occupational qualification and Trade qualifications learners, then the employer shall make provision for payment to the contractor as indicated in Table 3 of the Standard.

No provision for an additional payment item for the payment of the supervisor and/or mentors for the provision of training as provided for in the Contract Participation Goal section in the Bill of Quantities for the training of part/full time occupational learners and/or trade qualification learners. The associated cost is deemed to be included in general supervision on site.

The contractor shall complete a separate bill of quantities upon award, indicating the type and number of beneficiaries as well as the associated Notional Cost of Training to be provided, on which payment will be based.

(b) Payment to the contractor to accommodate Work Integrated Learners and Candidates for professional registration;



Should the contractor select Work Integrated Learners and/or Candidates for professional registration, then the employer shall make provision for payment to the contractor as indicated in Table 3 of the Standard.

Provisional amounts have been included in the Contract Participation Goal section in the Bill of Quantities for the training of Work Integrated Learners and Candidates for professional registration. The contractor shall price his Profit and Attendance (all inclusive of associated costs to the contractor for implementation and reporting), based on the provisional amount in the Contract Participation Goal section in the Bill of Quantities.

The contractor shall complete a separate bill of quantities upon award, indicating the type and number of beneficiaries as well as the associated Notional Cost of Training to be provided, on which payment will be based.

The CPG value to be achieved will be based on the contract amount as defined by the Standard, which will be offset against the provisional amount allowed for within the Contract Participation Goal section in the Bill of Quantities.

The contractor shall apportion the cost of accommodating work integrated learners (P1 and P2 learners) and candidates for professional registration by using Table 3 in the Standard and this cost will be used to determine the Rand value and will be used in determining the contract participation goal in the Bills of Quantities.

Table 3: Notional Cost of Training; Headcount

Source: cidb Standard for Skills Development

Source: cidb Standard for Skills Development

Type of Training Opportunity	Provision for stipends (Unemployed learners only)	Provisions for mentorship	Provisions for additional costs*	Total costs	
				Unemployed learners	Employed learners
Method 1					
Occupational qualification	R7 000	R0	R9 000	R16 000	R9 000
Method 2					
TVET College graduates	R14 000	R0	R9 000	R23 000	N/A
Apprenticeship	R14 000	R0	R12 000	R26 000	R12 000
Method 3					
P1 and P2 learners	R24 000	R20 000	R4 500	R48 500	N/A
Method 4					
Candidates with a 3 year diploma	R37 000	R20 000	R4 500	R61 500	R20 000
Candidates with 4 year qualification	R47 000	R20 000	R4 500	R71 500	R20 000

Note: the required CPG will be recalculated based on the awarded tender amount and "Contract amount" once the beneficiaries have been appointed and actual costs are known. The notional cost of providing training opportunities will increase by CPI on an annual basis based on April CPI. Should the rates increase after bid award or during construction the rates will be adjusted as a remeasuarble item.

Example: Training Target Calculation for a R65,7m GB contract

Contract amount	R65 700 000
Contract duration	12 Months
CSDG	0,50%
Minimum CSDG target	0,50% x R65 700 000 = R328 500 (Minimum requirement)

Table 4: Notional cost recalculation upon appointment of beneficiaries

Skills Types	Number of learners	Notional Cost / Learner / Quarter	Notional cost/learner/year	Total Notional Cost over 12 months Contract
Method 2: Workplace learning opportunities, with unemployed TVET graduates	1	R23 000	R92 000	R92 000



Method 3: Candidacy for an unemployed learner with a 3-year qualification	1	R61 500	R246 000	R246 000
Total	2			R338 000

C2.1.16.7 NATIONAL YOUTH SERVICE TRAINING AND DEVELOPMENT PROGRAMME

The National Youth Service Training and Development Programme is **NOT APPLICABLE** to this project.

The programme shall be implemented in terms of the Implementation of the National Youth Service Programme under the Expanded Public Works (EPWP) and shall be priced in the CPG section of the Bills of Quantities.

Provision has been made within the Contract Participation Goal section in the Bill of Quantities for the National Youth Service Training and Development Programme CPG in the execution of this project as described in PG-01.1 (EC) SCOPE OF WORKS C3.5.7. The contractor to price all elements of this section and allowance must be made for submitting monthly reports in the prescribed manner as per examples of reports bound in the specification document.

C2.1.16.8 LABOUR-INTENSIVE WORKS

Labour Intensive Works is **NOT APPLICABLE** to this project

Where labour intensive work is specified in the Bill of Qualities and indicated by "LI" the contractor must price for and include in rates. Contractors are expected to use their initiative to identify additional activities that can be done labour-intensively to comply with the set minimum labour intensity target. Allowance must be made for submitting monthly reports illustrating the value of the works executed under Labour Intensive Works.

C2.2 Submission of Accrual Reports

The Contractor shall submit accrual reports to the client representative at the end of March and September each year for the duration of the Service Contract period from the date of appointment up to and including project closeout. This is to ensure that PMTE complies with the accounting framework GRAP, which requires that PMTE disclose all its accruals as at the end of each reporting date. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C3 Scope of Work

PG-01.1 (EC) SCOPE OF WORKS – (GCC (2010) 2nd EDITION: 2010)

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>		
Tender no:	BL23/009	Reference no:	14/1/7/1/18/6718

C3. Scope of Works

CONTENTS

C3.1 STANDARD SPECIFICATIONS

C3.2 PROJECT SPECIFICATIONS

C3.3 PARTICULAR SPECIFICATIONS

C3.4 STANDARD SPECIFICATIONS

The standard specifications on which this contract is based are the **South African Bureau of Standards Standardized Specifications for Civil Engineering Construction SANS 1200.**

Although not bound in nor issued with this Document, the following Sections of the Standardized Specifications of SABS 1200 shall form part of this Contract:

- SANS 10142-1: The wiring of premises: Low Voltage Installations
- SANS 10400: Application of National building regulations.
- SANS 10114: Interior lighting.
- SANS 10389: Exterior lighting
- SANS 8528: Reciprocating internal combustion engine driven alternating current generating sets.
- SANS 60034: Rotating electrical Machines
- SANS IEC 60947: Low Voltage Switchgear
- Department of Public Works Quality Specification Parts A, B and C.
- Local municipality by-laws for generator installations. (To be obtained from local municipality)
- Electricity Regulations Act (Act 4 of 2006)
- SANS 1238 - Air conditioning duct work
- SANS 1424 - Filters for use in air conditioning and general ventilation
- SANS 10173 - The installation, testing and balancing of air conditioning duct work
- SANS 1125 - Room air conditioning and heat pumps
- SANS 10103 - The measurement of rating of environmental noise with respect to annoyance and to speech communication
- SANS 193 - Fire dampers
- The Occupational Health and Safety Act 85 of 1993
- NDPWI Specification PW325 - Manual for electrical/electronic and mechanical consulting engineers
- SANS 10139: Fire detection and alarm system for buildings.

C3.5 PROJECT SPECIFICATIONS

Status

The Project Specification, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part A contains a general description of the works, the site and the requirements to be met.

Part B contains variations, amendments and additions to the Standardized Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standardised of Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item

PART A – GENERAL DESCRIPTION OF WORKS

MECHANICAL INSTALLATION:

All work forming part of this Contract is divided into installations. The new installations, replacements, repair and maintenance work to be performed under this Contract mainly consists of the following:

- Supply and installations of new air conditioning installations (Midwall Split Type Units) in 8 offices which currently do not have any air conditioning units installed.
- Replacement of 11 old and non-functioning air conditioning units.
- Servicing of 6 existing installation as per manufacturer's guidelines and as well as technical or standard specifications which form part of this contract.

The Contractor will have the opportunity at the start of the contract to point out items which are not in perfect working order which in turn will be attended to as per the relevant tendered rates.

The description of the works given is not necessarily complete and shall not limit the work to be carried out by the Contractor' under this Contract.

Scope:

The supply, installation, testing and commissioning of air conditioning units in the following spaces:

Location	Area (m ²)
Court Manager office	16,3
Criminal court office	17,3
Maintenance office	19,7
Interpreters office	38,7
Cash hall 2	65,3
Court office A	16,0
Prosecutor office 1	16,2
Prosecutor office 2	16,2

The removal of the existing unit, the supply, installation, testing and commissioning of air conditioning units in the following spaces:

Location	Area (m ²)
Courtroom B	38,5
Regional court room	86,0
Magistrate office	20,3
Senior prosecutor office	20,0
Regional court office	16,0
Courtroom A	87,0
Civil court	29,8

Cash Hall	60,0
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The servicing of air conditioning units in the following spaces:

Location	Area(m ²)
Office 8	20,1
Domestic violence office	33,3
Court B office	19,0
Courtroom B	38,5
Courtroom A	87,0

All installations to be completed in line with technical specification as well as standard or additional specifications. Approximate quantities of each type of work are given in the Bill of Quantities.

ELECTRICAL INSTALLATION:

- 1- The contractor is to supply and install a 60 kVA generator. The plinth of the generator must be constructed as per the drawings and include a ball valve lever.
- 2- There are tree stumps in the way of the generator and cables and must be removed.
- 3- A 50mm² 4 core cable is to be installed from the existing kiosk to the generator. Then a 16mm² and 10mm² 4 core cable is to be installed from the generator to DB A and DB D emergency.
- 4- DB A and DB D emergency will then feed DB B and DB C emergency.
- 5- The existing kiosk must be installed with new circuit breakers to accommodate the new circuit design in the separation of normal and emergency.
- 6- The kiosk will feed DB A and DB D normal via a 10mm² and 4mm² 4 core cable.
- 7- DB A and DB D normal will then feed DB B and DB C normal.
- 8- All cables in ground is to be installed in HDPE pipes and all cables running up external wall and then into ceiling voids must be installed in steel trunking. Proper termination between HDPE pipe and trunking is to be ensured.
- 9- The contractor is to install new distribution boards on site and separate circuits into emergency and normal power. The distribution boards must be surface mount on existing positions with 30 spare capacity. No drilling or making existing distribution board voids larger. Packing of existing distribution board void in wall to be allowed for to accommodate the new distribution board.
- 10- Existing wiring for circuits to be used as far as possible after testing.
- 11- New conduits, power skirting and trunking is to also be installed. Existing trunking and power skirting to be re-used. All material provided must match existing.
- 12- New LED lighting to be provided throughout the building and must meet the minimum standards set out in the electrical specifications. Occupancy sensors and lights to be installed. The light switch must be able to override the occupancy sensor to switch it off.
- 13- All lighting to be provided with 3 meter long cable to connect to unswitched socket in ceiling void.
- 14- Fire detection shall be installed as per SANS 10139. The installer to be registered with SAQCC-FIRE.
- 15- The generator and fire detection system shall be maintained for 12 months after practical completion and shall be guaranteed 12 months after works completion.

NOTE: Ficksurg Magistrates Court will still be occupied and in use while construction occurs. Any disconnection and connection of electricity must be arranged with all stakeholders involved and be done over the weekend. It is viewed that all wiring, equipment, etc. be installed beforehand and not

over the weekend. The use of the weekend should specifically be for disconnecting old equipment and connecting new equipment. The construction, installation and commissioning timeframes must be communicated to all stakeholders and have as little effect to the daily operations of the Courts.

PART B - AMENDMENTS TO THE STANDARD AND PARTICULAR SPECIFICATION

NONE.

C3.3 PARTICULAR SPECIFICATIONS:

The Project Specification, consisting of three parts for each installation and forms an integral part of the contract and supplements the Standard Specifications.

Part A contains the specification of the electrical works, the electrical requirements for the installation.

Part B contains Equipment the specifications for the outdoor generator plant and the plinth to be provided.

Part C contained the equipment specifications for the heating, ventilation and air-conditioning installation.

Schedules in all specifications provided must be completed and submitted for evaluation purposes

C3.6 STANDARD MINIMUM REQUIREMENTS

In terms of section 5(2) of the Construction Industry Development Board Act, 2000 (Act no. 38 of 2000) (the Act), the Construction Industry Development Board is empowered to establish and promote best practice standards, Standard Requirements and Guidelines which includes the following but not limited to:

C3.6.1 cidb Best Practice: Green Building Certification, No. 34158 Government Gazette, 1 April 2011

C3.6.2 cidb Standard for Developing Skills through Infrastructure Contracts, No. 36760 Government Gazette, 23 August 2013

C3.6.3 cidb Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, No 36190 Government Gazette, 25 February 2013

C3.6.4 Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017, No. 40553 Government Gazette, 20 January 2017

C3.6.5 cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts, No. 41237 Government Gazette, 10 November 2017

C3.6.6 cidb Standard for Minimum Requirements for Engaging Contractors and Sub-Contractors on Construction Works Contracts, No. 41237 Government Gazette, 10 November 2017

C3.6.7 cidb Standard for Minimum Requirements for Engaging Contractors and Sub- Contractors on Construction Works Contracts, No. 42021 Government Gazette, 9 November 2018

C3.6.8 cidb Standard for Developing Skills through Infrastructure Contracts, No. 43495 Government Gazette, 3 July 2020

C3.7 CONTRACT PARTICIPATION GOALS AND CIDB BUILD PROGRAMME

The contractor shall achieve in the performance of the contract the following Contract Participation Goals (CPGs) as indicated below. Provision for pricing of compliance with the achieving the CPGs is made in the Contract Participation Goal Section of the Bills of Quantities and it is explicitly pointed out that all requirements in respect of the aforementioned are deemed to be priced thereunder and no additional claims in this regard shall be entertained:

C3.7.1 Minimum Thirty Percent (30%) Mandatory Sub-contracting Contract Participation Goal

MINIMUM THIRTY PERCENT (30%) MANDATORY SUBCONTRACTING TO SMMEs: IMPLEMENTATION OF PREFERENTIAL PROCUREMENT REGULATIONS 2017

30% Mandatory subcontracting is *NOT APPLICABLE* to this project.

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprises (SMME's) in executing this contract, irrespective whether the 30% Participation Goal is applicable or not.

The thirty percent (30%) mandatory Sub-contracting shall be achieved in the execution of the contract, in terms of in accordance with the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017 as published in the Government Gazette Notice No. 40553 of 20 January 2017.

- (a) SMME's involvement of at least five percent (5%) of the tender amount at the time of tender to be sourced from within 50km radius of the project site with the intention to maximize use of local SMMEs within "Insert Ward/s, Municipal District, Town, City, Province",
- (b) SMME's involvement of at least twenty five percent (25%) of the Tender Value to be sourced from within 250km radius of the project site.

Bidders are cautioned not to under-price items earmarked to be executed by SMMEs as adjustment to too low rates will not be entertained by the Employer.

Bidders to sub-contract a minimum of thirty percent (30%) of the tender amount including VAT at the time of tender (All inclusive, Including VAT), to any one or more of the following categories:

- a. An EME or QSE
- b. An EME or QSE which is at least 51% owned by black people
- c. An EME or QSE which is at least 51% owned by black people who are youth
- d. An EME or QSE which is at least 51% owned by black people who are women
- e. An EME or QSE which is at least 51% owned by black people with disabilities
- f. An EME or QSE which is at least 51% owned by black people living in rural or underdeveloped areas or townships
- g. A co-operative which is at least 51% owned by black people
- h. An EME or QSE which is at least 51% owned by black people who are Military veterans
- i. More than one of the categories referred to in paragraphs (a) to (h).

Bidders to refer to the CSD for a list of prospective sub-contractors provided with the tender. The bidder to refer to the CSD website should the list provided be insufficient.

Bidders must ensure that the sub-contractors conform to the following:

- a. Possess relevant accreditation where applicable;
- b. Be registered with relevant bodies (CIDB, various Councils, etc.) where applicable;
- c. Possess necessary capabilities to deliver the sub-contracted work;
- d. Meet the requirements in terms of the stipulated designated groups; and
- e. Geographical located at the place where the project will be delivered. Geographical location must be determined using the following criteria:
 - Relevant Ward. If not available;
 - Relevant neighbouring Wards. If not available;
 - Relevant Local Municipality. If not available;
 - Relevant District Municipality. If not available;
 - Relevant Metro. If not available;
 - Relevant Province. If not available;
 - Relevant Neighbouring Province. And If not available;
 - Anywhere within the borders of South Africa .

It is the bidder's responsibility to source alternative SMMEs should the parties with whom agreements were entered into at the time of tendering either no longer exist or do not perform or render work of an acceptable standard, subject to the approval by the Employer. Failure to achieve the minimum



thirty percent (30%) SMME participation based on the tender amount including VAT, will result in a two percent (2%) penalty on the amount of work on which there is no compliance (Excluding VAT), unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.7.2 Minimum Targeted Local Material Manufacturer Contract Participation Goal

The Minimum Targeted Local Building Material Manufacturers CPG is *NOT APPLICABLE* to this project.

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprise Local Material Manufacturers (SMME's) in executing this contract, irrespective whether a minimum percentage Participation Goals is applicable or not.

The Minimum Targeted Local Manufacturers of Material Contract Participation Goal, in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020.

A Targeted Local Material Manufacturer is a targeted enterprise that operates or maintains a factory or establishment that produces on its premises materials or goods required by the principal contractor for the performance of the contract.

Note: Adapted from SANS 10845-7:2015, definition 2.13

Preference shall be given to the Targeted Local Material Manufacturer in "**Insert Ward/s, Municipal District, Town, City, Province**", and provided that:

- (a) Such materials comply in all respects with the specific requirements of PW371 and SANS specifications,
- (b) The nonavailability of such materials shall not adversely affect the desired progress of the specific works,
- (c) The use of such suppliers shall not constitute grounds for any claim for increased cost in respect thereof,
- (d) Materials of at least 2% of the total value of materials purchased including VAT to be sourced from within 50km radius of the project site,
- (e) Material of at least 8% of the total value of materials purchased including VAT to be sourced from within 250km radius of the project site.

Failure to achieve the minimum ten percent (10%) Targeted Local Material Manufacturer participation expressed as a percentage of the original tender amount, excluding allowances and VAT, will result in a two percent (2%) penalty of the prorated targeted value of materials not complied with unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

Example: Total material to be purchased from local manufacturers = R 10 Million and only achieved a R8 Million CPG then the penalty = R2 Million x 2%. The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.7.3 Minimum Targeted-Local Building Material Suppliers Contract Participation Goal

The Minimum Targeted Local Building Material Suppliers CPG is *NOT APPLICABLE* to this project.

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprise Local Material Suppliers (SMME's) in executing this contract, irrespective whether a minimum percentage Participation Goals is applicable or not.

The Minimum Targeted Local Manufacturers of Material Contract Participation Goal shall be achieved in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and



Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract..

A targeted supplier is a targeted enterprise that

- a) owns, operates or maintains a store, warehouse or other establishment in which goods are bought, kept in stock and regularly sold to wholesalers, retailers or the public in the usual course of business; and
- b) engages, as its principal business and in its own name, in the purchase and sale of goods.

Note: Adapted from SANS 10845-7:2015, definition 2.14

Preference shall be given to the local material suppliers in the “**Insert Ward/s, Municipal District, Town, City, Province**”, and provided that:

- (a) Such materials comply in all respects with the specific requirements of PW371 and SANS specifications,
- (b) The none availability of such materials shall not adversely affect the desired progress of the specific works,
- (c) The use of such suppliers shall not constitute grounds for any claim for increased cost in respect thereof,
- (d) Materials of at least two percent (2%) of the total value of materials purchased including VAT to be sourced from within 50km of the project site,
- (e) Material of at least eight percent (8%) of the total value of materials purchased including VAT to be sourced from within 250km of the project site.

Failure to achieve the minimum ten percent (10%) Targeted Local Material Manufacturer participation expressed as a percentage of the original tender amount, excluding allowances and VAT, will result in a two percent (2%) penalty of the prorated targeted value of materials not complied with, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

Example: Total material to be purchased from local manufacturers = R 10 Million and only achieved a R8 Million CPG then the penalty = R2 Million x 2%. The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.7.4 Minimum Targeted Local Labour Skills Development Contract Participation Goal

The Minimum Targeted Local Labour Skills Development CPG is *NOT APPLICABLE* to this project.

It is the requirement of the employer that the contractor enhances the use of local labour in executing this contract. This is required to be done through the use of both traditional building techniques and labour-intensive construction techniques careful and considered construction planning and implemented in the project irrespective whether a minimum percentage Participation Goal is applicable or not.

The Minimum Targeted Local Skills Development Contract Participation Goal shall be achieved in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract..

Targeted labour: individuals who:

- a) are employed by the principal contractor, sub-contractor or targeted enterprises in the performance of the contract;
- b) are defined as the target group in the targeting data; and
- c) permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area.

Adapted from SANS 10845-7:2015, definition 2.12

Targeting of labour by skills categories is only permissible within categories of semi-skilled and unskilled labour.



Contract participation goals for semi-skilled and unskilled labour shall be limited to on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract and in a manner that does not compromise worker health and safety. In the case of targeted labour, the certification of records shall be in accordance with SANS 10845-8.

Beneficiaries will be sourced from the "Insert Ward/s, Municipal District, Town, City, Province". The contractor shall attain or exceed the enterprise development goal in the performance of the contract. Failing to achieve the Participation Goal will result in a thirty percent (30%) penalty of the total labour cost based on labour rates per day of the number of working days not achieved, excluding VAT for noncompliance, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.7.5 CIDB BUILD PROGRAMME: Minimum Targeted Enterprise Development Contract Participation Goal

The Minimum Targeted Enterprise Development CPG is *NOT APPLICABLE* to this project.

The aim of this best practice standard for indirect targeting for enterprise development in accordance with the Standard for Indirect Targeting for Enterprise Development (published in Government Gazette 36190 of 25 February 2013), as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract, is to promote enterprise development by providing for a minimum contract participation goal (CPG) of five percent (5%) of the contract amount as defined in the Standard (Tender amount, excluding allowances and VAT on selected contracts to be undertaken by joint-venture partners or to be sub-contracted to developing contractors that are also to be beneficiaries of enterprise development support from the main contractor.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

The contractor shall attain or exceed the enterprise development goal in the performance of the contract. Failing to achieve the Participation Goal will result in A) a thirty percent (30%) penalty of the value not achieved, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The lead partner or main contractor shall dedicate a minimum five percent (5%) of total project value to provide developmental support to targeted subcontractor or joint venture partner applicable to contracts in Grades 7 to 9, General Building and Civil Engineering contracts. Preference will be given to *(Insert type of enterprises. eg General Building, Electrical, Mechanical, Plumbing, etc. It could be either just one or any combination of all)* Enterprises.

Provision for pricing of compliance with the aforementioned is made in the preliminaries and it is explicitly pointed out that all requirement in respect of the aforementioned are deemed to be priced thereunder and no additional claims in this regard shall be entertained.

C3.7.5.1 Criteria

The main or lead partner of the successful bidder shall:

- (a) There must be a needs analysis for indirect targeting and development or skill standard and should be development in at least any two developmental areas namely;
 - Administrative and cost control systems
 - construction management systems and plans
 - planning, tendering and programming



- business; technical; procurement skills
 - legal compliance
 - credit rating/history; financial loan capacity/history
 - contractual knowledge
- (b) The above needs analysis shall be mutually agreed upon between contractor and targeted enterprise
- (c) The contractor shall appoint an enterprise development coordinator to:
- perform needs analysis on the targeted enterprise to identify developmental goals
 - develop a project specific enterprise development plan to improve the targeted enterprise/s performance in the identified developmental areas
 - provide internal mentorship support to improve the targeted enterprise/s performance
 - monitor and submit to the employer's representative a monthly enterprise development report thereby reporting on the progress of the agreed development areas with the targeted enterprise/s
 - submit a project completion report to the Employer's representative for each targeted enterprise.

C3.7.5.2 Management

The contractor shall provide a competent person/s to provide internal mentorship to the Targeted Enterprise/s in the two agreed developmental areas.

C3.7.5.3 Competence Criteria for an Enterprise Development Co-ordinator

The enterprise development co-ordinator shall have the following competencies:

- Minimum experience of 5 years in the construction industry at Managerial level as a Site Agent, Contracts Manager, Site Manager, Construction Manager, Business Development Manager or Enterprise Development Manager.
- Minimum experience of 2 years in training and development in Building or Construction; and
- National Diploma or B Degree in the Built Environment or Business Management

C3.7.5.4 Format of Communications

The contractor shall submit to the Employer's Representative:

- *Project interim reports* in the specified format (**ED105P**) detailing interim values of the CPG that was achieved together with an assessment of the enterprise development support provided should be tabled and discussed at least monthly at progress meetings between employer's representative and the contractor;
- *Project completion report* in the specified format (**ED101P**) to the Employer's Representative for acceptance within 15 days of achieving practical completion. The report shall include the value of the CPG that was certified in accordance with the contract, cidb registration numbers of each and every targeted enterprise, and the value of the subcontracted works or of the joint venture entered into; and the participation parameter
- *Enterprise development declaration* (**ED104P**).

C3.7.5.5 The Key Personal

The contractor shall appoint an Enterprise Development Co-ordinator and a competent person/s to provide internal mentorship.

C3.7.5.6 Management Meetings

The contractor shall report to the Employer's Representative on the implementation and progress of the targeted enterprise development and CPG at monthly progress site meetings.

C3.7.5.7 Forms for contract administration

The contractor shall submit to the Employer's Representative the following proformas:

- Form ED 105P Project Interim Report
- Form ED 104P Enterprise Development Declaration
- Form ED 101P Project Completion Report

C3.7.5.8 Records

The contractor shall:

- keep records of the targeted enterprise development
- keep records of the payments made to the targeted enterprises in relation to the CPG.
- ensure all the documentation required in terms of the Standard is provided with each monthly progress payment certificate and according to a prescribed format where applicable.

C3.7.5.9 Payment Certificates

The contractor shall:

- achieve the measurable CPG and providing enterprise development support to the targeted enterprise/s as per the Standard.
- submit payment certificates to the Employer Representative at intervals determined in the Contract.

C3.7.5.10 Compliance requirements

Non-compliance with the Best Practice Project Assessment Scheme

The wording of regulation 27A of the cidb regulations makes provision for the Board to enforce the cidb code of conduct in the event of clients being found to be in breach of the best practice project assessment scheme.

- Not including the requirements of the cidb standards in the conditions of tender
- Not registering the award of contract on the cidb Register of Projects (RoP)
- Not reporting practical completion on the cidb Register of Projects (RoP)

3.7.6 CIDB BUILD PROGRAMME: Minimum Targeted Contract Skills Development Goal (CSDG)

The Minimum Targeted Contract Skills Development CPG is *NOT APPLICABLE* to this project.

The contractor shall achieve or exceed in the performance of the contract the Contract Skills Development Goal (CSDG) established in the Standard for Developing Skills through Infrastructure Contracts (published in Government Gazette No. 43495 of 3 July 2020, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.

Failing to achieve the targeted Contract Skills Development Goal will result in A) a thirty percent (30%) penalty of the value of the portion not achieved, excluding VAT, and B) the issuing of completion certificates only after the completion certificate of achieving the skills development goal, counter-



signed by the relevant individuals has been submitted, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The contractor shall apportion the learners in the different construction activities based on the scope of work. The cost of accommodating learners will be determined by using Table 3 in the Standard and this cost will be used to determine the value in Rand and will be added to the provision for training as provided for in the Preliminary and General section in the Bill of Quantities/Pricing schedules/Activity schedule.

C3.7.6.1 Methodology

The contractor shall achieve the measurable contract skills development goal by providing opportunities to learners requiring structured workplace learning using one or a combination of any of the following in relation to work directly related to the contract or order:

Method 1: structured workplace learning opportunities for learners towards the attainment of a part or a full occupational qualification;

Method 2: structured workplace learning opportunities for apprentices or other artisan learners towards the attainment of a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012) subject to at least sixty percent (60%) of the artisan learners being holders of public TVET college qualifications;

Method 3: work integrated learning opportunities for University of Technology or Comprehensive University students completing their national diplomas;

Method 4: structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council listed in Table 1 above.

The contract skills participation goals, expressed in Rand, shall not be less than the contract amount multiplied by a percentage (%) factor given in Table 2 in the Standard for the applicable class of construction works.

Table 2: Contracting skills development goals for different classes of engineering and construction works contracts

Class of construction works as identified in terms of Regulation 25 (3) of the Construction Industry Regulations 2004		Construction skills development goal (CSDG) (%)
Designation	Description	
CE	Civil Engineering	0.25
CE and GB	Civil engineering and General Building	0.375
EE	Electrical Engineering works (buildings)	0.25
EP	Electrical Engineering works (infrastructure)	0.25
GB	General Building	0.5
ME	Mechanical Engineering works	0.25
SB	Specialist	0.25

The contractor shall apportion the learners in the different construction activities based on the scope of work. The cost of accommodating learners will be determined by using Table 3 in the Standard and this cost will be used to determine the value in Rand and will be added to the provision for training as provided for in the Preliminary and General section in the Bill of Quantities/Pricing schedules/Activity schedule.

Table 3: Notional Cost of Training per Headcount

Source: cidb Standard for Skills Development

Type of Training Opportunity	Provision for stipends (Unemployed learners only)	Provisions for mentorship	Provisions for additional costs*	Total costs	
				Unemployed learners	Employed learners
Method 1					
Occupational qualification	R7 000	R0	R9 000	R16 000	R9 000
Method 2					
TVET College graduates	R14 000	R0	R9 000	R23 000	N/A
Apprenticeship	R14 000	R0	R12 000	R26 000	R12 000
Method 3					
P1 and P2 learners	R24 000	R20 000	R4 500	R48 500	N/A
Method 4					
Candidates with a 3 year diploma	R37 000	R20 000	R4 500	R61 500	R20 000
Candidates with 4 year qualification	R47 000	R20 000	R4 500	R71 500	R20 000

Note: the required CPG will be recalculated based on the awarded tender amount and "Contract amount" once the beneficiaries have been appointed and actual costs are known. The notional cost of providing training opportunities will increase by CPI on an annual basis based on April CPI. Should the rates increase after bid award or during construction the rates will be adjusted as a remeasuarble item.

- The successful contractor may employ part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates (delete that which is not applicable) directly or through a Skills Development Agency (SDA), (A1 - List of cidb accredited SDAs).
- The successful contractor must employ at least sixty percent (60%) of the learners from an FET / TVET college should the contractor select to have part/full occupational qualification learners and trade qualification learners contributing to the CSDG.
- The successful contractor shall employ at least (insert percentage number) from eligible part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates (delete that which is not applicable) in the employment of the employer.
- The successful contractor shall ensure that no single method shall contribute more than seventy five percent (75%) of the CSDG for the contract.
- The successful contractor may only place thirty three percent (33%) employed employees or that of his subcontractors contributing to the CSDG.
- The contractor shall employ at least sixty percent (60%) of the learners from a Public FET / TVET college should the contractor select to have trade qualification learners (Method 2) contributing to the CSDG.
- One of the objectives of the project is to train (Insert number) Occupational qualifications, trade qualification, work integrated learners – P1 and P2 learners, professional candidates (Delete that which is not applicable).

C3.7.6.2 Management

- The successful contractor must keep site records regarding the part/full occupational qualification learners', trade qualification learners', work integrated learners' or candidates' (delete that which is not applicable) progress, site attendance, hours worked and other relevant information as required by the Standard.



- (b) The successful contractor shall provide the required number of appropriately qualified mentors to the maximum number of part/full occupational qualification learners, trade qualification learners, work integrated learners in the proportion as specified in the Standard.
- (c) The successful contractor shall provide a supervisor to manage the training of the part/full occupational qualification learners, trade qualification learners, work integrated learners, candidates (delete that which is not applicable).
- (d) The successful contractor shall submit to the employer's representative a baseline training plan in the specified format (Pro-forma A2) for the part/full occupational qualification learners, trade qualification learners, work integrated learners, candidates (delete that which is not applicable) within 30 days of start of the contract.
- (e) The successful contractor shall submit to the employer's representative project interim report in the specified format (Pro-forma A3) on the progress of each of part/full occupational qualification learner, trade qualification learner, work integrated learner, candidate (delete that which is not applicable) every three months.
- (f) The successful contractor shall submit to the employer's representative the names and particulars in the specified format (Pro-forma A4) of the supervisor, mentors for the part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates (delete that which is not applicable) within 30 days of start of the contract.
- (g) The successful contractor shall keep a daily record of all the part/full occupational qualification learners, trade qualification learners, work integrated learners, candidates on site and their daily activities and shall be made available to the employer's representative on request.
- (h) The successful contractor shall submit to the employer's representative the reports on the progress and status of the part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates (delete that which is not applicable) with the monthly invoice for the payment certificate.
- (i) The successful contractor shall have health and safety inductions for all part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates (delete that which is not applicable).
- (j) The successful contractor shall conduct entry and exit medical tests of all part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates (delete that which is not applicable).
- (k) The successful contractor shall provide personal protective equipment (PPE) to all part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates (delete that which is not applicable) at the start of their employment on site.
- (l) Based on the agreed skills methods the contractor may employ part/full Occupational Qualification Learners and /or Trade Qualification Learners and/or Work Integrated Learners and/or Candidates (delete that which is not applicable) directly or through a Skills Development Agency (SDA), training provider or skills development facilitator (Form A1 - List of cidb accredited SDAs). The contractor shall ensure that no more than one Method shall be applied to any individual concurrently in the calculation of the CSDG for the contract.

C3.7.7 NATIONAL YOUTH SERVICE TRAINING AND DEVELOPMENT PROGRAMME (NYS)

The National Youth Service Training and Development Programme is *NOT APPLICABLE* to this project.

The programme shall be implemented in terms of the Implementation of the National Youth Service Programme under the Expanded Public Works (EPWP) and shall be priced in the CPG section of the Bills of Quantities. Monthly reports are to be submitted to the Employer's Representative.

Failure by the contractors to achieve the specified number to be trained in the NYS section of the CPG section within the Bills of quantities will result in a payment reduction as per bill of quantities per person,



excluding VAT unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

C3.7.8 LABOUR-INTENSIVE WORKS

Labour Intensive Works is NOT *APPLICABLE* to this project.

Where labour intensive work is specified in the Bill of Qualities and indicated by "LI" the contractor must price for and include in rates. Contractors are expected to use their initiative to identify additional activities that can be done labour-intensively to comply with the set minimum labour intensity target. Allowance must be made for submitting monthly reports illustrating the value of the works executed under Labour Intensive Works.

Failure by the contractor to achieve the specified value of the Labour Intensive Participation Goal as stipulated within the Bills of quantities will result in a thirty percent (30%) penalty of the value of the works not done by means of labour intensive methods, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

Employer's objectives:

The employer's objectives are to deliver public infrastructure using labour-intensive methods in accordance with EPWP Guidelines.

Labour-intensive works:

Labour-intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of the scope of work. A twenty percent (20%) penalty of the value of the works will be imposed on items where unauthorised use of plant was used to carry out work which was to be done labour-intensively.

Labour-intensive competencies of supervisory and management staff:

Contractors shall only engage supervisory and management staff in labour-intensive works that have completed the skills programme including Foremen/ Supervisors at NQF level 4 "National Certificate: Supervision of Civil Engineering Construction Processes" and Site Agent/ Manager at NQF level 5 "Manage Labour-Intensive Construction Processes" or equivalent QCTO qualifications (See Appendix C) at NQF outlined in Table 1

C3.7.8.1 GENERIC LABOUR-INTENSIVE SPECIFICATION

Contractors are referred to the Guidelines for the Implementation of Labour-intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP) for the generic labour-intensive specification applicable to the contract.

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- trenches having a depth of less than 1.5 metres
- stormwater drainage
- roads
- sidewalks and non-motorised transport infrastructure
- water and sanitation

Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail

Hand excavateable material

Hand excavateable material is:

a) granular materials:

- i) whose consistency when profiled may in terms of table 2 be classified as very loose, loose, medium dense, or dense; or



ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b) cohesive materials:

i) whose consistency when profiled may in terms of table 2 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note

1) A boulder is material with a particle size greater than 200mm, a cobble and gravel is material between 60 and 200mm.

2) A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 2: Consistency of materials when profiled			
GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of a geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

Trench excavation

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers;

a) to ninety percent (90%) Mod AASHTO;

b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than ten (10%) gravel of size less than 10mm and contains no isolated boulders, or



c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand. Any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

Clearing and grubbing

Grass and bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

Loading

All loading shall be done by hand. Haulage equipment should be selected in a manner that allows loading by hand to the greatest extent possible.

Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilised for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved. Appropriate rollers should be used where higher (than can be achieved by hand) levels of compaction are required or for large areas.

Grassing

All grassing shall be undertaken by sprigging, sodding, or seeding by hand.

Stone pitching and rubble concrete masonry

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must to be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Grout shall be mixed and placed by hand.

Manufactured Elements

Elements manufactured or supplied by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. Where the mass of an element exceeds 55 kg, consideration should be given to the size of the element relative to its total mass related to the number of workers who would be needed to lift such mass

C3.8 Submission of Accrual Reports

The Contractor shall submit accrual reports to the client representative at the end of March and September each year for the duration of the Service Contract period from the date of appointment up to and including project closeout. This is to ensure that PMTE complies with the accounting framework GRAP, which requires that PMTE disclose all its accruals as at the end of each reporting date.

C.3.9 Submission of Monthly Local Material Utilisation Report (Local Content)



The contractors shall be responsible for record keeping, documenting and submission of monthly local material utilization report with supporting documentation to the Employer's representative within 7 working days of the beginning of the successive month, in terms of DTI&C designated industry/sector/sub-sector schedule as per the PA36 and Annexures C attached to the tender document. The final percentage achievement to be reconciled upon completion of the project and form part of the final account.

Failure by the contractors to achieve the specified percentage of local content per designated industry/sector/sub-sector as listed will result in a thirty percent thirty percent (30%) penalty of the value not achieved, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control. Allowance must be made for submitting monthly reports illustrating the value of local material utilisation report.



DEPARTMENT OF PUBLIC WORKS

HIV/AIDS

SPECIFICATION

OCTOBER 2004

SECTION

HIV/AIDS SPECIFICATION

HIV/AIDS REQUIREMENTS

1 SCOPE

This specification contains all requirements applicable to the Contractor for creating HIV/AIDS awareness amongst all of the Workers involved in this project for the duration of the construction period, through the following strategies:

- Raising awareness about HIV/AIDS through education and information on the nature of the disease, how it is transmitted, safe sexual behaviour, attitudes towards people affected and people living with HIV/AIDS, how to live a healthy lifestyle with HIV/AIDS, the importance of voluntary testing and counselling, the diagnosis and treatment of Sexually Transmitted Infections and the closest health Service Providers;
- Informing Workers of their rights with regard to HIV/AIDS in the workplace;
- Providing Workers with access to condoms and other awareness material that will enable them to make informed decisions about sexual practices.

2 DEFINITIONS AND ABBREVIATIONS

2.1 Definitions

Service Provider: The natural or juristic person recognised and approved by the Department of Public Works as a specialist in conducting HIV/AIDS awareness programmes.

Service Provider Workshop Plan: A plan outlining the content, process and schedule of the training and education workshops, presented by a Service Provider which has been approved by the Representative/Agent.

Worker: Person in the employ of the Contractor or under the direction or supervision of the Contractor or any of his Sub-contractors, who is on site for a minimum period of 30 days in all.

2.2 Abbreviations

- HIV : Human Immunodeficiency Virus.
- AIDS : Acquired Immune Deficiency Syndrome.
- STI : Sexually Transmitted Infection.

3 BASIC METHOD REQUIREMENT

- 3.1 The Contractor shall, through a Service Provider, conduct onsite workshops with the Workers.

The Service Provider shall develop and compile a Service Provider Workshop Plan to be presented at the workshops and which will be best suited for this project to achieve the specified objectives with regard to HIV/AIDS awareness.

The Service Provider Workshop Plan shall be based on the following information provided by the Contractor:

- Number of Workers and Sub-contractors on site;
- When new Workers or Sub-contractors will join the construction project;
- Duration of Workers and Sub-contractors on site;
- How the maximum number of Workers can be targeted with workshops;
- How the Contractor prefers workshops to be scheduled, e.g. three hourly sessions per Worker, or one 2.5 hour workshop per Worker;
- Profile of Workers, including educational level, age and gender (if available);
- Preferred time of day or month to conduct workshops;
- A Gantt chart reflecting the construction programme, for scheduling of workshops;
- Suitable venues for workshops.

The Contractor shall submit the Service Provider Workshop Plan for approval within 21 days after the tender acceptance date. After approval by the Representative/Agent, the Contractor shall make available a suitable venue that will be conducive to education and training.

3.2 The Service Provider Workshop Plan shall address, but will not be limited to the following:

- 3.2.1 The nature of the disease;
- 3.2.2 How it is transmitted;
- 3.2.3 Safe sexual behaviour;
- 3.2.4 Post exposure services such as voluntary counselling and testing (VCT) and nutritional plans for people living with HIV/AIDS;
- 3.2.5 Attitudes towards other people with HIV/AIDS;
- 3.2.6 Rights of the Worker in the workplace;
- 3.2.7 How the Awareness Champion will be equipped prior to commencement of the HIV/AIDS awareness programme with basic HIV/AIDS information and the necessary skills to handle questions regarding the HIV/AIDS awareness programme on site sensitively and confidentially;
- 3.2.8 How the Service Provider will support the Awareness Champion;
- 3.2.9 Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems;
- 3.2.10 How the workshops will be presented, including frequency and duration;
- 3.2.11 How the workshops will fit in with the construction programme;
- 3.2.12 How the Service Provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly;
- 3.2.13 How the video will be used;
- 3.2.14 How the Service Provider will elicit maximum participation from the Workers;
- 3.2.15 A questions and answers slot (interactive session).

The Service Provider Workshop Plan shall encompass the Specific Learning Outcomes (SLO) as stipulated.

4 HIV/ AIDS AWARENESS EDUCATION AND TRAINING

4.1 Workshops

The Contractor shall ensure that all Workers attend the workshops.

The workshops shall adequately deal with all the aspects contained in the Service Provider Workshop Plan. A video of HIV/AIDS in the construction industry, which can be obtained from all Regional Offices of the Department of Public Works, is to be screened to Workers at workshops. In order to enhance the

learning experience, groups of not exceeding 25 people shall attend the interactive sessions of the workshops.

4.2 Recommended practice

4.2.1 Workshop Schedule

Presenting information contained in the Service Provider Workshop Plan can be divided in as many workshop sessions as deemed practicable by the Contractor, provided that all Workers are exposed to all aspects of the workshops as outlined in the Service Provider Workshop Plan.

Breaking down the content of information to be presented to Workers into more than one workshop session however, has the added advantage that messages are reinforced over time while providing opportunity between workshop sessions for Workers to reflect and test information. Workers will also have an opportunity to ask questions at a following session.

4.2.2 Service Providers

A database of recommended Service Providers is available from all Regional Offices of the Department of Public Works.

4.2.3 HIV/AIDS Specific Learning Outcomes and Assessment Criteria

Workers shall be exposed to workshops for a minimum duration of two-and-a-half hours. In order to set a minimum standard requirement, the following specific learning outcomes and assessment criteria shall be met.

4.2.3.1 UNIT 1: The nature of HIV/AIDS

After studying and understanding this unit, the Worker will be able to differentiate between HIV and AIDS and comprehend whether or not it is curable. The Worker will also be able to explain how the HI virus operates once a person is infected and identify the symptoms associated with the progression of HIV/AIDS.

Assessment Criteria:

1. Define and describe HIV and AIDS;
2. List and describe the progression of HIV/AIDS.

4.2.3.2 UNIT 2: Transmission of the HI virus

After studying and understanding this unit, the Worker will be able to identify bodily fluids that carry the HI virus. The Worker will be able to recognise how HIV/AIDS is transmitted and how it is not transmitted.

Assessment Criteria:

1. Record in what bodily fluids the HI virus can be found;
2. Describe how HIV/AIDS can be transmitted;
3. Demonstrate the ability to distinguish between how HIV/AIDS is transmitted and misconceptions around transmittance of HIV/AIDS.

4.2.3.3 UNIT 3: HIV/AIDS preventative measures

After studying and understanding this unit, the Worker will comprehend how to act in a way that would minimise the risk of HIV/AIDS infection and to use measures to prevent the HI virus from entering the bloodstream.

Assessment Criteria:

1. Report on how to minimise the risk of HIV/AIDS infection;
2. Report on precautions that can be taken to prevent HIV/AIDS infection;
3. Explain or demonstrate how to use a male and female condom;
4. List the factors that could jeopardize the safety of condoms provided against HIV/AIDS Transmission.

4.2.3.4 UNIT 4: Voluntary HIV/AIDS counselling and testing

After studying and understanding this unit, the Worker will be able to recognise methods of testing for HIV/AIDS infection. The Worker will be able to understand the purpose of voluntary HIV/AIDS testing and pre- and post-test counseling.

Assessment Criteria:

1. Describe methods of testing for HIV/AIDS infection;
2. Report on why voluntary testing is important;
3. Report on why pre- and post-test counselling is important.

4.2.3.5 UNIT 5: Living with HIV/AIDS

After studying and understanding this unit, the Worker will be able to recognise the importance of caring for people living with HIV/AIDS and be able to manage HIV/AIDS.

Assessment Criteria:

1. List and describe ways to manage HIV/AIDS;
2. Describe nutritional needs of people living with HIV/AIDS;
3. Describe ways to embrace a healthy lifestyle as a person living with HIV/AIDS;
4. Explain the need for counselling and support to people living with HIV/AIDS.

4.2.3.6 UNIT 6: Treatment options for people with HIV/AIDS

After studying and understanding this unit, the Worker will be familiar with the various treatments available to HIV/AIDS infected or potentially HIV/AIDS infected people.

Assessment Criteria:

1. Discuss anti-retroviral therapy;
2. List methods of treatment to prevent HIV/AIDS transmission from mother-to-child;
3. Describe the need for treatment of opportunistic diseases for people living with HIV/AIDS;
4. Describe post exposure prophylactics.

4.2.3.7 UNIT 7: The rights and responsibilities of Workers in the workplace with regard to HIV/AIDS

After studying and understanding this unit, the Worker will be able to identify the rights and responsibilities of the Worker living with HIV/AIDS in the workplace. The Worker will recognise the importance of accepting colleagues living with HIV/AIDS and treating them in a non-discriminative way.

Assessment Criteria:

1. Discuss the rights of a person living with HIV/AIDS in the workplace;
2. Discuss the responsibilities of a person living with HIV/AIDS in the workplace;
3. Report on why acceptance and non-discrimination of colleagues living with HIV/AIDS is important.

4.3 Displaying of plastic laminated posters and distribution of information booklets

The Contractor shall obtain a set of four laminated posters conveying different key messages and information booklets. The contractor should include the costs of posters and information booklets in his/her tender price.

The above-mentioned posters and information booklets have been prepared to raise awareness and to share information about HIV/AIDS and STI's.

Posters or display stands shall be displayed on site as soon as possible, but not later than 14 days after the date of site handover.

Posters shall be displayed in areas highly trafficked by Workers, including toilets, rest areas, the site office and compounds.

The posters on display must always be intact, clear and readable.

Information booklets must be distributed to all Workers as soon as possible, but not later than 14 days after site handover, or as soon as the Worker joins the site.

5 PROVIDING WORKERS WITH ACCESS TO CONDOMS

The Contractor shall provide and maintain condom dispensers and make both male and female condoms, complying with the requirements of SABS ISO 4074, available at all times to all Workers at readily accessible points on site, for the duration of the contract. The Contractor may obtain condom dispensers from the Department of Health and condoms may be obtained from the Local Clinic or the Department of Health.

At least one male and one female condom dispenser and a sufficient supply of condoms, all to the approval of the Representative/Agent, shall be made available on site within 14 days of site hand over. Contractors should note that arrangements to obtain condoms from the Department of Health Clinics prior to site hand over may be necessary, to ensure that condoms are available within 14 days of site handover.

Condoms shall be made available in areas highly trafficked by Workers, including toilets, the site office and compounds.

6 ENSURING ACCESS TO HIV/AIDS TESTING AND COUNSELLING FACILITIES AND TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS (STI)

The Contractor shall provide Workers with the names of the closest Service Providers that provide HIV/AIDS testing and counselling and Clinics providing Sexually Transmitted Infection (STI) diagnosis and treatment. Information on these Service Providers and Clinics must be displayed on a poster of a size not smaller than A1 in an area highly trafficked by Workers.

7 APPOINTMENT OF AN HIV/AIDS AWARENESS CHAMPION

- 7.1 Within 14 days of site handover the Contractor shall appoint an Awareness Champion from amongst the Workers, who speaks, reads and writes English, who speaks and understands all the local languages spoken by the Workers and who shall be on site during all stages of the construction period. The Contractor shall ensure that the Awareness Champion has been trained by the Service Provider on basic HIV/AIDS information, the support services available and the necessary skills to handle questions regarding the HIV/AIDS programme in a sensitive and confidential manner.

7.2 The Awareness Champion shall be responsible for:

- 7.2.1 Liaising with the Service Provider on organising awareness workshops;
- 7.2.2 Filling condom dispensers and monitoring condom distribution;
- 7.2.3 Handing out information booklets;
- 7.2.4 Placing and maintaining posters.

8 MONITORING

The Contractor shall grant to the Representative/Agent reasonable access to the construction site, in order to establish that the Contractor complies with his obligations regarding HIV/AIDS awareness under this contract.

The Contractor must report problems experienced in implementing the HIV/AIDS requirements to the Representative/Agent.

The attached SITE CHECKLIST (SCHEDULE A) shall be completed and submitted at every construction progress inspection to the Representative/Agent.

The attached SERVICE PROVIDER REPORT (SCHEDULE B) shall be completed and submitted on a monthly basis to the Department's Project Manager, through the Representative/Agent.

The attached CONTRACTOR HIV/AIDS PROGRAMME REPORT (SCHEDULE C), a close out programme report, shall be completed by the Contractor at the end of the contract.

SCHEDULE A

HIV/AIDS PROGRAMME: SITE CHECKLIST

When did construction commence: _____

Name of Departmental Project Manager: _____

Please refer to HIV/AIDS Programme activities during the reporting period

DATE		Tick the block if Contractor satisfactorily complied with specifications																	
		PI			PI			PI			PI			PI					
		D	D	M	D	D	M	D	D	M	D	D	M	D	D	M	D	D	M
Programme implemented within 14 days of site handover																			
Awareness champion on site																			
HIV/AIDS awareness service provider report																			
Male condom dispenser																			
Sufficient male condoms available																			
Male condom dispenser in a highly trafficked area																			
Female condom dispenser																			
Sufficient female condoms available																			
Female condom dispenser in a highly trafficked area																			
All four types of posters displayed																			
Posters in a good condition																			
Posters in a highly trafficked area																			
Posters displayed on local support services: clinic & VCT centre																			
Support service poster/s in highly trafficked area																			
Support service poster/s in a good condition																			

Please indicate the applicable number for the reporting period									
Workers on payroll (at PI)									
Sub-Contractors who will be on site for longer than 30 days (at PI)									
Workshop attendees									
Number of workshops held									
Scheduled workshops according to approved workshop plan									
Booklets distributed									
Male condoms distributed									
Female condoms distributed									

Representative/Agent

Date

Contractor

Date

Date of progress inspection: (ccyy/mm/dd)

Reporting period: (ccyy/mm/dd) _____ to (ccyy/mm/dd) _____

Deviations from HIV/AIDS awareness programme plan:

--

Corrective actions:

--

Representative/Agent

Departmental Project Manager

Date

Date

SCHEDULE B

HIV/AIDS AWARENESS PROGRAMME: SERVICE PROVIDER REPORT

Reporting period: (ccyy/mm/dd) _____ to (ccyy/mm/dd) _____

Number of workshops conducted in reporting period: _____

Number of scheduled workshops according to approved workshop plan: _____

Deviations from workshop plan:

State reasons for deviating from workshop plan:

Corrective actions:

Service Provider

Date

Date

SCHEDULE C**CONTRACTOR HIV/AIDS PROGRAMME REPORT**

Project name: _____

Project Location: _____

Contract value of project: R_____

Department of Public Works Project Manager: _____

HIV/AIDS Programme duration: (ccyy/mm/dd) _____ to (ccyy/mm/dd) _____

AWARENESS MATERIAL

Describe location of posters displayed during the programme: _____

Comments on posters: _____

Indicate total number of booklets distributed: _____

Comments on booklets: _____

CONDOMS

Indicate total number of male condoms distributed: _____

Indicate total number of female condoms distributed: _____

Describe where male condom dispenser was placed: _____

Describe where female condom dispenser was placed: _____

HIV/AIDS WORKSHOPS

Indicate the total number of HIV/AIDS workshops conducted: _____

Indicate the duration of workshops: _____

Indicate the total number of Workers that participated in the HIV/AIDS workshops: _____

Indicate the total number of Workers that were exposed to the video on HIV/AIDS in the Construction Industry: _____

Comments on HIV/AIDS workshops on site: _____

GENERAL

Briefly describe programme activities and satisfaction with outcome: _____

Additional comments, suggestions or needs with regard to the HIV/AIDS awareness programmes on site:

Please indicate if your company has a formal HIV/AIDS policy focussing on HIV/AIDS awareness raising and care and support of HIV/AIDS Workers:

Yes	No	Currently developing one
-----	----	--------------------------

Please indicate if, to your knowledge, you have lost any workers during the duration of the project to HIV/AIDS related sicknesses. One or more of the following might indicate an HIV/AIDS related death:

Excessive weight loss
Reactive TB
Hair loss
Severe tiredness

Coughing or chest pain
Pain when swallowing
Persistent fever
Diarrhoea

Vomiting
Meningitis
Memory loss
Pneumonia

Number of HIV/AIDS-related deaths: _____

Contractor

Date

Departmental Project Manager

Date



DEPARTMENT OF PUBLIC WORKS

OCCUPATIONAL HEALTH AND SAFETY

HEALTH & SAFETY SPECIFICATIONS

FOR

PROJECTS AND MAINTENANCE

(Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development)

MANAGED ON BEHALF OF

**THE NATIONAL DEPARTMENT OF
PUBLIC WORKS**

PUBLIC WORKS:

Mr. K.E Nkuna - **HEALTH & SAFETY OFFICER (ELECTRICAL)**
079-699-2114

Mr. Phumza Zweni - **HEAD: PROJECTS**

Mr. Mr. C Dyantyi - **PROJECT MANAGER**

NB

The Health and Safety File compiled by the Principal Contractor shall only comprise of relevant Requirement for compliance based on the Scope of Works and page 16-28 of this document/specification.

Contents

Index	Page Number
1. Preamble	4
2. Scope of Health & Safety Document	5
3. Purpose	5
4. Definitions	5
5. Occupational Health & Safety Management	6
5.1 Structure & Organization of OH&S Responsibilities	6
5.2 Communication & Liaison	7
6. Interpretation	8
7. Responsibilities	8
7.1 Client	8
7.2 Principal Contractor	9
7.3 Contractor	9
8. SCOPE OF WORK	9-10
9. Health and Safety file	11
10. OH&S Goals & Objectives & Arrangements for Monitoring & Reviewing OH&S Performance	11
11. Identification of Hazards & Development of Risk Assessments, Standard Working Procedures (SWP) & Method Statements	11
12. arrangements for Monitoring and Review	11
12.1 Monthly Audit by Client and/or its Agent on its behalf	11
12.2 Other Audits & Inspections	12
12.3 Reports	12
12.4 Review	12
12.5 Site Rules and other Restrictions	13
12.6 Training	13
12.7 Accident & Incident Investigation	14
12.8 H&S Representatives (SHE-Reps) & H&S Committees	14
13. Project/site specific requirements	15-16
14. Outlined data, References & information on certain and/or specific obligatory requirements to ensure compliance	17-27
15. The principal contractor's general duties	27
16. The principal contractor's specific duties	28
17. The principal contractor's specific duties with regard	28
18. General notes to the principal contractor	29
19. House keeping	29
20. Lockout systems	30
21. Incident investigation	30
22. General	30
23. Important Lists and Records to be kept	30
23.1 List of Appointments	31
23.2 List of Record Keeping Responsibilities	31
23.3 Inspection Checklist	32-34
24. Health & safety file compilation & content (document attached)	35
25. Safety and switching procedures for electrical	35
26. Guide to the general administrative regulations (attached)	35
27. Important contact details (health & safety only) (attached)	35

attachments:

14. Health and safety file compilation and content
15. Safety and switching procedures for electrical
16. Important contact details

16. COVID 19 Amendment
17. Covid - 19 Management plan

1. PREAMBLE

*In terms of Construction Regulation 4(1) (a) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), the Department of Public Works, as the Client and/or its Agent on its behalf, shall be responsible to prepare Health & Safety Specifications for any intended construction project and provide any Principal Contractor who is making a bid or appointed to perform construction work for the Client and/or its Agent on its behalf with the same.

*The Client's further duties are as described in The Act and the Regulations made there-under. The Principal Contractor shall be responsible for the Health & Safety Policy for the site in terms of Section 7 of the Act and in line with Construction Regulation 5 as well as the Health and Safety Plan for the project.

This 'Health and Safety Specifications' document is governed by the "Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as 'The Act'. Notwithstanding this, cognizance should be taken of the fact that no single Act or its set of Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a documented specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is suggested that the entire scope of the Labor legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this argument is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. It is reiterated that environmental management can not be disregarded.

Due to the wide scope and definition of construction work, every construction activity and site will be different, and may change even on a daily basis. Therefore, due caution is to be taken when drafting the Health and Safety Plan based on these Health and Safety Specifications. Prior to drafting the Health and Safety Plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to determine any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard. This Risk Assessment and the steps identified will be the basis or point of departure for the Health and Safety Plan. The Health and Safety Plan shall include documented 'Methods of Statement' detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in the Risk Assessment.

The Department of Public Works is tasked to provide accommodation and operational facilities to a very large proportion of the approximate 40 National Departments responsible for the governance of the Department of Public Works. A very large number of State employees and public users of the facilities and the services provided there-in directly interacts with the facilities provided by the well-being, health and safety of a great number of people. This Department thus has directly or indirectly, an impact on the Republic of South Africa as well as the National Parliament.

In this a high premium is to be placed on the health and safety of the most valuable assets of the Department of Public Works. These are its personnel, the personnel of its Clients and the physical assets of which it is the custodian and may also include the public as well. The responsibilities the Department and relevant stakeholders have toward its employees and other people present in the facilities or on the sites are captured further in this specification document. These responsibilities stem from both moral, civil and a variety of legal obligations.

*Every effort has been made to ensure that this specification document is accurate and adequate in all respects. Should it however, contain any errors or omissions they may not be considered as grounds for claims under the contract for additional reimbursement or extension of time, or relieve the Principal Contractor from his responsibilities and accountability in respect of the project to which this specification document pertains.

***2. SCOPE OF HEALTH AND SAFETY SPECIFICATION DOCUMENT**

The Health and Safety Specifications pertaining to the project; Phase 1 and Phase 2" etc. etc.), cover the subjects contained in the index and is intended to outline the normal as well as any special requirements of the Department pertaining to the health and safety matters (including the environment) applicable to the project in question. These Specifications should be read in conjunction with the Act, the Construction Regulations and all other Regulations and Safety Standards which were or will be promulgated under the Act or incorporated into the Act and be in force or come into force during the effective duration of the project. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the Act, Regulations and Safety Standards which are promulgated under, or incorporated into the Act.

3. PURPOSE

The Department is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications.

The purpose of this specification document is to provide the relevant Principal Contractor (and his /her contractor) with any information which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work for the Department of Public Works. The Principal Contractor (and his /her contractor) is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

- a) Safety considerations affecting the site of the project and its environment;
- b) Health and safety aspects of the associated structures and equipment;
- c) Submissions on health and safety matters required from the Principal Contractor (and his /her contractor); and
- d) The Principal Contractor's (and his /her contractor) health & safety plan.

It must be ensured that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

The **Occupational Health and Safety Act (Sixth Revised Edition: 16.2 August 2016), 1993 (Act 85 of 1993)** in its entirety shall apply to the contract to which this specification document applies. The Construction Regulations promulgated on 18 July 2003 and incorporated into the above Act by Government Notice R 1010, published in Government Gazette 25207 shall apply to any person involved in construction work pertaining to this project, as will the Act **read with the Amended Construction Regulation 2014**

4. DEFINITIONS

"Purpose of the Act" –NB: This information below shall be read with the new Construction Regulations 2017(Sixth Revised Edition: 16.2 August 2016), 1993 (Act 85 of 1993)

To provide for the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

"Agent" –Means any person who acts as a representative for a client;

"Client" –Means any person for whom construction work is performed;

“Construction Work” is defined as any work in connection with –

- (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- (b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;
- (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

“Contractor” –means an employer, as defined in Section 1 of the Act, who performs construction work and includes Principal Contractors;

“Health and Safety File” –means a file, or other record in permanent form, containing the information required a contemplated in the regulations;

“Health and Safety Plan” –means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified;

“Health and Safety Specification” –means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons;

“Method Statement” –means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment;

“Principal Contractor” –means an employer, as defined in section 1 of the Act who performs construction work and is appointed by the client to be in overall control and management of a part of or the whole of a construction site;

“Risk Assessment” –means a program to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

***5. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT**

5.1 Structure and Organization of OH&S Responsibilities

5.1.1. Overall Supervision and Responsibility for OH&S

- * The Client and/or its Agent on its behalf to ensure that the Principal Contractor, appointed in terms of Construction Regulation 4(1)(c), implements and maintains the agreed and approved H&S Plan.
- * The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act to ensure that the Employer (as defined in the Act) complies with the Act. The pro forma Legal Compliance Audit may be used for this purpose.
- * All OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her/their respective appointment forms to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).
- * The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 6 to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).
- * All Health and Safety Representatives (SHE-Reps) as per Section 18 of the Act.

5.1.2. Further (Specific) Supervision Responsibilities for OH&S

Several appointments or designations of responsible and /or competent people in specific areas of construction work are required by the Act and Regulations. The following competent appointments, where applicable, in terms of the Construction Regulations are necessary to ensure compliance to the Act, Regulations and Safety Standards.

Required appointments as per the Construction Regulations:-

Item	Regulation	Appointment	Responsible Person
1.	4(1)(c)	Principal contractor for each phase or project	Client
2.	5.(3)(b)	Contractor	Principal Contractor
3.	5(11)	Contractor	Contractor
4.	6(1)	Construction supervisor	Contractor
5.	6(2)	Construction supervisor sub-ordinates	Contractor
6.	6(6)	Construction Safety Officer	Contractor
7.	7(1)	Person to carry out risk assessment	Contractor
8.	7(4)	Trainer/Instructor	Contractor
9.	8(1)(a)	Fall protection planner	Contractor
10.	10 (a)	Formwork & support work supervisor	Contractor
11.	10(e) + (f)	Formwork & support work examiner	Contractor
12.	11(1)	Excavation supervisor	Contractor
13.	11(3)(b)(ii)(b)	Professional engineer or technologist	Contractor
14.	11(3)(k)	Explosives expert	Contractor
15.	12(1)	Supervisor demolition work	Contractor
16.	12(2) + (3)	Demolition expert	Contractor
17.	12(11)	Explosives expert	Contractor
18.	14(2)	Scaffold supervisor	Contractor
19.	15(1)	Suspended platform supervisor	Contractor
20.	15(2)(c)	Compliance plan developer	Contractor
21.	15(8)(c)	Suspended platform expert	Contractor
22.	15(13)	Outrigger expert	Contractor
23.	17(8)(a)	Material hoist inspector	Contractor
24.	18(1)	Batch plant supervisor	Contractor
25.	18(7)	Batch plant operator	Contractor
26.	19(2)(b)	Power tool expert	Contractor
27.	19.2 (g) (i)	Power tool controller	Contractor
28.	20(f)	Tower crane operator	Contractor
29.	21(1)(d)(i)	Construction vehicle and mobile plant operator	Contractor
30.	21(1)(j)	Construction vehicle and mobile plant inspector	Contractor
31.	22(d)	Temporary electrical installations inspector	Contractor
32.	22 (e)	Temporary electrical installations controller	Contractor
33.	26 (a)	Stacking and storage supervisor	Contractor
34.	27 (h)	Fire equipment inspector	Contractor

This list may be used as a reference or tool to determine which components of the Act and Regulations would be applicable to a particular site, as was intended under the Chapter "Preamble" above. (Page 4)

5.2 Communication & Liaison

5.2.1 OH&S Liaison between the Employer, the Principal Contractor, the other Contractors, the Designer and other concerned parties will be through the H&S Committee as per the procedures determined by the H&S Committee.

- 5.2.2 In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.
- 5.2.3 Consultation with the workforce on OH&S matters will be through their Supervisors and H&S Representatives ('SHE – Reps')
- 5.2.4 The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and/or its Agent on its behalf and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

6. INTERPRETATION

(i) The Occupational Health and Safety Act and all its Regulations, with the exception of the Construction Regulations, distinguish between the roles, responsibilities and functions of employers and employees respectively. It views consultants and contractors as employees of the "owner" of a construction or operational project, the "owner" being regarded as the employer. Only if formally agreed to by way of the written agreement in this regard between the "owner(s)" and consultant and /or between the "owner(s)" and the contractor(s), will these assumptions be relinquished in favor of the position agreed upon between the relevant parties.

(ii) The position taken by the Construction Regulations is that the "owner", in terms of its instructions, operates (has to operate) in the role of client as per relevant definition. The contractors working for the "client" are seen to be in two categories, i.e. the Principal Contractor and Contractors. The Principal Contractor has to take full responsibility for the health and safety on the site of the relevant project / contract. This includes monitoring health and safety conditions and overseeing administrative measures required by the Construction Regulations from all contractors on the project site. (Ordinary / sub) Contractors are required to operate under the scrutiny and control (in terms of all health and safety measures which are covered in the Construction Regulations) of the Principal Contractor. Where for the work the Principal Contractor will have to execute himself, practical health and safety measures are applicable, he will also be subject to the relevant requirements with which (ordinary / sub) Contractors have to comply. The Principal Contractor will, however, not have to actually fulfill such requirements in respect of any of the work / functions of any (ordinary / sub) Contractors on the site for which he has been appointed as Principal Contractor. However, he has to monitor / oversee such processes, ensuring that the requirements are complied with and that the required appointments / evaluations / inspections / assessments and tests are done and that the records are duly generated and kept as prescribed in the Construction Regulations. This has to feature clearly in the Principal Contractor's Health and Safety Plan.

7. RESPONSIBILITIES

7.1 Client

7.1.1 The Client or his appointed Agent on his behalf will appoint each Principal Contractor for the project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations and determined by the Bills of Quantities.

7.1.2 The Client or his appointed Agent on his behalf shall discuss and negotiate with the Principal Contractor the contents of the health and safety plan of the both Principal Contractor and Contractor for approval.

7.1.3 The Client or his appointed Agent on his behalf will take reasonable steps to ensure that the health and safety plan of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month.

7.1.4 The Client or his appointed Agent on his behalf will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:

- have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;
- have failed to implement or maintain their health and safety plan;

- have executed construction work which is not in accordance with their health and safety plan; or
- Act in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.

7.2 Principal Contractor

7.2.1 The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labor of the intended construction work in terms of Regulation 3 of the Construction Regulations. Annexure B of this Specification contains a "Notification of Construction Work" form. The Principal Contractor shall submit the notification in writing prior to commencement of work and inform the Client or his Agent accordingly.

7.2.2 The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation. This Specification is not intended to supersede the Act nor the Construction Regulations or any part of either. Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Principal Contractor in terms of this contract (entirely or in part) will continue to be legally required of the Principal Contractor. The Principal Contractor will in no manner or means be absolved from the responsibility to comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract.

7.2.3 The Principal Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented Health and safety plan based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all Sub-contractors for which he has to take responsibility in terms of this contract.

7.2.4 The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works.

7.2.5 The Potential Principal Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and Construction Regulations. (Note: This shall have to be contained in the conditions of tender upon which a tenderer's offer is based.)

7.2.6 The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to Perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations.

7.2.7 The Principal Contractor shall ensure that a copy of his health and safety plan is available on site and is Presented upon request to the Client, an Inspector, Employee or Sub-contractor.

7.2.8 The Principal Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Client or Inspector upon request. Upon completion of the works, the Principal Contractor shall hand over a consolidated health and safety file to the Client.

7.2.9 The Principal Contractor shall, throughout execution of the contract, ensure that all conditions imposed on his Sub-contractors in terms of the Act and the Construction Regulations are complied with as if they were the Principal Contractor.

7.3 Contractor (Responsibilities of in terms of this contract and health and safety specification)

As per 7.2 above as and where applicable or as indicated in the letter of appointment.

8. SCOPE OF WORK

These specifications are applicable to the specific scope of work pertaining to the above-mentioned project as detailed in the tender documents (**Building Work Specifications**), this amongst all includes for example: (elaborate sufficiently and provide adequate information to give full understanding of all work to be done)

8.1 BUILDING WORK:

NB

The scope of shall be read with the Tender Document or bill of Quantities (Part C3: Scope of Works).

SCOPE:

EXISTING SINGLE-STOREY BUILDINGS:

1. Popper notice shall be given to all persons in and around the building where construction work shall be executed. The building shall occupy during the construction period.
2. Notification to the provincial director must be given.
3. The contractor and sub-contractors must be registered and in good standing with the compensation fund at all time.
4. The contractor shall appoint a full-time competent employee in writing as the construction supervisor.
5. Work shall be executed at a height greater than 3 meters.
6. Excavation work exceeding 1 meter and more.
7. All site work; the contractor must take care of proper sun-protection for all his workmen, woman.
8. No work, contractor or sub-contractor shall be allowed to work in in-climate weather.
9. No danger tape shall be used on the construction site. All work areas shall proper be brigade.
10. Special care must be taken of;-
Contractors using scaffolding shall ensure that such scaffolding, when used, complies with the safety standards are carried out under the supervision of a competent person who has been appointed in writing.

8.2 ELECTRICAL WORK:

ELECTRICAL INSTALLATIONS AND MACHINERY ON CONSTRUCTION SITES:

Notwithstanding the provisions contained in the Electrical Installation Regulations promulgated by Government Notice No. R.2920 of 23 October 1992 and the Electrical Machinery Regulations promulgated by Government Notice No. R.1953 of August 1988, respectively, as amended.

1. *Work shall be medium and low voltage electrical work. The contractor shall given proof of his high and low voltage registration.*

[Notes to the Client, Designer, Project Manager, Architect, and Agent:

add references to the above project and include specific elements identified as the 'Critical Few'. The 'Critical Few' refer to those few or singular elements of the project that have the potential to impact in a major or devastating way on the project as a whole in the event of an accident or incident occurring. (20:80 principle)

Because of the inherent generic nature of the Health and Safety Specifications document, specific relevant information on the project must be provided and it may be necessary to draft the required information under this paragraph on a separate attached document.

If at any time after commencement of the project changes is brought about to the design or construction, sufficient health and safety information and appropriate resources are to be made available to the Principal Contractor to execute the work safely.]

N.B The Principal Contractor shall on tendering make provision for the cost of health and safety measures in terms of his/her documented Health and Safety Plan and measures based on these Health and Safety Specifications during the period of the project. Construction Regulation 5(3)(g) determines that potential contractors submitting tenders have made provision for the cost of health and safety measures during the construction process.

THE HEALTH AND SAFETY PLAN IS THEREFORE TO BE INCLUDED WITH THE TENDER DOCUMENTS WHEN TENDERS ARE INVITED FOR THE PROJECT.

9. HEALTH AND SAFETY FILE

The Principal Contractor must, in terms of Construction Regulation 5(7), keep a Health & Safety File on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done. A more detailed list of documents and other legal requirements that must be kept in the Health and Safety File is attached as an addendum to this document.

IMPORTANT:

The Health and Safety File will remain the property of the Client and/or its Agent on its behalf throughout the period of the project and shall be consolidated and handed over to the Client and/or its Agent on its behalf at the time of completion of the project.

10. OH&S GOALS AND OBJECTIVES AND ARRANGEMENTS FOR MONITORING AND REVIEWING OH&S PERFORMANCE

The Principal Contractor is required to maintain a CIFR of at least 8 (See Annexure 3. to this document: "Measuring Injury Experience") and report on this to the Client and/or its Agent on its behalf on a monthly basis.

11. IDENTIFICATION OF HAZARDS AND DEVELOPMENT OF RISK ASSESSMENTS, STANDARD WORKING PROCEDURES (SWP) AND METHOD STATEMENTS

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project (see 4. below "Project/Site Specific Requirements")

The identification of hazards is over and above the hazards identification programme and those hazards identified during the drafting of the Health and Safety Plan.

12. ARRANGEMENTS FOR MONITORING AND REVIEW

12.1 Monthly Audit by Client and/or its Agent on its behalf

The Client and/or its Agent on its behalf will be conducting Periodic Audits at times agreed with the Principal Contractor Audit to comply with Construction Regulation 4(1)(d) to ensure that the principal Contractor has implemented, is adhering to and is maintaining the agreed and approved OH&S Plan.

12.2 Other audits and inspections by client and/or its agent on its behalf.

The Client and/or its Agent on its behalf reserves the right to conduct any other ad hoc audits and inspections as it and/or its Agent on its behalf deem necessary.

A representative of the Principal Contractor and the relevant Health and Safety Representative(s) (SHE-Reps) must accompany the Client and/or its Agent on its behalf on all Audits and Inspections and may conduct their own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results. The Client and/or its Agent on its behalf may require to be handed a copy of the minutes of

the previous Health and Safety Committee meeting reflecting possible recommendations made by that committee to the Employer for reference purposes.

12.3 Reports

The Principal Contractor is required to provide the Client and/or its Agent on its behalf with a monthly "SHE Risk Management Report".

The Principal Contractor shall report all incidents where an employee is injured on duty to the extent that he/she:

- * dies
- * becomes unconscious
- * loses a limb or part of a limb
- * is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

- * a major incident occurred
- * the health or safety of any person was endangered
- * where a dangerous substance was spilled
- * the uncontrolled release of any substance under pressure took place
- * machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- * machinery ran out of control,

to the Provincial Director of the Department of Labour (DoL) within seven days and at the same time to the Client and/or its Agent on its behalf.

(Section 24 of the Act & General Administrative Regulation 8.)

The Principal Contractor is required to provide the Client and/or its Agent on its behalf with copies of all statutory reports required in terms of the Act and the Regulations.

The Principal Contractor is required to provide a.s.a.p. the Client and/or its Agent on its behalf with copies of all internal and external accident/incident investigation reports including the reports contemplated in 12.7, 12.8.2, 15, 16, 17, 21 and 22 below. As soon as the occurrence of any accident/incident of whatever nature comes to the notice of the Principal Contractor, it shall be reported immediately to any of the following:

12.4 Review

The Principal Contractor is to review the Hazard Identification, Risk Assessments and Standard Work Processes at each Production Planning and Progress Report meeting as the construction work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client and/or its Agent on its behalf, other Contractors and all other concerned parties with copies of any changes, alterations or amendments as contemplated in the above paragraph.

12.5 Site Rules and other Restrictions

12.5.1 Site OH&S Rules

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the Health and Safety Plan and associated aspects of the construction.

When required, visitors and non-employees upon entering the site shall be issued with the proper Personal Protective Equipment (PPE) as and when necessary.

12.5.2 Security Arrangements

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees shall at all times be provided with fulltime supervision while on site.

The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period.

If not already tasked to the H&S Officer appointed in terms of Construction Regulation 6(6), the Principal Contractor must appoint a competent Emergency Controller who must develop contingency plans for any emergency that may arise on site as indicated by the risk assessments. These must include a monthly practice/testing programmed for the plans e.g. January: trench collapse, February: flooding etc. and practiced/tested with all persons on site at the time, participating.

12.6 Training

The contents and syllabi of all training required by the Act and Regulations including any other related or relevant training as required must be included in the Principal Contractor's Health and Safety Plan and Health and Safety File.

12.6.1 General Induction Training

All employees of the Principal and other Contractors must be in possession of proof of General Induction training

12.6.2 Site Specific Induction Training

All employees of the Principal and other Contractors must be in possession of Site Specific Occupational Health and Safety Induction training.

12.6.3 Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations must be in Possession of valid proof of training as follows:

Occupational Health and Safety Training Requirements: (as required by the Construction Regulations and as indicated by the Health and Safety Specification Document & the Risk Assessment/s and recommendations by the Health and Safety Committee):

- * General Induction (Section 8 of the Act)
- * Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
- * Site/Project Manager
- * Construction Supervisor
- * OH&S Representatives (Section 18 (3) of the Act)
- * Training of the Appointees indicated in 12.6.1. & 12.6.2.
- * Operation of Cranes (Driven Machinery Regulations 18 (11))
- * Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- * Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction Regulation 27)
- * As a minimum basic First Aid to be upgraded when necessary (General Safety Regulations 3)
- * Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- * Emergency, Security and Fire Co-coordinator

12.7 Accident and Incident Investigation

The Principal Contractor is responsible to oversee the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to receive first aid or be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9)

The results of the investigation to be entered into the Accident/Incident Register listed above. (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar incidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

Notwithstanding the requirements of Section 24 of the Act, ALL incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

12.8 H&S Representatives (SHE-Reps) and H&S Committees

12.8.1 Designation of H&S Representatives ('SHE – Reps')

Where the Principal Contractor employs more than 20 persons (including the employees of other Contractors (sub-contractors)) he has to appoint one H&S Representative for every 50 employees or part thereof. (Section 17 of the Act and General Administrative Regulation 6. & 7.)

H&S Representatives have to be designated in writing and the designation shall be in accordance with the Collective Agreement as concluded between the parties as is required in terms of General Administration Regulation 6.

12.8.2 Duties and Functions of the H&S Representatives

The Principal Contractor must ensure that the designated H&S Representatives conduct at least a weekly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor, after which these reports shall be consolidated for submission to the Health and Safety Committee.

H&S Representatives must be included in and be part of accident/incident investigations.

H&S Representatives shall be members of at least one H&S Committee and must attend all meetings of that H&S committee.

12.8.3 Establishment of H&S Committee(s)

The Principal Contractor must establish H&S Committees consisting of designated H&S Representatives together with a number of Employers Representatives appointed as per Section 19(3) that are not allowed to exceed the number of H&S Representatives on the committee. The persons nominated by the employer on a H&S Committee must be designated in writing for such period as may be determined by him. The H&S Committee shall co-opt advisory (temporary) members and determine the procedures of the meetings including the chairmanship.

The H&S Committee must meet minimum monthly and consider, at least, the following Agenda for the first meeting. Thereafter the H&S Committee shall determine its own procedures as per the previous paragraph.

Agenda:

- 1) Opening and determining of chairmanship (only when necessary)
- 2) Minutes of Previous Minutes
- 3) Observations
- 4) Program and Safety considerations
- 5) Hygiene
- 6) Housekeeping improvement
- 7) Incidents & Accidents / Injuries
- 8) Registers:
 - a H&S Rep. Inspections
 - b. Matters of First Aid
 - c. Scaffolding

- d. Ladders
- e. Excavations
- f. Portable Electric Equipment
- g. Fire Equipment
- h. Explosive Power Tools
- i. Power Hand tools
- j. Incident! Report Investigation
- k. Pressure Vessels
- l. Personal Protective Equipment
- 9) Safety performance Evaluations
- 10) Education & Safety promotion program
- 11) First Aid Officials and training in First Aid
- 12) Demarcation of work- /hazardous-/safe areas/walkways
- 13) Posters and signage
- 14) Environmental preservation and conservation
- 15) Specific training programmes
- 16) General
- 17) Date of Next Meeting
- 18) Closing

13. PROJECT/SITE SPECIFIC REQUIREMENTS

The following is a list of specific activities and considerations that have been identified for the project and site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) have to be developed by the Principal Contractor:

- * **Clearing & Grubbing of the Area/Site**
- * **Site Establishment including:**
 - Office/s
 - Secure/Safe Storage and storage areas for materials, plant & equipment
 - Ablution facilities
 - Sheltered dining area
 - Vehicle access to the site
- * **Dealing with existing Structures.**
- * **Location of existing Services**
- * **Installation & Maintenance of Temporary Construction Electrical Supply, Lighting and Equipment**
- * **Adjacent Land uses/Surrounding property exposures**
- * **Boundary & Access control/Public Liability Exposures (Remember: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)**
- * **Health risks arising from neighboring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning, allergies etc.**
- * **Exposure to Noise**
- * **Exposure to Vibration**
- * **Protection against dehydration and heat exhaustion**
- * **Protection from wet & cold conditions**
- * **Dealing with HIV/Aids and other diseases as per specific programme provided by the client and/or its Agent on its behalf**
- * **Use of Portable Electrical Equipment including:**
 - Angle grinder
 - Electrical Drilling machine
 - Skill saw
- * **Excavations including:**
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage
 - Daily inspections
- * **Welding including:**
 - Arc Welding

- Gas welding
- Flame Cutting
- Use of LP Gas torches and appliances
- * Loading & Offloading of Trucks
- * Aggregate/Sand and other Materials Delivery
- * Manual and Mechanical Handling
- * Lifting and Lowering Operations
- * Driving & Operation of Construction Vehicles and Mobile Plant including:
 - Trenching machine
 - Excavator
 - Bomag Roller
 - Plate Compactor
 - Front End Loader
 - Mobile Cranes and the ancillary lifting tackle
 - Parking of Vehicles & Mobile Plant
 - Towing of Vehicles & Mobile Plant
- * Use and Storage of Flammable Liquids and other Hazardous Substances – the client and/or its Agent on its behalf to be informed of this prior to commencing of the project
- * Layering and Bedding of trench floor
- * Installation of Pipes in trenches
- * Backfilling of Trenches
- * Protection against Flooding
- * Gabion work
- * Use of Explosives - the client and/or its Agent on its behalf to be informed of this prior to commencing of the project
- * Protection from Overhead Power Lines
- * As discovered by the Principal Contractor's hazard identification exercise
- * As discovered from any inspections and audits conducted by the Client and/or its Agent on its behalf or by the Principal Contractor or any other Contractor on site
- * As discovered from any accident/incident investigation.

13.1 The following are in particular requirements depending on scope of works and will form a basis for compliance audits.

- 1. Administrative & Legal Requirements**
- 2. Education, Training & Promotion**
- 3. Public Safety & Emergency Preparedness**
- 4. Personal Protective Equipment**
- 5. Housekeeping**
- 6. Scaffolding, Formwork & Support work**
- 7. Ladders**
- 8. Electrical Safeguarding**
- 9. Emergency/Fire Prevention & Protection**
- 10. Excavations & Demolition**
- 11. Tools**
- 12. Cranes**
- 13. Personnel & Material Hoists**
- 14. Transport & Materials Handling**
- 15. Site Plant & Machinery**
- 16. Plant & Storage Yards/Site Workshops Specifics**
- 17. Health & Hygiene**

14. OUTLINED DATA, REFERENCES AND INFORMATION ON CERTAIN AND/OR SPECIFIC OBLIGATORY REQUIREMENTS TO ENSURE COMPLIANCE

14.1 Administrative & Legal Requirements

OHS Act Section/ Regulation	Subject	Requirements
Construction. Regulation 3	Notice of carrying out Construction work	Department of Labour notified Copy of Notice available on Site
General Admin. Regulation 4	*Copy of OH&S Act (Act 85 of 1993)	Updated copy of Act & Regulations on site. Readily available for perusal by employees.
COID Act Section 80	*Registration with Compens. Insurer	Written proof of registration/Letter of good standing available on Site
Construction. Regulation 4 & 5(1)	H&S Specification & Programmed	H&S Spec received from Client and/or its Agent on its behalf OH&S programme developed & Updated regularly
Section 8(2)(d) Construction. Regulation 7	*Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded Risk Assessment and – Plan drawn up/Updated RA Plan available on Site Employees/Sub-Contractors informed/trained
Section 16(2)	*Assigned duties (Managers)	Responsibility of complying with the OH&S Act assigned to other person/s by CEO.
Construction. Regulation 6(1)	Designation of Person Responsible on Site	Competent person appointed in writing as Construction Supervisor with job description
Construction. Regulation 6(2)	Designation of Assistant for above	Competent person appointed in writing as Assistant Construction Supervisor with job description
Section 17 & 18 General Administrative Regulations 6 & 7	*Designation of Health & Safety Representatives	More than 20 employees - one H&S Representative, one additional H&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified in terms of GAR 6 & 7 Meaningful H&S Rep. reports. Reports auctioned by Management.
Section 19 & 20 General Administrative Regulations 5	*Health & Safety Committee/s	H&S Committee/s established. All H&S Reps shall be members of H&S Committees Additional members are appointed in writing. Meetings held monthly, Minutes kept. Auctioned by Management.
Section 37(1) & (2)	*Agreement with Man dataries/ (Sub-)Contractors	Written agreement with (Sub-)Contractors List of (Sub-)Contractors displayed. Proof of Registration with Compensation Insurer/Letter of Good Standing Construction Supervisor designated Written arrangements re. H&S Reps & H&S Committee Written arrangements re. First Aid
Section 24 & General Admin. Regulation 8 COID Act Sect.38, 39 & 41	*Reporting of Incidents (Dept. of Labour)	Incident Reporting Procedure displayed. All incidents in terms of Sect. 24 reported to the Provincial Director, Department of Labour, within 3 days. (Annexure 1?)(WCL 1 or 2) and to the Client and/or its Agent on its behalf Cases of Occupational Disease Reported Copies of Reports available on Site Record of First Aid injuries kept
General Admin. Regulation 9	*Investigation and Recording of Incidents	All injuries which resulted in the person receiving medical treatment other than first aid, recorded and investigated by investigator designated in writing. Copies of Reports (Annexure 1) available on Site Tabled at H&S Committee meeting Action taken by Site Management.
Construction. Regulation 8	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan Proof of appointees competence available on Site

		Risk Assessment carried out for work at heights Fall Protection Plan drawn up/updated Available on Site
Construction. Regulation 8(5)	Roof work	Competent person appointed to plan & supervise Roof work. Proof of appointees competence available on Site Risk Assessment carried out Roof work Plan drawn up/updated Roof work inspect before each shift. Inspection register kept Employees medically examined for physical & psychological fitness. Written proof on site
Construction. Regulation 9	Structures	Information re. the structure being erected received from the Designer including: - geo-science technical report where relevant - the design loading of the structure - the methods & sequence of construction - anticipated dangers/hazards/special measures to construct safely Risk Assessment carried out Method statement drawn up All above available on Site Structures inspected before each shift. Inspections register kept
Construction. Regulation 10	Formwork & Support work	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of Support & Formwork Design drawings available on site Risk Assessment carried out Support & Formwork inspected: - before use/inspection - before pouring of concrete - weekly whilst in place - before stripping/dismantling. - Inspection register kept
Construction. Regulation 14	Scaffolding	Competent persons appointed in writing to: - erect scaffolding (Scaffold Erector/s) - act as Scaffold Team Leaders - inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Copy of SABS 085 available on Site Risk Assessment carried out Inspected weekly/after bad weather. Inspection register/s kept
Construction. Regulation 11	Excavations	Competent person/s appointed in writing to supervise and inspect excavation work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Inspected: - before every shift - after any blasting - after an unexpected fall of ground - after any substantial damage to the shoring - after rain. Inspections register kept Method statement developed where explosives will be/ are used
Construction. Regulation 19	Explosive Powered Tools	Competent person appointed to control the issue of the Explosive Powered Tools & cartridges and the service, maintenance and cleaning. Register kept of above Empty cartridge cases/nails/fixing bolts returns recorded Cleaned daily after use Work areas are demarcated!

Construction. Regulation 22/Electrical Machinery Regulations 9 & 10/ Electrical Installation Regulations	*Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections: - Electrical Installation & equipment inspected after installation, after alterations and quarterly. Inspection Registers kept Portable electric tools, electric lights and extension leads must be uniquely identified/numbered. Weekly visual inspection by User/Issuer/Storeman. Register kept.
Construction. Regulation 26/ General Safety Regulation 8(1)(a)	*Designation of Stacking & Storage Supervisor.	Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage Written Proof of Competence of above appointee available on Site
Construction. Regulation 27/ Environmental Regulation 9	*Designation of a Person to Co-ordinate Emergency Planning And Fire Protection	Person/s with specific knowledge and experience designated to co-ordinate emergency contingency planning and execution and fire prevention measures Emergency Evacuation Plan developed: - Drilled/Practiced - Plan & Records of Drills/Practices available on Site Fire Risk Assessment carried out All Fire Extinguishing Equipment identified and on register . Inspected weekly. Inspection Register kept Serviced annually
General Safety Regulation 3	*First Aid	Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed) First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) List of First Aid Officials and Certificates Name of person/s in charge of First Aid box/es displayed. Location of First Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries
General Safety Regulation 2	Personal Safety Equipment (PSE)	PSE Risk Assessment carried out Items of PSE prescribed/use enforced Records of Issue kept Undertaking by Employee to use/wear PSE PSE remain property of Employer, not to be removed from premises GSR 2(4)
General Safety Regulation 9	*Inspection & Use of Welding/Flame Cutting Equipment	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site All new vessels checked for leaks, leaking vessels NOT taken into stock but returned to supplier immediately Equipment identified/numbered and entered into a register Equipment inspected weekly. Inspection Register kept Separate, purpose made storage available for full and empty vessels
Hazardous Chemical Substances (HCS) Regulations Construction Regulation 23	Control of Storage & Usage of HCS and Flammables	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of HCS (including Flammables) Written Proof of Competence of above appointee available on Site Risk Assessment carried out Register of HCS kept/used on Site Separate, purpose made storage available for full and empty

		containers
Vessels under Pressure Regulations	Vessels under Pressure (VUP)	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's Written Proof of Competence of above appointee available on Site Risk Assessment carried out Certificates of Manufacture available on Site Register of VUP's on Site Inspections & Testing by Approved Inspection Authority (AIA): - after installation/re-erection or repairs - every 36 months. - Register/Log kept of inspections, tests. Modifications & repair
General Safety Regulation 13A	Inspection of Ladders	Competent person appointed in writing to inspect Ladders Ladders inspected at arrival on site and weekly there after. Inspections register kept Application of the types of ladders (wooden, aluminium etc.) regulated by training and inspections and noted in register
General Safety regulation 13B	Ramps	Competent person appointed in writing to Supervise the erection & inspection of Ramps. Inspection register kept. Daily inspected and noted in register

14.2 Education & Training

Subject	Requirement
*Company OH&S Policy Section 7(1)	Policy signed by CEO and published/Circulated to Employees Policy displayed on Employee Notice Boards Management and employees committed.
*Company/Site OH&S Rules (Section 13(a))	Rules published Rules displayed on Employee Notice Boards Rules issued and employees effectively informed or trained: written proof Follow-up to ensure employees understand/adhere to the policy and rules.
*Induction & Task Safety Training (Section 13(a))	All new employees receive OH&S Induction Training. Training includes Task Safety Instructions. Employees acknowledge receipt of training. Follow-up to ensure employees understand/adhere to instructions.
*General OH&S Training (Section 13(a))	All current employees receive specified OH&S training: written proof Operators of Plant & Equipment receive specified training Follow-up to ensure employees understand/adhere to instructions.
*Occupational Health & Safety Promotion	<u>Incident Experience Board indicating e.g.</u> * No. of hours worked without an Injury * No. of days worked without an Injury Mission, Vision and Goal Star Grading - Board kept up to date. Safety Posters displayed & changed regularly Employee Notice Board for OH&S Notices. Site OH&S Competition. Company OH&S Competition. Participation in Regional OH&S Competition Suggestion scheme.

14.3 Public Safety, Security Measures & Emergency Preparedness

Subject	Requirement
*Notices & Signs	Notices & Signs at entrances / along perimeters indicating "No Unauthorised Entry" . Notices & Signs at entrance instructing visitors and non - employees what to do, where to go and where to report on entering the site/yard with directional signs. e.g. "Visitors to report to Office" Notices & Signs posted to warn of overhead work and other hazardous activities. e.g. General Warning Signs
Site	Nets, Canopies, Platforms, Fans etc. to protect members of the public passing / entering the site.

Safeguarding Security Measures	Access control measures/register in operation Security patrols after hours during weekends and holidays Sufficient lighting after dark
Emergency Preparedness	Guard has access to telephone/ mobile/other means of emergency communication Emergency contact numbers displayed and made available to Security & Guard Emergency Evacuation instructions posted up on all notice boards (including employees' notice boards) Emergency contingency plan available on site/in yard Doors open outwards/unobstructed Emergency alarm audible all over (including in toilets)
Emergency Drill & Evacuation	Adequate No. of employees trained to use Fire Fighting Equipment. Emergency Evacuation Plan available, displayed and practiced. (See Section 1 for Designation & Register)

14.4 Personal Protective Equipment

Subject	Requirement
*PPE needs analysis	Need for PPE identified and prescribed in writing. PPE remain property of Employer, not to be removed from premises GSR 2(4)
*Head Protection	All persons on site wearing Safety Helmets including Sub-contractors and Visitors (where prescribed)
*Foot Protection	All employees on site wearing Safety Footwear including Gumboots for concrete / wet work and non-slip shoes for roof work. Visitors to wear same upon request or where prescribed
*Eye and Face Protection	<u>Eye and Face (also Hand and Body) Protection</u> (Goggles, Face Shields, Welding Helmets etc.) used when operating the following: * Jack/ Kango Hammers * Angle / Bench Grinders * Electric Drills (Overhead work into concrete / cement / bricks) * Explosive Powered tools * Concrete Vibrators / Pokers * Hammers & Chisels * Cutting / Welding Torches * Cutting Tools and Equipment * Guillotines and Benders * Shears * Sanders and Sanding Machines * CO2 and Arc Welding Equipment * Skill / Bench Saws * Spray Painting Equipment etc.
*Hearing Protection	<u>Hearing Protectors</u> (Muffs, Plugs etc.) used when operating the following: * Jack / Kango Hammers * Explosive Powered Tools * Wood/Aluminium Working Machines e.g. saws, planers, routers
*Hand Protection	<u>Protective Gloves</u> worn by employees handling / using: * Cement / Bricks / Steel / Chemicals * Welding Equipment * Hammers & Chisels * Jack / Kango Hammers etc.
*Respiratory Protection	Suitable/efficient prescribed <u>Respirators</u> worn correctly by employees handling / using: * Dry cement * Dusty areas * Hazardous chemicals * Angle Grinders * Spray Painting etc.

*Fall Prevention Equipment	Suitable <u>Safety Belts</u> / Fall Arrest Equipment correctly used by persons working on / in unguarded, elevated positions e.g.: * Scaffolding * Riggers * Lift shafts * Edge work * Ring beam edges etc. Other methods of fall prevention applied e.g. catch nets
*Protective Clothing	All jobs requiring protective clothing (Overalls, Rain Wear, Welding Aprons etc.) Identified and clothing worn.
*PPE Issue & Control	Identified Equipment issued free of charge. All PPE maintained in good condition. (Regular checks). Workers instructed in the proper use & maintenance of PPE. Commitment obtained from wearer accepting conditions and to wear the PPE. Record of PPE issued kept on H&S File. PPE remain property of Employer, not to be removed from premises GSR 2(4)

14.5 Housekeeping

Subject	Requirement
*Scrap Removal System	All items of Scrap/Unusable Off-cuts/Rubble and redundant material removed from working areas on a regular basis. (Daily) Scrap/Waste removal from heights by chute/hoist/crane. Nothing thrown/swept over sides. Scrap disposed of in designated containers/areas Removal from site/yard on a regular basis.
Stacking & Storage (See Section 1 for Designation & Register)	<u>Stacking:</u> * Stable, on firm level surface/base. * Prevent leaning/collapsing * Irregular shapes bonded * Not exceeding 3x the base * Stacks accessible * Removal from top only. <u>Storage:</u> * Adequate storage areas provided. * Functional – e.g. demarcated storage areas/racks/bins etc. * Special areas identified and demarcated e.g. flammable gas, cement etc. * Neat, safe, stable and square. * Store/storage areas clear of superfluous material. * Storage behind sheds etc. neat/under control. * Storage areas free from weeds, litter etc.
*Waste Control/Reclamation	Re-usable off-cuts and other re-usable material removed daily and kept to a minimum in the work areas. All re-usable materials neatly stacked/stored in designated areas. (Nails removed/bent over in re-usable timber). Issue of hardware/nails/screws/cartridges etc. controlled and return of unused items monitored.
Sub-contractors (Housekeeping)	Sub-contractors required to comply with Housekeeping requirements.

14.6 Working at Heights (including roof work)

Subject	Requirement
Openings	Unprotected openings adequately guarded/fenced/barricaded/catch nets installed
	Roof work discontinued when bad/hazardous weather Fall protection measures (including warning notices) when working close to edges or on fragile roofing material Covers over openings in roof of robust construction/secured against displacement

14.7 Scaffolding / Formwork / Support Work

Subject	Requirement
Access/System Scaffolding	Foundation firm / stable Sufficient bracing. Tied to Structure/prevented from side or cross movement Platform boards in good condition/sufficient/secured. Handrails and toe boards provided. Access ladders / stairs provided. Area/s under scaffolding tidy. Safe/unsafe for use signs Complying with OH&S Act/SABS 085
Free Standing Scaffolding	Foundation firm / stable Sufficient bracing. Platform boards in good condition/sufficient/secured. Handrails and toe boards provided. Access ladders / stairs provided. Area/s under scaffolding tidy. Safe/unsafe for use signs Height to base ratio correct Outriggers used /tied to structure where necessary Complying with OH&S Act/SABS 085
*Mobile Scaffolding	Wheels / swivels in good condition Brakes working and applied. Height to base ratio correct. Outriggers used where necessary Complying with OH&S Act/SABS 085
Formwork / Support Work	All components in good condition. Foundation firm / stable. Adequate bracing / stability ensured. Good workmanship / uprights straight and plumb. Good cantilever construction. Safe access provided. Areas under support work tidy. Same standards as for system scaffolding.
Edges & Openings	Edges barricaded to acceptable standards. Manhole openings covered / barricaded. Openings in floor / other openings covered, barricaded/fenced. Stairs provided with handrails. Lift shafts barricaded / fenced off.

14.8 Ladders

Subject	Requirement
*Physical Condition / Use & Storage	Stepladders - hinges/stays/braces/stiles in order. Extension ladders - ropes/rungs/stiles/safety latch/hook in order. Extension / Straight ladders secured or tied at the bottom / top. No joined ladders used Wooden ladders are never painted except with varnish Aluminium ladders NOT to be used with electrical work All ladders stored on hooks / racks and not on ground. Ladders protrude 900 mm above landings / platforms / roof. Fixed ladders higher than 5 m have cages/Fall arrest system

14.9 Electricity (as part of, or additional to the manual "Safety & Switching Procedures for Electrical Installations"- see attached document)

Subject	Requirement
*Electrical Distribution Boards & Earth Leakage	Colour coded / numbered / symbolic sign displayed. Area in front kept clear and unobstructed. Fitted with inside cover plate / openings blanked off / no exposed "live" conductors / terminals/Door kept close Switches / circuit breakers identified. Earth leakage protection unit fitted and operating. Tested with instrument: Test results within 15 – 30 milliamps Aperture/Opening/s provided for the plugging in and removal of extension leads without the need to open the door Apertures and openings used for extension leads to be protected against the elements and especially rain
*Electrical Installations & Wiring	Temporary wiring / extension leads in good condition / no bare or exposed wires. Earthing continuity / polarity correct: Looking at the open connectors to connect the wiring, the word "Brown" has the letter 'R' in it, so the b'R'own wire connects to the 'R'ight hand connector. "Blue" has the letter 'L' in it, so the b'L'ue wire connects to the 'L'eft hand connector. Cables protected from mechanical damage and moisture. Correct loading observed e.g. no heating appliance used from lighting circuit etc. Light fittings/lamps protected from mechanical damage/moisture. Cable arrestors in place and used inside plugs
*Physical condition of Electrical Appliances & Tools	<u>Electrical Equipment and Tools:</u> (includes all items plugging in to a 16 Amp supply socket) Insulation / casing in good condition. Earth wire connected/intact where not of double insulated design Double insulation mark indicates that no earth wire is to be connected. Cord in good condition/no bare wires/secured to machine & plug. Plug in good condition, connected correctly and correct polarity.

14.10 Emergency and Fire Prevention and Protection

Subject	Requirement
*Fire Extinguishing Equipment	Fire Risks Identified and on record <u>The correct and adequate Fire Extinguishing Equipment available for:</u> * Offices * General Stores * Flammable Store * Fuel Storage Tank/s and catchment well * Gas Welding / Cutting operations * Where flammable substances are being used / applied. * Equipment Easily Accessible
*Maintenance	Fire equipment checked minimum monthly, serviced yearly
*Location & Signs	<u>Fire Extinguishing Equipment:</u> * Clearly visible * Unobstructed * Signs posted including "No Smoking" / "No Naked Lights" where required. (Flammable store, Gas store, Fuel tanks etc.)
* Storage Issue & Control of Flammables (incl. Gas cylinders)	Storage Area provided for flammables with suitable doors, ventilation, bund etc. Flammable store neat / tidy and no Class A combustibles. Decanting of flammable substances carried out in ignition free and adequately ventilated area. Container bonding principles applied Only sufficient quantities issued for one task or one day's usage Separate, special gas cylinder store/storage area. Gas Cylinders stored / used / transported upright and secured in trolley/cradle/structure and ventilated. Types of Gas Cylinders clearly identified as well as the storage area and stored separately. Full cylinders stored separately from empty cylinders. All valves, gauges, connections, threads of all vessels to be checked regularly for leaks.

	Leaking acetylene vessels to be returned to the supplier IMMEDIATELY.
*Storage, Issue & Control of Hazardous Chemical Substances (HCS)	HCS storage principles applied: products segregated Only approved, non-expired HCS to be used Only the prescribed PPE shall be used as the minimum protection Provision made for leakage/spillage containment and ventilation Emergency showers/eye wash facilities provided HCS under lock & key controlled by designated person Decanted/issued in containers as prescribed with information/warning labels Disposal of unwanted HCS by accredited disposal agent No dumping or disposal of any HCS on or inside the storage area or anywhere else on the project site All vessels or containers to be regularly checked for leaks

14.11 Excavations

Subject	Requirement
Excavations deeper than 1m.	Shored / Braced to prevent caving / falling in. Provided with an access ladder. Excavations guarded/barricaded/lighted after dark in public areas Soil dumped at least 1 m away from edge of excavation On sloping ground soil dumped on lower side of excavation All excavations are subject to daily inspections

14.12 Tools

Subject	Requirement
*Hand Tools	<u>Shovels / Spades / Picks:</u> * Handles free from cracks and splinters * Handles fit securely * Working end sharp and true <u>Hammers:</u> * Good quality handles, no pipe or reinforcing steel handles. * Handles free from cracks and splinters Handles fit securely <u>Chisels:</u> * No mushroomed heads / heads chamfered * Not hardened * Cutting edge sharp and square <u>Saws:</u> * Teeth sharp and set correctly * Correct saw used for the job
*Explosive Powered Tools.	Only used by trained / authorised personnel. Prescribed warning signs placed / displayed where tool is in use. Work area must be properly isolated/demarcated during use of tool. Inspected at least monthly by competent person and results recorded. Issue and return recorded including cartridges / nails and unused cartridges / nails / empty shells recorded. Cleaned daily after use.

14.13 Transport & Materials Handling Equipment

Subject	Requirement
*Site Vehicles	All Site Vehicles, Dumpers, Bobcats, Loaders etc; checked daily before use by driver / operator. Inventory of vehicles used/operated on site Inspection by means of a checklist / results recorded. No persons riding on equipment not designed or designated for passengers. Site speed limit posted, enforced and not exceeded. Drivers / Operators trained / licensed and carrying proof. No unauthorised persons allowed to drive / operate equipment.
Conveyors	Conveyor belt nip points and drive gear guarded. Emergency stop/lever/brake fitted, clearly marked & accessible and tested to be functional under full load.

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14.14 Site Plant and Machinery

Subject	Requirement
Brick Cutting Machine	Operator Trained. Only authorised persons use the machine. Emergency stop switch clearly marked and accessible. Area around the machine dry and slip/trip free/clear of off-cuts All moving drive parts guarded/electrical supply cable protected Operator using correct PPE - eye/face/hearing/foot/hands/body.
*Electric Arc Welder	Welder Trained. Only authorised / trained persons use welder. Earth cable adequately earthed to work. Electrode holder in good condition/safe Cables, clamps & lugs/connectors in good condition. Area in which welding machine is used is dry/protected from wet. Welder using correct PPE - eye/ face/foot/body/respirator. Correct transparent screens & warning signs placed
*Compressors	Relief valves correctly set and locked / sealed. Maximum Safe Working Pressure (MSWP) indicated on face of pressure gauge: not on glass cover. All drives adequately guarded. Receiver/lines drained daily Hoses good condition/clamped, not wired Compressed air NEITHER used to dust off clothing/PPE/ and work areas NOR on bare skin
Concrete Mixer / Batch Plant	Top platform provided with guardrails. Dust abatement methods in use. Operators using correct PPE - eye / hands / respirators. All moving drive parts guarded. Emergency stops identified / indicated and accessible. Area kept clean/dry/and free from tripping and slipping hazards. Operators overseer identified and crane signals displayed and used.
*Gas Welding / Flame Cutting Equipment	Only authorised/trained persons use the equipment. Torches and gauges in good condition. Flashback arrestors fitted at cylinders and gauges. Hoses in good condition/correct type/all connections with clamps Cylinders stored, used and transported in upright position, secured in trolley / cradle / to structure. All cylinders regularly checked for leaks, leaking cylinders returned immediately Fire prevention/control methods applied/hot work permits.

14.15 Plant & Storage Yards/Site Workshops Specifics

Subject	Requirements
Section 8(2)(1) General Machinery Regulation 2(1): Supervision of the Use & Maintenance of Machinery	Person/s with specific knowledge and experience designated in writing to Supervise the Use & Maintenance of Machinery Critical items of Machinery identified/numbered/placed on register/inventory Inspection/maintenance schedules for abovementioned Inspections/maintenance carried out to above schedules Results recorded
General Machinery Regulation 9(2): Notices re. Operation of Machinery	Schedule D Notice posted in Work areas
Vessels under Pressure Regulation 13(1)(b): Supervision of the Use &	Person/s with specific knowledge and experience designated in writing to Supervise the Use & Maintenance of VuP's VuP's identified/numbered/placed on register/Manufacturers plate intact

Maintenance of Vessels under Pressure (VuP)	Inspection/maintenance schedules for abovementioned Inspections/maintenance carried out to above schedules Results recorded/Test certificates available
Lock-out Procedure	Lock-out procedure in operation
Ergonomics	Ergonomics survey conducted – results on record Survey results applied
Demarcation & Colour Coding	Demarcation principles applied All services, pipes, electrical installation, stop-start controls, emergency controls etc. colour coded to own published or SABS standard Employees trained to identify colour coding
Portable & Bench Grinders	Area around grinder clear/trip/slip free Bench grinders mounted securely - grinder generally in good condition - no excessive vibration On/Off switch/button clearly demarcated/accessible Adequate guards in place Toolrest – secure/square/max. 2 mm gap, perpendicular to drive shaft Stone/disk - correct type and size/mounted correctly/dressed Use of Eye protection enforced
Battery Storage & Charging	Adequately ventilated, ignition free room/area/no smoking sign/s Batteries placed on rubber/wooden surface Emergency shower/eye wash provided No acid storage in area Prescribed methods in place and adhered to when charging batteries
Ancillary Lifting Equipment	Chain Blocks/Tirfors/jacks/mobile gantries etc. identified/ numbered on register Chains in good condition/links no excessive wear/checked daily Lifting hooks – throat pop marked/safety latch fitted SWL/MML marked/displayed
Presses/Guillotines/ Shears	Only operated by trained/authorised persons Interlocks/lock-outs fitted/PPE worn or used at all times

14.16 Workplace Environment, Health and Hygiene

Subject	Requirement
*Lighting	Adequate lighting in places where work is being executed e.g. stairwells and basements. Light fittings placed / installed causing no irritating/blinding glare. Stroboscopic effect eliminated (not only reduced) where moving objects or machinery is used
*Ventilation	Adequate ventilation / extraction / exhausting in hazardous areas e.g. chemicals / adhesives / welding / petrol or diesel/ motors running and in confined spaces / basements.
*Noise	Tasks identified where noise levels exceeds 85 dB at any one time. All reasonable steps taken to reduce noise levels at the source. Hearing protection used where noise levels could not be reduced to below 85 dB.
*Heat Stress	Measures in place to prevent heat exhaustion in heat stress problem areas e.g. steel decks, when the WBGT index reaches 30. (See Environmental Regulation 4) Cold drinking water readily available at all times.
*Ablutions	Sufficient hygiene facilities provided - 1 toilet per 30 employees (National Building Regulations prescribe chemical toilets for Construction sites) Toilet paper available. Sufficient showers provided. Facilities for washing hands provided Soap/cleaning agent available for washing hands Means of drying hands available Lock-up changing facilities / area provided. Ablution facilities kept hygienic and clean.
*Eating / Cooking Facilities	Adequate storage facilities provided. Weather protected eating area provided, separate from changing area Refuse bins with lids provided.

	Facilities kept clean and hygienic.
*Pollution of Environment	Measures in place to minimize dust generation. Accumulation or littering of empty cement pockets, plastic wrapping / bags, packing materials etc. prevented. Spillage / discarding of oil, chemicals and diesel into storm water and other drains or into existing or newly dug holes/cavities on site expressly prohibited.
*Hazardous Chemical Substances	All substances identified and list available e.g. acids, flammables, poisons etc. Material Safety Data Sheets (MSDS) indicating hazardous properties and emergency procedures in case of incident on file and readily available. Substances stored safely. Expiry dates meticulously checked where applicable

15. THE PRINCIPAL CONTRACTOR'S GENERAL DUTIES

The Principal Contractor shall at all times maintain his status of an "employer" as referred to in the Act, and will abide by his/her responsibilities, duties and functions as per the requirements of the Act and Regulations with specific reference to Section 8 of the Act.

The Principal Contractor shall keep, and on demand make available, a copy of the Act on site at all times and in addition to that he/she will introduce and maintain a file titled "Health and Safety File", or other record in permanent form, which shall contain all relevant aspects and information as contemplated in the Construction Regulations. He/she will make this file available to the client or his representative whenever necessary or on request to an interested party.

16. THE PRINCIPAL CONTRACTOR'S SPECIFIC DUTIES

The Principal Contractor's specific duties in terms of these specifications are detailed in the Construction Regulations as published under government notice No.R1010 dated 18 July 2003.

The Principal Contractor is specifically referred to the following elements of the Construction Regulations:

- Regulation No. 1 - Definitions
- Regulation No. 2 - Scope of application
- Regulation No. 3 - Notification of construction work
- Regulation No. 5 - Principal Contractor and Contractor
- Regulation No. 6 - Supervision of construction work
- Regulation No. 7 - Risk Assessment
- Regulation No. 26 - Stacking & Storage on construction sites
- Regulation No. 28 - Construction welfare facilities
- Regulation No. 29 - Approved Inspection authorities
- Regulation No. 30 - Offences and penalties

The Principal Contractor shall ensure compliance to the Act and its Regulations and specifically to the above regulations, and document each record in the Health and Safety File.

17. THE PRINCIPAL CONTRACTOR'S SPECIFIC RESPONSIBILITIES WITH REGARD TO HAZARDOUS ACTIVITIES

The following activities are identifiable as hazardous in terms of the Construction Regulations. The contractor shall execute the activities in accordance with the following Construction Regulations and other applicable regulations of the Act:

- Regulation No. 8 - Fall protection

Regulation No. 9	- Structures
Regulation No. 10	- Formwork and support work
Regulation No. 11	- Excavation work
Regulation No. 12	- Demolition work
Regulation No. 13	- Tunneling
Regulation No. 14	- Scaffolding
Regulation No. 15	- Suspended platforms
Regulation No. 16	- Boatswain's chairs
Regulation No. 17	- Material hoists
Regulation No. 18	- Batch plants
Regulation No. 19	- Explosive powered tools
Regulation No. 20	- Cranes
Regulation No. 21	- Construction vehicles & mobile plant.
Regulation No. 22	- Electrical installations and machinery on construction sites
Regulation No. 23	- Use and temporary storage of flammable liquids on construction sites
Regulation No. 24	- Water environments
Regulation No. 25	- Housekeeping on construction sites
Regulation No. 27	- Fire precautions on construction sites.

All these will be read in conjunction with the relevant regulations and health and safety standards as required by the Act. All documents and records required by the Construction Regulations will be kept in the Health and Safety File and will be made available at any time when required by the client or his representative, or on request to an interested party.

18. GENERAL NOTES TO THE PRINCIPAL CONTRACTOR

Legal Framework

Part of legal obligations

The more important Acts and relevant subordinate/secondary legislation as well as other (inter alia Local Government) legislation that also apply to the State as well as to State owned buildings and premises: -

- (i) The latest issue of SABS 0142: "Code of Practice for the Wiring of Premises"
- (ii) 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
- (iii) The Fire Brigade Services Act 1987, Act 99 of 1987 as amended
- (iv) The National Building Regulations and Building Standards Act 1977 (Act 103 of 1977) as amended and relevant proclaimed Regulations (SABS 0400)
- (v) The Post Office Act 1958 (Act 44 of 1958) as amended
- (vi) The Electricity Act 1984, Act 41 of 1984
- (vii) The Regulations of Local Gas Board(s)
- (viii) Legislation pertaining to water usage and the environment
- (ix) Legislation governing the use of equipment, which may emit radiation (e.g. X-Rays etc.)
- (x) Common Law

19. HOUSE KEEPING

Good housekeeping will be maintained at all times as per Construction Regulation No. 25. Poor housekeeping contributes to three major problems, namely, costly or increased accidents, fire or fire hazards and reduction in production. Good housekeeping will enhance production time.

Particular emphasis is to be placed on the following crucial elements of a construction site:

- Phase priorities and production/plant layout
- Enclosures
- Pits, openings and shoring
- Storage facilities
- Effective, sufficient and maintained lighting or illumination
- Principal sources of injuries e.g. stairways, runways, ramps, loose building material
- Oil, grease, water, waste, rubble, glass, storm water
- Colour coding
- Demarcations
- Pollution
- Waste disposal
- Ablution and hygiene facilities
- First aid

In promotion of environmental control all waste, rubble, scrap etc, will be disposed of at a registered dump site and records will be maintained. Where it is found to be impractical to use a registered dump site or it is not available, the Principal Contractor will ensure that the matter is brought to record with the client or his representative, after which suitable, acceptable alternatives will be sought and applied.

Dross and refuse from metals, and waste matters or by-products whose nature is such that they are poisonous or capable of fermentation, putrefaction or constituting a nuisance shall be treated or disposed of by methods approved of by an inspector.

NOTE: No employer (Principal Contractor) shall require or permit any person to work at night or after hours unless there is adequate, suitable artificial lighting.

20. LOCKOUT SYSTEMS

A system of control shall be established in order that no unauthorized person can energize a circuit, open a valve, or activate a machine on which people are working or doing maintenance, even if equipment, plant or machinery is out of commission for any period, thus eliminating injuries and damage to people and equipment as far as is reasonably practicable.

Physical/mechanical lock-out systems shall be part of the safety system and included in training. Lockouts shall be tagged and the system tested before commencing with any work or repairs.

21. INCIDENT INVESTIGATION

Inspection and reporting is the best way in which a responsible contractor can control his area of responsibility. All incidents therefore, whether it gave rise to loss, injury, damage or not, shall be investigated and the results recorded in the Health and Safety File. (Attached GAR 9)

22. GENERAL

The project under control of the Principal Contractor shall be subject to periodic health and safety audits that will be conducted by the client at intervals agreed upon between the Principal Contractor and the client, provided such intervals will not exceed periods longer than one month. The Principal Contractor is to ensure that he/she and all persons under his control on the construction site shall adhere to the above specifications, as non-conformance will lead to the client taking action as directed by Construction Regulation 4.1(e). The Principal Contractor should note that he/she shall be held liable for any anomalies including costs and resulting deficiencies due to delays caused by non-conformance and/or non-compliance to the above Health and Safety Specifications and the Health and Safety Plan based on these specifications.

23. IMPORTANT LISTS AND RECORDS TO BE KEPT

The following are lists of several records that are to be kept in terms of the Construction Regulations. The lists are:

- 1 List of appointments
- 2 List of record keeping responsibilities
- 3 Inspection checklist

These lists and documents are to be used as a point of reference to determine which components of the Act would be applicable to a particular site or task or project, as was intended under paragraph 1 ("Preamble") above.

1. LIST OF APPOINTMENTS

ITEM	REGULATION	APPOINTMENT	RESPONSIBLE PERSON
1.	4(1)(c)	Principal contractor for each phase or project	Client
2.	5.(3)(b)	Contractor	Principal Contractor
3.	5(11)	Contractor	Contractor
4.	6(1)	Construction supervisor	Contractor
5.	6(2)	Construction supervisor sub-ordinates	Contractor
6.	6(6)	Health and Safety Officer	Contractor
7.	7(1)	Person to Carry Out Risk Assessment	Contractor
8.	7(4)	Trainer/Instructor	Contractor
9.	8(1)(a)	Fall Protection Planner	Contractor
10.	10 (a)	Formwork & Support Work Supervisor	Contractor
11.	10(e) + (f)	Formwork & Support Work Examiner	Contractor
12.	11(1)	Excavation Supervisor	Contractor
13.	11(3)(b)(ii)(b)	Professional Engineer or Technologist	Contractor
14.	11(3)(k)	Explosives Expert	Contractor
15.	12(1)	Supervisor Demolition Work	Contractor
16.	12(2) + (3)	Demolition Expert	Contractor
17.	12(11)	Explosives Expert	Contractor
18.	14(2)	Scaffold Supervisor	Contractor
19.	15(1)	Suspended Platform Supervisor	Contractor
20.	15(2)(c)	Compliance Plan Developer	Contractor
26.	19(2)(b)	Power Tool Expert	Contractor
27.	19.2 (g) (i)	Power Tool Controller	Contractor
31.	22(d)	Temporary Electrical Installations Inspector	Contractor
32.	22 (e)	Temporary Electrical Installations Controller	Contractor
33.	26 (a)	Stacking and Storage Supervisor	Contractor
34.	27 (h)	Fire Equipment Inspector	Contractor

2. LIST OF RECORD KEEPING RESPONSIBILITIES

ITEM	CR	RECORD TO BE KEPT	RESPONSIBLE PERSON
1.	3(3)	Notification to Provincial Director – Annexure A Available on site	Principal Contractor
2.	4(3)	Copy of Principal Contractor's Health & Safety Plan Available on request	Client
3.	5(6)	Copy of Principal Contractor's Health & Safety Plan As well as each Contractor's Health & Safety Plan Available on request	Principal Contractor
4.	5(7)	Health and Safety File opened and kept on site (including all documentation required i.t.o. OHSA & Regulations Available on request	Every Contractor
5.	5(8)	Consolidated Health and Safety File handed to Client on completion of Construction work. To include all documentation required i.t.o. OHSA & Regulations and records of all drawings, designs, materials used and similar	Principal Contractor

		information on the structure	
6.	5(9)	Comprehensive and Updated List of all Contractors on site, the agreements between the parties and the work being done Included in Health and Safety file and available on request	Principal Contractor
7.	6(7)	Keep record on the Health and Safety File of the input by Construction Safety Officer [CR 6 (7)] at design stage or on the Health and Safety Plan	Contractor
8.	7(2)	Risk Assessment - Available on site for inspection	Contractor
9.	7 (9)	Proof of Health and Safety Induction Training	Every Employee on site
10.	8(3)	Construction Supervisor [CR 6(1)] has latest updated version of Fall Protection Plan [CR 8(1)]	Contractor
11.	9(2)(b)	Inform contractor in writing of dangers and hazards relating to construction work	Designer of Structure
12.	9(3)	All drawings pertaining to the design of structure On site available for inspection	Contractor
13.	9(4)	Record of inspections of the structure [First 2 years – once every 6 months, thereafter yearly] - Available on request	Owner of Structure
14.	9(5)	Maintenance records - safety of structure - Available on request	Owner of Structure
15.	10(d)	Drawings pertaining to the design of formwork/support work structure - Kept on site, available on request	Contractor
16.	11(3)(h)	Record of excavation inspection - On site available on request	Contractor
17.	17(8)(c)	Material Hoist daily inspection entered and signed in record book kept on the premises	Contractor
18.	17(8)(d)	Maintenance records for Material Hoist - Available on site	Contractor
19.	22(d)	Record of temporary electrical installation inspections [once a week] and electrical machinery [daily before use] in a register and kept on site	Contractor
20.	27(l)	Fire Evacuation Plan	Contractor

3. INSPECTION CHECKLIST

Employer Particulars	
Employer:	
Registered Name of Enterprise:	
Trade Name of Enterprise:	
Company Registration No.:	
SARS Registration No.:	
UIF Registration No.:	
COIDA Registration No.:	
Relevant SETA for EEA purposes:	
Industry Sector:	
Bargaining Council:	
Contact Person:	
Address of Premises:	
Postal Address:	
Telephone Number:	
Fax Number:	
E-mail Address:	
Chief Executive Officer:	
Chief Executive Officer Address:	
Competent Person:	
Maximum power demand: in KW	
Health and Safety Representatives:	
Activities, products manufactured and/ services rendered:	
Raw materials, materials and chemical/ biological substances:	

Total Number of Employees:	Male: Female:
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Contractor Particulars	
Contractors:	
Site Address:	
Contracts Manager:	
Managing Director:	
Competent Persons:	
CR14: SCAFFOLDING:	
CR15: SUSPENDED SCAFFOLDING:	
CR17(6): MATERIAL HOIST (S):	
CR18(1): BATCH PLANT:	
CR8(1)(a): FALL PROTECTION:	
CR11(1)(1): EXCAVATION WORK:	
CR12: DEMOLITION WORK:	
CR19(2)(b): EXPLOSIVE POWER TOOLS	
CR26(a): STACKING	

INSPECTION				
SECTION/REGS	ITEM CHECKED	N/A	YES	NO
	APPOINTMENTS			
CR6(1)	Supervisor:			
CR6(2)	Assistant Supervisor:			
S17(1)	Health & Safety Representative: (ratio)			
S19(1)	Health & Safety Committees			
CR 12(1)	Demolition Director			
	DOCUMENTS			
GAR 9(1)	Records of Incidents			
GAR 4	Copy of the Act			
GAR 7	Safety Reps Report			
GAR 8	Safety Committee Minutes			
DMR 18(7)	Lifting Machinery Log (Crane)			
CR 3(3)	Notification of Construction Work			
CR 7(2)	Risk Assessment			
CR 7(9)(e)	Proof of the Health & Safety Induction Training			
CR 11(13)(h)	Inspection of Excavation (Records)			
CR 20(g)	Crane Operator Medical Certificate			
CR 21(11)	Mobile Plant Operator Medical Certificate			
CR 18(9)	Batch Plant Repairs & Maintenance Records			
CR22(d)	Temporary Electrical Installation Record			
CR 5(7)	Health & Safety File			
CR 15(11)	Suspended Platforms' Performance Records			

CR 17(b)& (c)	Material Hoists Record Book			
IMPROV NOTICE	Scaffolding Log Book			
CR 21(1)(d)(ii)	Medical Certificate of Fitness			
CR 21(1)(l)	Construction Vehicle & Mobile Plant Register			
CR 22(d)	Electrical Installation & Machinery Register			
	INCIDENTS			
GAR 8(1) S24	Reported			
GAR 9(1)	Recorded Investigated Action Taken			
	PUBLIC SITE			
FR 2(1)	Sanitary Facilities			
CR 28(1) (c)	Changing Facilities for each sex			
CR 25(d)	Perimeter fence & no admittance			
CR 25(e)	Overhead protection netting/falling objects			
NB Notice	Pedestrian warning			
	PERSONAL SAFETY EQUIPMENT			
	Items Issued:			
GSR 2(3)	Items Required:			
S23	(What is the payment on each item?)			
	SAFETY PLANS			
	FIRST AID			
GSR 3(6)	Name(s) of First Aider (s):			
CR 4(1)(3)	Client's Health & Safety Specification			
CR5	Principal's contractor H&S Plan			
	FIRE HAZARD & PRECAUTIONS			
GSR 4	Flammables used, waste, hot work, diesel			
ER 9(1)	Portable Extinguishers			
	ELECTRICAL INSTALLATIONS & MACHINERY			
CR22	Guarding & PPE to Electrical Installations			
	ILLUMINATION			
ER 3(6)	Dangerous Places			
	Housekeeping			
ER6(2)(b),(c),(d)	Clear space storage			
ER6(3)	Disposal of waste			
	EXCAVATIONS			
CR 11(3)(l)	Barricades			
CR 11(3)(c)	Safe Depth Shoring/Bracing			
CR 11(1)(a)	Monitored			
CR 11(3)(h)	Excavation Inspection Record			
	GUARDING			

ER 6(2)(f)	Floor Openings			
	Floor slab sides, Shafts			
	SITE EQUIPMENT			
GSR 13A(a)	Ladders condition, secured			
IMPROV	Scaffold condition, secured			
	Platforms no. of boards condition Support 1.25. Toe Boards			
IMPROV	Hand Rails			
	SITE MACHINES			
DMR 3(2)(3)	Circulars, guards, riving knives			
DMR 2(a)	Mixers guarded			
	ELECTRIC POWER			
EMR 6(1)	Supply Board, condition E.L Relay Test			
GMR 3(1)	Condition of Tools, Leads, Plugs, etc			
	LIFTING MACHINE/TACKLE			
DMR 18(8)	Lifting of persons			
DMR 18(8)	Condition, Securing of Load			
	EXPLOSIVE POWERED TOOLS			
CR 19(1)	Safe Use and Storage			
IMPROV	Warning Notice			
	ROOF WORK			
CR 8(1)	Safety equipment & precautions			
CR 8(2)	Fall protection plan			
CR 8(3)	Updated fall protection plan			
	ASBESTOS CEMENT			
AR 10(a)	Suitable Tools			

WARNING: Under no circumstances shall any work of any nature whatsoever on any ASBESTOS material be undertaken unless the work is entrusted and mandated to a “REGISTERED ASBESTOS CONTRACTOR” in terms of the Asbestos Regulations. [CR 12(9)] (plse. contact the Regional Manager’s Office)

24. HEALTH AND SAFETY FILE COMPILATION AND CONTENT
(Document attached)

25. SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS (Document attached)

NOTE:

The guidelines and conditions provided in this attached document form an integral constituent of the Health and Safety Specifications. It is therefore a condition of acceptance that no Health and Safety Plan shall be complete unless all relevant elements of this document applicable to the above project have been included in the Health and Safety Plan. The final approval of the Health and Safety Plan in terms of CR 4(2) shall be subject to this requirement based on the following certification by the Principal Contractor or his Agent:

“ I hereby certify that I have taken cognisance of the content of the document titled ‘SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS’ and have included the relevant elements of the document applicable to the above project in my Health and Safety Plan and shall ensure adherence to the requirements thereof.”

The contents of CR 5 is pivotal when mandatory appointments are contemplated.

26. IMPORTANT CONTACT DETAILS (HEALTH & SAFETY ONLY) (Document attached)

ATTACHMENTS

“HEALTH AND SAFETY FILE”

FOR

**PROJECTS AND MAINTENANCE
(ELECTRICAL)**

MANAGED ON BEHALF OF

**THE NATIONAL DEPARTMENT OF
PUBLIC WORKS**

This document serves as a guide to Principle Contractors and Contractors (and their agents) to assist them in complying with the requirements of the Act and more specifically the Construction Regulations and to ensure a most comprehensive Health and Safety File. Kindly note the following extractions from the Construction Regulations:

“Every contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of the Act and the Regulations, is opened and kept on site and made available to an inspector, client, client’s agent or principle contractor upon request. [CR 5(7)]

A Principal Contractor shall hand over a consolidated health and safety file to the client upon completion of the construction work and shall, in addition to the documentation referred to in sub regulation (7) [above], include a record of all drawings, designs, materials used and other similar information concerning the completed structure. [CR 5(8)]

A Principal Contractor shall ensure that in addition to the documentation required in the health and safety file as determined in the two sub regulations above, a comprehensive and updated list of all the contractors on site accountable to the Principal Contractor, the agreements between the parties and the type of work being done are included and available. [CR 5(9)]”



The information, documentation and lists required to be included in the Health and Safety File as contemplated in the Construction Regulations [CR 5(7)], shall be suitably and sufficiently documented in terms of the following items listed below to ensure compliance with the Act as far as is reasonably practicable.

Note: In the event that any of the items listed below may not have reference to the planning, implementation and completion of the work to be done pertaining to the project on the construction site, it must clearly be indicated as such with a proper statement e.g. ‘Not Applicable’. All other relevant references or items below shall relate to the information required as contemplated in the Act and Regulations.

IMPORTANT - This Health and Safety File shall be regarded as the property of the Client as it has to be consolidated and handed over to the Client upon completion of the project. The Principal Contractor shall ensure that this file is adequately protected against any form of damage, abuse or fraud.

Registers as follows:

- * Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
- * H&S Representatives (‘SHE - Reps’) Inspection Register
- * Arc & Gas Welding & Flame Cutting Equipment Inspections
- * Inspection of Cranes
- * Inspection of Ladders
- * Inspection of Vessels under Pressure plus all other excluded under VUP regulations
- * Fire fighting equipment

The H&S Representatives (SHE-Reps) will be required to submit the abovementioned registers as well as other legally required registers, also from the list below, on a monthly basis to the chairman of the H&S committee for submission to, and endorsement by the H&S Committee. Also refer to the suggested Agenda for the H&S Committee under 12.8.3

Documents as follows:

Copy of OH&S Act (updated) (General Administrative Regulation 4.)
Proof of Registration and good standing with a COID Insurer (Construction Regulation 4(1)(g))
Appointments – in terms of the Construction Regulations * [See references Page 4]
Notification of Construction Work – Annexure 1 [CR 3]
H&S Specifications [CR 4]
H&S Plan – Principal Contractor, Contractor & Sub-contractors [CR 5(1) & (4)]
Proof of Periodic Audits [CR 4, 5 & 6]
List of all Contractors (accountable to Principal Contractor) on site [CR 5(9)]
Contractor Agreements [CR 5(9)]
Type of work done on site [CR 5(9)]

Records of drawings, designs, materials used and similar information concerning the completed structure [CR 5(8)]
Input by Construction Safety Officer [CR 6(7)]
Risk Assessment [CR 7(1)]
Copy of Risk Assessment [CR 7(2)]
Proof of H&S Induction Training [CR 7(4) & (7) & (9)(b)]
Proof of training on Hazards and Work Related Procedures [CR (7)(4)]
Fall Protection Plan [CR 8]
Designer notice to contractor of dangers and hazards relating to construction work [CR 9(2)(b)]
Drawings design of structure [CR 9(3)]
Records of Inspections of Structure [CR 9(4)]
Maintenance records – structure safety [CR 9(5)]
Record Excavation Inspection [CR 11(3)(h)]
Method Statement [CR 11(3)(k)]
Method Statement [CR 12(2)]
Method Statement [CR 12(11)]
Operational Compliance Plan [CR 15(2)(c)]
Certificates, design calculations, sketches and test results [CR 15(3)]
Examination results [CR 15(9)]
Suspended Platform Inspection and Performance Test records [CR 15(11)]
Medical Certificate of Fitness [CR 15(12)(b)]
Proof of Training [CR 15(12)(c)]
Material Hoist Inspections [CR17(8)(c)]
Maintenance Records Material hoist [CR17(8)(d)]
Record Batch Plant Maintenance & Repair [CR18(9)]
Register for control of cartridges/nails studs – explosive powered tools [CR19(2)(g)(ii)]
Medical Certificates of Fitness [CR 20(g)]
Medical Certificates of Fitness [CR 21(1)(d)(ii)]
Findings of daily inspections Construction Vehicles & Mobile Plant [CR21(1)(j)]
Record of Temporary Electrical Installation Inspections [CR22(d)]
Record of Electrical Machinery Inspections [CR22(d)]
Proof of Training [CR 27(i)]
Evacuation Plan [CR 27(l)]
H&S Rep & Committee Members details
H&S Committee Meetings' Minutes
Other appointments in terms of OHASA

Details of Inspections (by DoL)
 Recording and Investigation of Incidents – Annexure 1 [GAR 9(1-3)]
 Action taken on all incidents [GAR 9(4)]
 Certificates of Competency in First Aid [GSR 3(4)]
 Record of Medical Surveillance required in terms of OHASA
 Proof of compliance with Asbestos Regulation requirements
 Proof of compliance with Major Hazard Installation requirements

PRINCIPAL CONTRACTORS - [CR 4(1)(c)]
 CONTRACTORS - [CR 5(3)(b) + (11)]
 COMPETENT PERSONS - [CR 6(1) + (2)]
 - [CR 6(6)]
 - [CR 7(1) + (4)]
 - [CR 8(1)(a)]
 - [CR 10(a) + (e) + (f)]
 - [CR 11(1) + (3)(b)(ii)(b) + (3)(k)]
 - [CR 12(1) + (2) + (3) + (11)]
 - [CR 14(2)]
 - [CR 15(1) + (2)(c) + (8)(c) + (13)]

- [CR 17(8)(a)]
- [CR 18(1) + (7)]
- [CR 19(2)(b) + (2)(g)(i)]
- [CR 20(f)]
- [CR 21(1)(d)(i) + (1)(j)]
- [CR 22(d) + (e)]
- [CR 26(a)]
- [CR 27(h)]

CONSTRUCTION SAFETY OFFICER - [CR 6(6)]
 DESIGNER - [CR 9(2)]

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IMPORTANT:

A copy of the following certification in terms of the “**SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS**” (Document attached) signed by the prospective tenderer / contractor is to be included in the Health and Safety File:

“ I hereby certify that I have taken cognizance of the content of the document titled ‘SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS’ and have included the relevant elements of the document applicable to the above project in my Health and Safety Plan and shall ensure adherence and compliance to the requirements thereof.”

NATIONAL DEPARTMENT OF PUBLIC WORKS

SAFETY AND SWITCHING PROCEDURES

FOR

ELECTRICAL INSTALLATIONS

CONTENTS

	PAGE
1 REGULATIONS AND DEFINITION OF A COMPETENT PERSON	59
1.1 REGULATIONS	59
1.2 DEFINITION OF A COMPETENT PERSON	59
2. SAFETY EQUIPMENT	59
3. DEFINITION OF OPERATING TERMS	59
3.1 Alive or Live	59
3.2 Dead	60
3.3 Earthing	60
3.4 Isolate	61
3.5 Circuit-Breaker	62
3.6 Link	62
3.7 Operating Methods	63
4. GENERAL SAFETY PRECAUTIONS	63
5. ACCESS TO HIGH VOLTAGE ENCLOSURES	64
6. SWITCHING	64
7. WORK IN SUBSTATIONS AND SWITCHING STATIONS CONTAINING EXPOSED LIVE CONDUCTORS	64
7.1 Safety Clearances to Live Conductors	64
7.2 Insufficient Clearances	64
7.3 Ladders and Other Long Objects	65
8. WORK ON METAL CLAD SWITCHGEAR SPOUTS	65
9. WORK ON TRANSFORMERS	65
10 WORK ON CABLES, CONDUCTORS AND OVERHEAD LINES	65
10.1 Cables and Conductors	65
10.2 Overhead Lines	65

1 REGULATIONS AND DEFINITION OF COMPETENT PERSON:

1.1 REGULATIONS:

All persons who carry out or arrange for work of any description for the Department in connection with electrical apparatus shall make themselves acquainted with the Occupational Health and Safety Act (Act 85 1993) with particular reference to the Electrical Machinery Regulations, Regulations 1 to 23 inclusive.

Access to the above Act and its Regulations can be arranged with the Regional Manager.

1.2 DEFINITION OF COMPETENT PERSON:

“competent person” in relation to machinery, means any person who—

- (a) has served an apprenticeship in an engineering trade which included the operation and maintenance of machinery, or has had at least five years’ practical experience in the operation and maintenance of machinery, and who during or subsequent to such apprenticeship or period of practical experience, as the case may be, has had not less than one year’s experience in the operation and maintenance appropriate to the class of machinery he is required to supervise;
- (b) has obtained an engineering diploma in either the mechanical or electro technical (heavy current) fields with an academic qualification of at least T3 or N5, or of an equivalent level, and who subsequent to achieving such qualification has had not less than two years’ practical experience in the operation and maintenance appropriate to the class of machinery he is required to supervise;
- (c) is a graduate engineer and has had not less than two years’ post-graduate practical experience in the operation and maintenance appropriate to the class of machinery he is required to supervise and who has passed the examination on the Act and the regulations made there-under, held by the Commission of Examiners in terms of regulations E5 (2) of the regulations published under Government Notice R.929 of 28 June 1963; or
- (d) is a certificated engineer;

2 SAFETY EQUIPMENT

The following equipment required for working on electrical installations and distribution systems, must be maintained in good order and repair and must be made available:-

Safety belt, overalls, hard hat, safety shoes or boots, rubber gloves, "Men Working" notice boards, locks for locking off switches, buss bar shutters in truck-type switchgear, isolators or earthing links, rubber sheet and length of rope with short circuiting earthing-chains, earthing sticks and testing/phasing sticks rated for the voltage of the equipment to be tested.

Under no circumstances shall work be carried out on electrical apparatus unless the proper safety equipment is used

With regard to overhead line men, no work shall be carried out unless use is made of a non-metallic ladder and the appropriate safety belt, rubber gloves, overalls, hardhat and safety shoes or boots are worn. The buddy system must also be implemented.

3 DEFINITION OF OPERATING TERMS

3.1 Alive or live

This means electrically connected to the power system and/or electrically charged.

Consider an isolated overhead line that is not earthed. An overhead line can be electrically connected to the system in the following ways:

- (a) By means of a metallic conductor such as links and breakers or switches. This is the normal way of transmitting electrical energy.
- (b) Electromagnetic induction or transformer action from a nearby current carrying line will induce a dangerous voltage in the isolated lines and are a hazard to all personnel that must work on or with the line.
- (c) Electrostatic induction or condenser action from a nearby live line will induce a dangerous voltage in any isolated, but not earthed, overhead line. Electrically charged means at a potential difference or voltage above zero

3.2 Dead

This means that any apparatus so described is isolated from the power system. Rotating plant shall not be regarded as dead until it is stationary or is being slowly rotated by means of barring gear and is not excited.

The Occupational Health and Safety Act defines dead as: "dead" means at or about zero potential and isolated from any live system. Disconnected has the same meaning as isolated. An overhead line disconnected from all sources of supply but not earthed, cannot be regarded as dead because:

- (a) It can retain a static charge.
- (b) It can acquire a static charge due to atmospheric conditions.
- (c) It can accidentally be made alive.
- (d) Nearby lines continually induce voltage in them.

The regulations recognise only the following devices as disconnects or isolators:-

- (a) Links.
- (b) Fuses.
- (c) Truck type switchgear.

3.3 Earthing

This means the connecting of apparatus electrically to the general mass of earth in such a manner as will ensure at all times an immediate safe discharge of electrical energy. This is done through an earth bar or spike by means of a good metallic conductor.

To fully appreciate this definition we must refer to the Electrical Machinery Regulations, Regulation 3 of the Occupational Health and Safety Act which states:

"Work on Disconnected Electrical Machinery. —Without derogating from any specific duty imposed on employers or users of machinery by the Act, the employer or user shall, whenever work is to be carried out on any electrical machinery which has been disconnected from all sources of electrical energy but which is liable to acquire or to retain an electrical charge, as far as is practicable, cause precautions to be taken by earthing or other means to discharge the electrical energy to earth from such electrical machinery or any adjacent electrical machinery if there is danger if there is danger there from before it is handled and to prevent any electrical machinery from being charged or made live while persons are working thereon."

Electrical apparatus and in particular overhead lines may become charged due to:-

- (a) Direct lightning strokes.
- (b) Electro magnetically induced currents due to a lightning stroke in the immediate vicinity of the line.
- (c) Electro statically induced charges on the lines due to the presence of thunderclouds.
- (d) Electrostatic charges imparted to the line by the friction of dust or snow blowing past the conductors.
- (e) Electrostatic charges imparted to the line due to changes in line altitude"

These changes are responsible for tremendously high voltages between overhead lines and earth, in fact, sometimes high enough to cause a flash over on insulators. A spark may span several centimetres of air to a person's hand should he approach too closely to an isolated unearthed overhead line.

An overhead line or apparatus can be made alive by:

- (a) Unauthorised operating, i.e., closing the wrong links and breaker.
- (b) Faulty wiring on consumer's stand-by sets. (Back feed from consumer)
- (c) A broken overhead conductor from a different line falling onto the isolated line.
- (d) Synchronising plugs.

From the foregoing paragraphs it is clear that the purpose of earthing isolated lines and apparatus are:

- (a) To discharge them should there be a residual voltage or charge.
- (b) To prevent them acquiring a static charge.
- (c) To prevent danger to persons working on apparatus in the event of someone accidentally making it alive.
- (d) To dissipate induced voltages continuously and safely.

Earthing gear means the fixed or portable appliances used for earthing electrical apparatus. The dangers from inadequate or improper earth connections are:

- (a) Electrocution.
- (b) Burns from arcing.
- (c) Electric shock leading to falls.

Earthing may be done by the closing of earthing links, or by the attaching of fixed earthing devices or by the affixing of portable earthing straps. In each case the main idea is to ensure the safety of personnel.

In affixing portable earth straps, the connection to the earthbar or earthed metal or spike must be made first and in removing such earthing straps, the disconnecting from the earthbar or earthed metal or spike must be done last. Also, a link stick or an insulated stick should be used to connect the earth wires to the overhead lines or apparatus.

These requirements are most important because connecting the portable strap first to earth and then to the conductors by means of a link stick avoids the risk of a shock to the operator from static charges or induced voltages.

REMEMBER: Always safety test before applying earths.

3.4 Isolate

This means to disconnect from all Sources of electrical potential by means of opening of links or fuses or the withdrawal of truck-type circuit-breakers.

All sources of electrical potential mean all points or circuits from where the apparatus can be made alive. Links, fuses and truck-type switchgear can be regarded as isolators because:

- (a) They leave a visible air gap in a circuit when open, removed or withdrawn.
- (b) They contain no stored energy and will not close due to defects.
- (c) They can be locked in a physical condition and thus can only be operated by the person with the correct key.

Opening links and locking them in the open position; removing fuses and locking them away; withdrawing truck-type switchgear and locking the buss bar shutters are the only safe methods of isolating.

3.5 Circuit Breaker

This is a device designed to make or break electric current under normal and fault conditions. A breaker can make or break an electric current because it is designed to extinguish the arc very rapidly and effectively. It is also designed to withstand the tremendous forces under short circuit conditions. The arc-extinguishing medium for high-voltage breakers is normally air, oil or vacuum and should this medium be lost, the breaker becomes a link. Never use a breaker without an arc-extinguishing medium to interrupt current flow because the breaker will probably explode or it will sustain severe damage.

A fault condition is any condition that will cause an excessive amount of current flow. The normal fault conditions are:

- (a) Phase faults.
- (b) Earth faults.
- (c) Open circuit in one line of a three-phase system (Single-phasing).
- (d) Too low a voltage. (Motors will draw a large current or even stall).

- (e) Too high a voltage.
- (f) Overloading.

For the following reasons breakers cannot be regarded as isolators:

- (a) They leave no visible gap in a circuit.
- (b) They contain stored energy and can close on their own due to various defects.
- (c) It is normally not possible to lock them in an open position.
- (d) Oil circuit-breakers are subjected to carbon tracking which could cause a flash-over between contacts.

3.6 Link

This is a device for making or breaking a circuit when no load current is flowing. Links differ from breakers and switches in the following respects:

- (a) They are not equipped with an arc extinguishing medium/device.
- (b) Their movement is very slow.

Should current be interrupted by means of links, an uncontrollable arc will be struck at the points where the contacts part.

The temperature of the arc is so high (+ 2 000°C) that it will simply melt the parting contacts. As the contacts move further apart, the arc will lengthen and burn everything away. Molten metal could splash onto the operator and cause severe injuries.

As the arc lengthens, considerable noise is generated and the light intensity is so severe that the operator could suffer from “welding flash” of the eyes.

When apparatus equipped with earthing links is required to be earthed at more than one place, the earthing links shall always be closed first and thereafter, any necessary portable earthing gear may be affixed to the apparatus.

In removing the earths in readiness for making the apparatus alive, all portable earthing gear shall first be removed and earthing links shall be opened last.

Closing the earthing links first ensures maximum safety to the operator. These links are easily operated, make good contact and the operating handles are at a safe distance from the contact points.

Locks and keys shall also be provided for links. The operating mechanism of all manually operated links shall be fitted with fastenings for locks. The operating mechanisms of each set of manually operated links shall normally be locked whether the links are in the open or in the closed position.

The locking of links provides a safeguard against their being opened or closed in error by other persons apart from the one with the correct key and a written instruction to operate.

3.7 Operating methods

This means switching, linking, safety testing and earthing. This definition also indicates the order of operating when making apparatus safe to work on.

- (a) Switching -
 - (i) Open breaker or switch to interrupt current flow safely, i.e. prevent arcs.
 - (ii) Close breaker or switch to start current flow - the only safe way.
- (b) Linking - open at least one set of links from where the apparatus can be made alive and lock the links in the open position. Always ensure that you are not going to start or interrupt current flow with the links by ensuring that the breaker or switch is open.
- (c) Safety test - test all three phases to ensure that the apparatus is disconnected from all sources of supply and that there is no back-feed from a consumer's standby set or other source.

(d) Apply earths - ensure safety of the workers by:-

- (i) Discharging the line or apparatus.
- (ii) Preventing the line from acquiring a static charge.
- (iii) Preventing the line or apparatus from being accidentally made alive.

Before applying portable earths, ensure that they are mechanically and electrically in good condition. There should be no broken strands, the clamps should be rigid and without defect and when applied properly, should make intimate contact with the conductors and earthbar or spike. The earthing cable tails should be as short as possible. The current carrying capacity of the portable earth is greatly reduced by broken strands. It will act as a fuse and increase the danger to workmen.

4 GENERAL SAFETY PRECAUTIONS

No person shall carry out work of any description (including maintenance, repairs, cleaning and testing) on any part of electrical apparatus unless such parts of the apparatus are:

- (a) dead;
- (b) disconnected, isolated and all practicable steps taken to lock off from live conductors;
- (c) efficiently connected to earth with the appropriate earthing sticks or gear designed for this purpose at all points of disconnection of supply;
- (d) screened where necessary to prevent danger, and caution and danger notices fixed;

and unless such person is fully conversant with the nature and extent of the work to be done.

It is the duty of the competent person in charge of the work to ensure that the foregoing provisions are complied with. He shall also ensure that when the work has been completed, the apparatus is safe to be made alive and that all earths and temporary danger notices have been removed.

Provided that cleaning and painting of earthed metal enclosures, connections or disconnections of circuits to or from live systems may be carried out in accordance with instructions issued by the competent person concerned.

Provided also that where the design of the apparatus precludes the strict compliance with all details of these precautions, the work shall be carried out to the instructions of the senior competent person present.

When any person receives instructions: regarding work on or the operation of high voltage apparatus he shall report any objection to the carrying out of such instructions to the competent person who shall have the matter investigated and, if necessary, referred to higher authority.

5 ACCESS TO HIGH VOLTAGE ENCLOSURES AND APPARATUS

Enclosures, chambers, cubicles or cells containing high voltage conductors shall be kept locked and shall not be opened except by a competent person.

6 SWITCHING:

- (a) No switching shall be carried out without the sanction of the appropriate competent person except for agreed routine switching or in cases of emergency.

All telephone instructions/messages relating to the switching operation shall be written down and be repeated in full to the sender to ensure that the message has been accurately received.

- (b) When a switch shows any sign of distress after operating, its condition shall be immediately reported to the appropriate competent person, and it shall be examined before further operation.
- (c) The examination of and necessary adjustments including inspection and/or changing of oil of any high voltage oil immersed circuit-breaker which has operated under fault conditions shall be carried out if possible before the circuit-breaker is re-closed, or at the earliest available opportunity thereafter.

7 WORK IN SUBSTATIONS AND SWITCHING STATIONS CONTAINING EXPOSED LIVE CONDUCTORS.

7.1 Safety Clearances to Live Conductors:

Unless the whole equipment is “dead”, the section which is made dead for work to be carried out shall be defined by the use of barriers or roping such that the minimum clearance from the nearest exposed conductor to ground level or platform or access way shall be:-

Rated Voltage	Clearance
Up to 11 kV	3.0 m.
From 11kV to 33kV	3.4 m

The area at ground level shall be only that in which the work is to be carried out.

7.2 Insufficient Clearances

If the above clearances are not sufficient to avoid danger, other suitable arrangements shall be made to provide the requisite degree of safety.

7.3 Ladders and Other Long Objects

Ladders and other long objects shall not be used without the permission of the senior authorised person in charge of the work and the movement and erection of such ladders shall be under his/her direct supervision at all times.

8 WORK ON METAL CLAD SWITCHGEAR SPOUTS:

- (i) The section of bus bars on which work is to be carried out shall be made dead and isolated from all points of supply.
- (ii) The shutters of live spouts shall be locked closed.
- (iii) The busbars shall be earthed with approved earthing equipment if possible, at a panel other than that at which work is to be carried out. Temporary earths shall in any case be applied to all phases on the busbar at the point of work. These earths may then be removed one phase at a time for work to be carried out. Each phase earth shall be replaced before a second phase earth is removed.

For the earthing of metal clad switchgear, approved appliances only shall be used. The insertion of the hand or any other tool in contact spouts for this purpose is forbidden.

9 WORK ON TRANSFORMERS:

When work is carried out on transformers, both the primary and secondary switches and isolators shall be opened. The transformer shall also be isolated from all common neutral earthing equipment from which it may become live. This does not require the disconnection of solidly earthed neutrals.

10 WORK ON CABLES, CONDUCTORS AND OVERHEAD LINES:

10.1 Cables and Conductors

- (a) No person shall touch the insulation, which covers or supports any high voltage conductor unless the conductor is dead and earthed.
- (b) Before carrying out work involving cutting into a high voltage cable, the responsible person shall satisfy himself that the cable has been made dead, isolated and earthed where practicable and identified. In all cases of doubt, the cable shall be spiked in an approved manner.

TESTING PROCEDURES AND PRECAUTIONS FOR COMMISSIONING OF ELECTRICAL CABLES

The aim of this section is to create an awareness of the latest standards and testing procedures for the commissioning of new and the re-commissioning of repaired electrical cables.

Before commissioning or re-commissioning cables tests must be carried out to ensure the integrity of the cable/s and to ensure the safety of operating personnel.

1. Low voltage Cables

1.1 Initial Tests

Carry out a meter test to ensure that the insulation resistance complies with the manufacture's and the relevant SABS requirements. For L.V. cables a 500V d.c. meter is adequate for this purpose.

1.2 Voltage Tests

This covers extruded solid dielectric cables (covered by SABS 1507), voltage ranges are as indicated in Table 1

After installation the cable has to be tested to ensure the integrity of the cable and the quality of the work. A.C. testing of solid dielectric cables is preferred. Very low frequency high voltage sinusoidal electrical testing methods are recommended to avoid the use of cumbersome large testing equipment.

Method: The test voltage should be applied between conductors and between each conductor and the metallic protection or earthed surroundings of the cable as appropriate. The voltage to be raised gradually to the specified values in the table and maintained for 15 minutes.

Table1 -Test Voltages After Installation

1	2	3	4
Cable operating voltage	The test voltage is to be applied	Test Voltage V	
		m.s)	d.c.
300/500	Between Conductors and conductors/earth		
600/1000	Between Conductors and conductors/earth		
1900/3300	Between conductors		
1900/3300	Between Conductors and conductors/earth		

2. Medium/High Voltage

Each section of the cable installation between substations shall be subjected to a preliminary voltage or insulation resistance test to prove the insulation resistance.

The installation resistance can be measured with a high voltage meter with a rating of 5000V.

2.1 Paper Insulated Lead covered Double Steel Tape or Wire Armoured Cable (covered by SABS 97), voltage ranges are as indicated in Table 2

The test voltage should be applied between conductors and between each conductor and the metal sheath, which should be held at earth potential. In each case, the voltage should be increased steadily to the stipulated value and maintained at this value for 15 minutes.

Table 2 in-situ test voltages.

1	2	3	4	5	6	7
Voltage Rating of Cable kV	Test Voltage					
	Belted Cables				Single-core and screened cables	
	Between conductors		From conductor to sheath		Between conductor and sheath or screen	
	a.c.	d.c.	a.c.	d.c.	a.c.	d.c.
3.3/3.3	7	9	7	9	-	-
3.8/6.6	13	19	8	11	8	11
6.6/6.6	13	19	13	19	-	-
6.35/11	22	31	13	19	13	19
11/11	22	31	22	31	-	-
12.7/22	-	-	-	-	25	36
19/33	-	-	-	-	38	54

2.2 XLPE-Insulated Cables covered by SABS 0198 Part 13.

NOTE: If circumstances necessitate testing that is not in accordance with the recommendations of this section, the cable manufacturer or a test expert should be consulted before any testing is carried out.

The use of inappropriate or excessive test voltages or of unsuitable fault location methods can damage XLPE-insulated cables. Cables that are particularly prone to damage during testing are those that have water trees and those that have a construction that differs from that specified in the 1981 and in subsequent editions of SABS 1339.

The Types of Test Waveforms to be applied are:

- Very low frequency (VLF): An Alternating waveform that is either sinusoidal or pseudo-square/cosine rectangular, of nominal frequency 0,1 Hz.
- Power frequency: An alternating sinusoidal waveform of frequency in the range 25 Hz to 100 Hz.
- Surge: A step waveform that has a rise time of a few microseconds and that gradually decays to zero within 5 s.

These waveforms are referred to in the various test tables below.

Note: Where the capacity of the test set permits, all three cores of a three-core cable may be tested together.

2.2.1 PRELIMINARY TESTS

- Leakage Resistance. Before carrying out any testing or fault location, determine and accurately record the leakage resistance to earth and, if relevant, between conductors. Use an instrument that generates a d.c test voltage of not less than 250 V and not more than 5 kV. Typical minimum values of leakage resistance are given in Table 3.

TABLE 3—MINIMUM LEAKAGE RESISTANCE

1	2	3	4	5
Cable Operating voltage U , kV	Minimum leakage resistance, $M\Omega$			
	Cable length, m			
	100	300	1 000	3 000
6,6	150	50	15	5
11	240	80	24	8
22	460	153	46	15
33	680	227	68	23

NOTE:

- 1 The value of leakage resistance multiplied by the cable length should not be less than $(2 U + 2) \text{ M}\Omega\cdot\text{km}$, where U is the voltage rating of the cable in kilovolt.
- 2 This test is repeated after the required sequence of tests (see 2.2.2.7).

2.2.2 TESTING

- 2.2.2.1 Over voltage Commissioning Tests. When newly installed cables are being commissioned, they should be tested at the test voltages given in Table 4, appropriate to the test waveforms and test durations given in columns 1 and 2 of the table.

TABLE 4—COMMISSIONING TEST VOLTAGES (r.m.s.)

1	2	3	4	5	6
Test waveform (see 2.2)	Duration, Min	Commissioning test voltage, kV			
		Cable Operating voltage, kV			
		6.6	11	22	33
VLF (0,1 Hz)	60	11	19	38	57
Power frequency	60	8	13	25	38

NOTE:

1. Test sets for the above are commercially available.
2. Where the above test levels cannot be achieved, a reduced voltage for an extended time may be negotiated.

- 2.2.2.2 Overvoltage Maintenance/Repair Tests. When cables are tested for maintenance or repair purposes, they should be tested at the test voltages given in Table 5, appropriate to the waveforms and test durations given in columns 1 and 2 of the table.

- 2.2.2.3 Surge Test Method (see Table 5). The surge test is intended to be a practical basic safety test. It can be used as a non-damaging means of identifying fairly serious existing or potential faults when power frequency or VLF equipment is not available. The test avoids the application of a continuous d.c. voltage (see 2.2.2.4), but it is not as conclusive or rigorous as the other methods.

CAUTION: During the surge test, a peak voltage of up to twice the test voltage can be generated in the cable.

Method. Charge the surge generator to the appropriate test voltage given in Table 5. Using single-shot mode, release a surge into the cable and then soft-discharge the cable (see 2.2.5.5) within 5 s. Repeat the procedure up to five times and then fully discharge the cable by solidly earthing it for at least 5 min.

TABLE 5—MAINTENANCE/REPAIRS TEST VOLTAGES (r.m.s.)

1	2	3	4	5	6
Test waveform (see 2.2)	Duration	Maintenance/repair test voltage, kV			
		Cable operating voltage, kV			
		6.6	11	22	33
VLF (0,1 Hz)	15 min	8	13	25	38
Power frequency	15 min	7	11	22	33
Surge test (see 2.2.1.3)	5 surges, max.	7	11	22	33

- 2.2.2.4 **D.c. Over voltage Testing.** D.c. over voltage testing is likely to cause irreversible damage to XLPE-insulated cable systems, particularly if the cables have water trees. It often fails to identify potentially hazardous conditions in the cable. If d.c. testing has to be carried out because no other test methods are available, the voltage and duration should be limited to the appropriate values given in Table 6, which are recommended for quick identification of gross faults only. Use a d.c. test set or a surge generator in d.c. mode to apply the test voltage. After applying the voltage, soft-discharge the cable (see 2.2.2.5), using either the d.c. test set or a discharge stick. Fully discharge the cable by solidly earthing it for at least 8 h but preferably for 24 h.

TABLE 6—D.C. TEST VOLTAGES

1	2	3	4	5
Duration, s	D.c. test voltage, kV			
	Cable operating voltage, kV			
	6.6	11	22	33
10	6	10	20	30

- 2.2.2.5 **SOFT DISCHARGE OF CABLE.** An XLPE-insulated cable should always be soft-discharged through a resistance of at least 200 k Ω , for example by using a discharge stick. Discharging a conductor direct to earth by short-circuiting it with a lead can severely damage the cable. After the initial discharge, a cable should be solidly earthed for at least 5 min. If the cable has been subjected to any form of d.c. test, it should be solidly earthed for at least 8 h, but preferably for 24 h.

- 2.2.2.6 **CABLE SHEATH TESTING.** To avoid problems caused by the ingress of water into the cable, a cable should be subjected to sheath testing:

- a) at commissioning,
- b) annually, and
- c) after the location and repair of a fault.

Cable sheath testing can also be used to locate conductor earth faults that have punctured the outer sheath, provided that multiple sheath faults are not present. A direct current sheath test voltage of 5 kV should be applied for 1 min, with a leakage current of 1 mA/km being regarded as acceptable.

- 2.2.2.7 **AFTER TESTING.** After completion of any of the above tests, the leakage test described in 2.2.1.1 should be repeated. A tenfold reduction in the value of leakage resistance could indicate a potential problem.

2.2.3 CIRCUIT-BREAKER CLOSURE

- 2.2.3.1 **Faulty or Unknown Cable Conditions.** Closing a circuit-breaker on an untested cable can be hazardous to the operator and can damage the cable. A fault should never be re-established by repeated closing of a circuit-breaker.

- 2.2.3.2 **Voltage Doubling.** During switch-in onto open circuit, voltage doubling occurs at the remote end of the cable. Voltages of up to 20 kV can occur on an 11 kV system. Switching onto a load such as a transformer avoids this voltage doubling.

IMPORTANT CONTACT DETAILS

(FOR HEALTH & SAFETY ASPECTS ONLY)

The contractor is to add all the important contact information about essentials services, support and assistance.

SERVICE

NUMBER

CONTACT PERSON



Hospital		



Ambulance		



Water		
Electricity		



Police		



Fire Brigade		



Engineer		

ADD OTHER IMPORTANT HEALTH & SAFETY CONTACT DETAILS AS MAY BE FOUND NECESSARY.

COVID-19 GUIDELINES FOR RESUMPTION OF CONSTRUCTION



public works

Department:
Public Works
REPUBLIC OF SOUTH AFRICA

COVID-19 GUIDELINES FOR MANAGEMENT OF RISK ON CONSTRUCTION SITES

SITE DEGREE OF RISK

BUILDING AND PROJECT TYPE	SITE SET-UP AND STAFF WELFARE	CONSTRUCTION STAGE
Lower Risk Industrial, Logistical, Roads and Bridge Construction Medium Risk Residential Accommodation Healthcare facilities, Correctional Centers, Military Bases, Police Stations, Magistrates Offices	For most, but not all project construction stage risk may be as follows: Lower Risk - Excavation and groundworks - Foundations and Piling Medium Risk - Basement and Substructure - Structural Frame - Roofing - Interior First Fix - Interior Second Fix Cladding and Glazing - M+E and Lifts - Interior First Fix - Interior Second Fix	For most but not all sites, set-up risk may be as follows: Lower Risk - Large Sites Medium Risk - Site and management offices Scaffolding - Travel to and from site and access to site - Horizontal walkways and vertical access - Staff changing and locker rooms - Showers and toilets - Confined Spaces - Confined Sites

GUIDELINE

For each construction project there will be different levels of risk and it will be critical to evaluate the specific risks of each individual project.

GUIDELINE

For each construction site there will be different levels of risk and it will be critical to evaluate the specific risk of each individual project.

RISK MITIGATION PLAN

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Demographics of Labour: - Inadequate procedures in place to identify potential infected employees and workers - Manage the exposure to COVID-19 on the project, including visitors and suppliers	Contractor is to maintain a register of all employees and workers on the project, including Sub-Contractors (inclusive of employees and workers) and Professional Team, keeping records of the following information as a minimum (Note: the NIOH document that is currently available): - Name - Age of employee/visitor - Contact Details - Health status - Socio-economic status/unskilled labour (work force) - Accommodation arrangements (work force)	CONTRACTOR
Origin of labour and transportation Need to minimize the risk of exposure to virus whilst in transport	On site transportation: Where on site transportation is done, a policy needs to be available for how such transportation will be made safe and limit any opportunity for cross infection. If possible the Principal Contractor should provide their own transportation of work force. (Where not possible, use of public transport can be considered to comply to transport limitations) Parking areas: Private and public vehicles are required to park outside of the construction site - Support staff for professional service providers are to work from office location or from home Education and Information: Information boards are required at entrance of sites and within Site Offices with information on the virus and precautions to be taken during working hours and traveling. Social Distancing: On site: As far as possible, work activities must be so arranged that social distance is kept to a minimum of 2 metre. Site office: seating arrangements must be of such that social distancing for roll players is kept to a minimum of 1 metre, ie; 'ONE CHAIR, SKIP CHAIR, ONE CHAIR, SKIP CHAIR'. - Roll players must be limited to Professional Team and principal contractor. - Facial Masks must be worn at all times by all roll players. - Contractor work force when on site and transportation to and from site, where hand gloves can be used, they should be worn at all times to minimize touching of possible contaminated surfaces and injury.	CONTRACTOR AND PROFESSIONAL TEAM

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Public transportation across borders/towns/cities Where a return to work will necessitate travel between Provinces and cities for employees and workers to return to the project, The Principal Contractor and Sub-Contractors are to have in place procedures for or provision of transport for the return of workers to minimize the risk of exposure to the virus whilst in transit.	The contractor to source/recommend a transport service provider that complies with all travel restrictions and requirements as gazetted by the government, inter alia: • Maximum occupancy of vehicles to allow for social distancing • Vehicles sanitized before passengers board • Passengers provided with Face Masks and hand sanitizers provided within vehicles for passengers sanitization before boarding and after returning from vehicles for comfort breaks • Regular testing of body temperature • Adequate number of vehicles to be provided to comply with the maximum occupancy • Principal Contractor to put in place procedures for sanitization of personal belongings and luggage of work force on arrival at final destination • Permits to be provided per vehicle and per passenger from Authorising Authority	CONTRACTOR
Social Distancing: Construction site and facilities not set up in such a way that it will be possible as far as is practicable to maintain the required social distancing of 2 metres between persons when at work	<u>Tasks that require more than 1 person to complete:</u> • Providing adequate supplies of suitable PPE such as face masks, task specific gloves, safety glasses, disposable/additional coveralls; • PPE used during multi-person activities to be exchanged immediately after the task is completed; • Sealed bins to be provided for disposable PPE such as masks, disposable coveralls, disposable gloves, etc; • Sealable bags provided to each person for keeping PPE requiring laundering, such as gloves and coveralls, and • Sanitizing/washing facilities provided for immediate sanitizing of hard hats, safety glasses, shoes, safety harnesses etc, on completion of multi-person tasks	CONTRACTOR
Risk: Manual labour for physical tasks and tasks that will not allow for social distancing;		

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Site access by non-employees/security access Inadequate access control measures in places	• Stop all non-essential visitors • All employees and non-employees to be screened with non-contact thermometers (Thermal Thermometers); • Body temperature checks with thermometer upon employee's arrival and departure; • Introduce staggered start and finish times to reduce congestion and contact at all times; • Take body temperatures of anybody stepping on or off site; • Monitor site access points to enable social distancing; • Number of access points to be reduced to enable controlled monitoring; • Ensure disinfectants are in place for disinfecting of shoes on entering/leaving the site; • Provide hand sanitizer for all entering the site to sanitize hands; • Allow social distancing of 2 metres in queues for all entering the site; • Regular cleaning of common contact surfaces areas, eg; desks, telephones handsets, site office door handles, chairs, etc; • Drivers of suppliers of materials and goods and services must remain with their vehicles if load will allow it, if not, drivers are to wash hands before unloading goods and materials	CONTRACTOR
Alcohol and Drug Testing Lack of safe testing procedures in place for alcohol and drug testing	• Alcohol testing may only be done using single use test units, and must be disposed of in the appropriate contaminated waste bins provided on site; • Drug testing will only be done by an occupational health facility either using urine or blood sampling; • A protocol will be drawn up by the Principal Contractor to manage this with the occupational health service being used.	CONTRACTOR

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Medical Surveillance No methodology in place as part of the normal requirements for pre-placement, periodic and exit medicals that includes factors related to COVID-19	• The normal requirements of pre-placement, periodic and exit medicals will remain, with the Occupational health service providing a methodology of how they will be including factors relating to Covid-19. No lung functions or peak flows will be done until deemed safe to do so by the South African Thoracic Society. • It is preferable that occupational health service providers use a cloud-based record keeping service to ensure easy tracking and tracing. Free apps such as Square 1 is such an example. • Any person who contracts the virus may need to be reported to the Compensation Commissioner as an occupational disease where their work is to monitor and in contact with others. Such details are provided in the Compensation for Injuries and Diseases Act (CIDA). • Isolation of workers who have a temperature or any symptoms, and removal to the closest facility for testing and treatment, through the numbers provided. The PC is to ensure their policy on this includes such information. • Workers will be required to complete COVID-19 questionnaires prior to returning to site. Any worker with any symptoms is not to return to work, or notify the PC of same.	CONTRACTOR
Ablution Facilities on Site Unhygienic ablution facilities leading to poor hygiene	• Restrict the number of people using toilet facilities at any one time. e.g. use a welfare attendant; • Hand washing facilities (soap and water, paper towel) to be available where possible, and if not, to provide hand sanitizer. Wash hands before and after using the facilities • Induction training to educate to ensure all users are hand washing correctly; • Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush handle. Flush toilets preferably 1:15 ratio unless increased cleaning regime present; • Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently. Portable toilets to be provided at a 1:10 ratio; • Provide suitable and enough rubbish bins for hand towels with regular removal and disposal be cleaned and emptied more frequently; • Introduce staggered start and finish times to reduce congestion and contact at all times; • Consider increasing the number or size of facilities available on site if possible.	CONTRACTOR AND EMPLOYEES

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Waste Management for Covid-19 Waste Outdated waste management arrangements in place that leads to an increased risk of the spread of Covid-19	Waste management arrangements to be updated to include provision for the disposal of additional waste generated due to preventative measures implemented. All waste to be managed as hazardous waste. a. Disposal of any gloves, masks The contractor shall dispose of all used gloves and masks as hazardous waste and provide sealable bags and containers for the safe disposal of this waste. b. Paper towels The contractor shall provide adequate supplies of paper towels on site. At points where these towels are provided lined waste bins to be placed in order to collect all used towels and then to be disposed of in hazardous waste. c. Disinfectant solution The contractor to provide adequate supplies of disinfectant on site where the use of water and soap for cleaning is not practical. If disinfectant dispensers are not refilled it should be disposed with other hazardous waste. d. Wastewater Wastewater at washing points, toilets, and bathrooms to be contained in a drainage system that prevent surface spills. If wastewater is contained in waste buckets it must be sealed when removed and disinfected after it is cleaned.	CONTRACTOR
Site Meetings Not limiting the number of employees at all activities to the minimum required to do the work in a safe manner.	Only necessary meeting participants should attend. - Attendees should be two metres apart from each other. - Rooms should be well ventilated / windows opened to allow fresh air circulation. - Consider holding meetings in open areas where possible. - Technological alternatives to be exploited for meeting - Attendance if possible (Zoom, Skype, MS Teams). - Training and awareness to address procedures and the importance of social distancing. - Toolbox talks to be conducted outdoors when possible in order for persons to maintain social distancing. Where inclement weather does not allow for this, toolbox talks to be conducted with smaller groupings of workers in a sheltered area large enough to maintain social distancing.	CONTRACTOR

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Signage Conflicting messages/notices displayed on the site in contravention with current requirements to respond to Covid-19	The Principal Contractor is to review all current signs and notices displayed on site. The PC is to avoid conflicting messages/notices that have been in place prior to lockdown and review accordingly. a. Access rules The contractor shall install additional signage with site rules specific to the prevention of spreading the COVID-19 virus at the access control points of the site. b. Notices/Posters with protocols Notices and posters shall be placed and installed to raise awareness and regarding protocols to be followed on site. These notices and posters shall be placed conspicuously at various points on the site including the following places: • Entrance • Site notice board • Site Office • Eating areas • Next to toilets and bathrooms • Hand washing stations • Storerooms	CONTRACTOR
Emergency Planning Emergency plan not completed and undated in line with current Regulations of the National Disaster Management Act	An updated emergency plan is to be completed that is in line with the current Regulations of the National Disaster Management Act. a. First aid Extra gloves, and disinfectants are to be available, first aiders are to be issued with at least FFPT2 masks should they be required to respond b. Evacuation plans Evacuation plans should consider social distancing. c. Isolation of potentially infected workers The emergency plan is to consider how anyone who arrives on site and displays any of the symptoms, or has a raised temperature.	CONTRACTOR

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Welfare facilities Lack of procedures and arrangements for the provision of welfare facilities to prevent the spread of Covid-19 between employees on site	The Principal Contractor shall adapt arrangements regarding the provision of welfare facilities to be in line with Government guidelines and requirements. a. Clean, storage for food and personal belongings The Principal Contractor to provide lockable storage for all employees on site, which shall be disinfected daily. Training and awareness to address procedures and the importance of good hygiene practice. b. No personal belongings to be kept on site Apart from extra clean personal clothing no other personal belongings allowed on site accept if kept in locker provided by the Principal Contractor. c. No communal drinking facilities (shared cups etc.) The Principal Contractor to provide adequate supplies of bottled water to all employees on site. Empty bottles to be disposed of as normal waste. Training and awareness to address procedures and the importance of good hygiene practice. d. Eating areas The Principal Contractor is to limit the number of employees at all activities to the minimum. Stagger lunchbreaks and resting periods for work teams. Training and awareness to address procedures and the importance of good hygiene practice and social distancing. - Workers are required to stay on site once they have entered it and not use local shops. - Dedicated eating areas should be identified on site to reduce food waste and contamination. Where catering is provided on site, it should provide pre-prepared and wrapped food only; - Payments should be taken by contactless card wherever possible; - Crockery, eating utensils, cups etc. should be disposable if supplied; - Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced; - Tables should be cleaned and disinfected between each use; - All rubbish should be put straight in the bin and not left for someone else to clear up; - All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, vending machines and payment devices.	CONTRACTOR AND EMPLOYEES

RISK DESCRIPTION	MITIGATION PLAN/ACTION	RESPONSIBILITY
Consequence Management Inadequate processes and procedures in place for consequence management	- When non-compliance activities are noted, that activity will be stopped. Should the remedial actions not take place the site will be shut down till the corrective actions have been implemented. - Employees that do not work according to the SSHSS and SSHSP must be disciplined according to the company's disciplinary codes and practices. - Supervisory employees on site must ensure compliance, and when non conformances are noted disciplinary actions should also be followed. - Principal Contractor's should note that they could be fined and even according to the Disaster Management Act, arrested.	CONTRACTOR

ANNEXURE 'A'
(STAGE 4 LOCKDOWN)
TEMPLATES REQUIRED FOR
COVID-19 IMPLEMENTATION
RISK COMPLIANCE
AND FOR
CONTINUATION OF WORK ON
CONSTRUCTION SITES

Contents of Templates Required from Contractor

No.	Description	Page
1	Risk Rotation per activity on site	12
2	COVID-19 Work Place Preparation Procedure	14
3	Tracking Record Log	18
4	Training Schedule (Contractor Employees)	19
5	COVID-19 Policy	20
5	COVID-19 case reporting template	23

GENERAL NOTE TO CONTRACTORS

WITHIN THE "WORKPLACE PREPARATION PROCEDURE" THE CONTRACTORS ARE REQUIRED TO REPLACE THE HIGHLIGHTED TEXT IN 'RED'; "COMPANY" WITH THEIR 'COMPANY NAME'.

RISK ROTATION PER ACTIVITY: CONTRACTORS ARE TO PROVIDE WITHIN THE DOCUMENTS ON PAGES 12 AND 13, THE TOTAL REQUIRED NUMBER OF WORK FORCE REQUIRED PER ACTIVITY (DOUBLE CLICK WITHIN THE DOCUMENT TO OPE THE EXCEL SPREAD SHEET TO EDIT THE AREA LABLED "TOTAL REQUIRED WORK FORCE" AND ENTER THE NUMBER REQUIRED PER ACCTIVITY)

DETERMINATION OF RISK PER ACTIVITY (DOUBLE CLICK IN WORK SHEET TO EDIT)

RISK ROTATION PER ACTIVITY

	Activity	Total required work force	Rotational work force per Activity
1	Sub Structure	0	
	Excavations		0
	Foundations		0
	Floor Scream		0
	Foundation Walls		0
2	Super Structure	0	
	Brick Layers		0
	Plasters		0
	Electrical First Fix		0
	Mechanical First Fix		0
	Plumbing First Fix		0
	Carpentry First Fix		0
	Painters First Fix		0
	Roof Structure		0
			0
			0
3	Internal finishes	0	
	Carpentry Second Fix		0
	Electrical Second Fix		0
	Plumbing Second Fix		0
	Mechanical Second Fix		0
	Painters Second Fix		0
	Tilers		0
	Floor Finishes		0
4	Site Works	0	
	Back fill excavations		0
	Removal of rubble		0
	Paving		0
	Fencing		0
	Road Works		0
	Land Scaping		0

RISK ROTATION PER ACTIVITY

	Additional Activities identified	Total required work force	Rotational work force per Activity
5		0	
			0
			0
			0
			0
6		0	
			0
			0
			0
			0
			0
			0
			0
			0
			0
			0
			0
7		0	
			0
			0
			0
			0
			0
			0
			0
			0
8		0	
			0
			0
			0
			0
			0
			0
			0

COVID-19 WORKPLACE PREPARATION PROCEDURE

Contents of Workplace Preparation Procedures

No.	Description	Page
1	Purpose	15
2	Scope	15
3	Responsibility	15
4	Implementing Workplace Controls	15
5	What to do When a Person Suspected or Confirmed to Have COVID-19 has been in the Workplace	17
6	Transport	17
7	Meetings	17
8	Tracking Record Log	18
9	Training Schedule	19

1. Purpose

To reduce the risk of COVID-19 outbreak in the workplace and the impact on workers, customers and the public.

2. Scope

Applies to all employees, clients, suppliers and sub-contractors who are associated with [Company]

3. Responsibility

- Contracts Managers and Supervisors
Ensure all workers under their supervision adhere to specifics of this procedure
- COVID Manager
Coordinate the COVID Management Plan/COVID Procedure on behalf of [Company]
- HSE Officers
Develop a COVID-19 specific risk assessment, raise awareness in the workplace, conduct routine monitoring to ensure compliance and put in place corrective measures where required.
- Employees
Cooperate with supervisors by adhering to set guidelines and lawful instructions.

4. Implementing Workplace Controls

The legislation governing workplaces in relation to COVID-19 is the Occupational Health and Safety Act (Act 85 of 1993) as amended in conjunction with the Hazardous Biological Agents Regulation.

A COVID-19 specific risk assessment together with a written policy concerning the health and safety of employees shall be drawn up and communicated to all employees and mitigation Measures which needs to be monitored and adjusted should the need arise.

Workplace Controls:

- All offices (including site offices) will be sanitised before opening for business each day
- Place posters that encourage staying home when sick, cough and sneeze etiquette, and hand hygiene at the entrance of offices and sites.
- On-site induction with special emphasis on COVID-19 will be done with all employees upon return to work.
- Provide tissues and waste bins lined with a plastic bag so that they can be emptied without contacting the contents
- Instruct employees to clean their hands frequently, using soap and water for at least 20 seconds or with an alcohol-based hand sanitizer that contains at least 70% - 95% alcohol.
- Continue routine environmental cleaning, which includes tools and equipment.
- Increase ventilation in offices by natural or mechanical means
- Provide soap and water and/or alcohol-based hand rubs (at least 70%) in the workplace in multiple locations and in common areas to encourage hand hygiene.

- Practice social distancing (2m) as far as possible (no handshakes, hugs, kissing, horseplay or touching each other). Keep distance from each other while working on site. Supervisors will monitor this throughout the day.
- While queuing at the gate to enter the site, employees must stand in a line, with at least 2m between them.
- Desks for employees working in the office (site office) will be spaced at least 1.5m apart, or placement of one person per office will be implemented.
- It is compulsory to wear face masks at all times. Each employee will be issued with two cloth face masks to wear at work and while commuting, with appropriate training on the use of these masks. Arrangements will be made for the washing, drying and ironing of cloth masks.
- Temperature testing will be done on all employees every morning upon arrival to site, and also randomly during the day. All readings will be recorded, monitored and sent to the SHEQ department. The testing will be conducted by the site safety officer. On sites where a full-time safety officer is not available, the responsibility will fall onto the supervisor.
- During the temperature screening, employees will be screened for any additional symptoms such as body aches, loss of smell or taste, nausea, vomiting, diarrhea, fatigue, weakness or tiredness. The results will be recorded in the Social Distancing Control Sheet and send to the SHEQ department. If an employee displays any of the symptoms, he will not be permitted to enter the site/offices.
- In addition to posters, brief employees and sub-contractors that anyone with a mild cough or low-grade fever (37.3 or more) needs to stay at home and take sick leave.
- Any employee who develops flu-like symptoms (i.e. cough, shortness of breath, fever) or any of the additional symptoms should inform his supervisor immediately.
- Where practical, the minimum number of employees will be allowed on site, and rotation staggered working hours and shift work may be implemented. Promote working from home for employees who are able to do so.
- All visitors to site will undergo induction and temperature screening and must be in possession of the appropriate PPE (i.e. face mask) prior to being allowed access to site. No access will be granted to visitors not complying.
All visitors will be required to sanitize their hands before entering the site as well as when they leave.
- Sub-contractors shall ensure that all of their employees are issued with face masks and any other necessary PPE, and that hand sanitizer and soap is available for their employees. Temperature testing will be done by [Company] and records kept. Failure to do so will result in the sub-contractor employee/s being put off-site until compliant.
- A copy of the Essential Service Permit must be available on site at all times. All sub-contractors to provide a copy of their Permit prior to being granted permission to work.
- All employees are obliged to comply with measures introduced in the workplace.

5. What to do When an Employee on site becomes ill with COVID-19

If someone becomes ill in the workplace and there is reason to suspect they may have contracted or come into contact with someone who has contracted the COVID-19 virus, the person must be isolated immediately, provided with a FFP1 surgical mask, and transport arranged for the employee to go home to be self-isolated or for medical examination. Ensure testing is done at an identified testing site.

The Department of Health and Department of Labour will be informed of any employees testing positive for COVID-19, where after an investigation will be conducted to establish the cause, including any control failures. The risk assessment will be reviewed to ensure necessary controls and PPE is in place.

The risk of transmission will be assessed, the employees working area disinfected.

If an employee is confirmed to have COVID-19, his/her fellow employees will be informed of their possible exposure to COVID-19 in the workplace and referred for screening, but confidentiality must be maintained at all times, and no discrimination shown toward an employee who tested positive for COVID-19.

If evidence exist that the employee contracted COVID-19 as a result of Occupation Exposure, a Claim for Compensation will be lodged in terms of the Compensation of Occupational Injuries and Diseases Act 1993 (Act No. 130 of 1993) in accordance with Notice 193 published on 3 March 2020.

Once an employee was positively diagnosed with COVID-19 and isolated in accordance with the Department of Health Guidelines, the employee may only return to work after he has undergone a medical evaluation confirming the employee has tested negative for COVID-19. The employee will be required to wear a face mask, maintain social distancing and adhere to cough and sneeze etiquette. The employee will also be monitored for symptoms upon his/her return to work.

6. Transport

- Where transport is provided, occupancy of the vehicle should be reduced in line with social distancing practice.
- All passengers must wear face masks or respirators.
- All passengers to sanitize their hands before getting into the transport, as well as when disembarking.
- Transport vehicles should be sanitized before and after each trip.
- Employees making use of public transport to ensure they wear face masks and sanitize their hands regularly (before getting into the transport and when disembarking). Attempt to not touch any surfaces unless absolutely necessary.

7. Meetings

Wherever possible, meetings to be held via tele or video conference in order to maintain social distancing and prevent the possible spread of COVID-19.

Toolbox talk meetings, inductions and briefing sessions should be done in open areas with social distancing in place.

8. Tracking Record log (Employees/Visitors)

[illegible]

9. Training Schedule (Employees)

Training Attendance Register

Training Description:		Session No

Date of training	
------------------	--

Time training started		Time training ended	
-----------------------	--	---------------------	--

Duration of training	
----------------------	--

Instructor name and signature	
-------------------------------	--

Training provided (Tick applicable box)			
Read only	Class Room	Practical Demonstration	Communicated Changes

Employee number	Employee name	Employee signature <i>(Signature indicates acknowledgement that training was understood)</i>	Type of training received

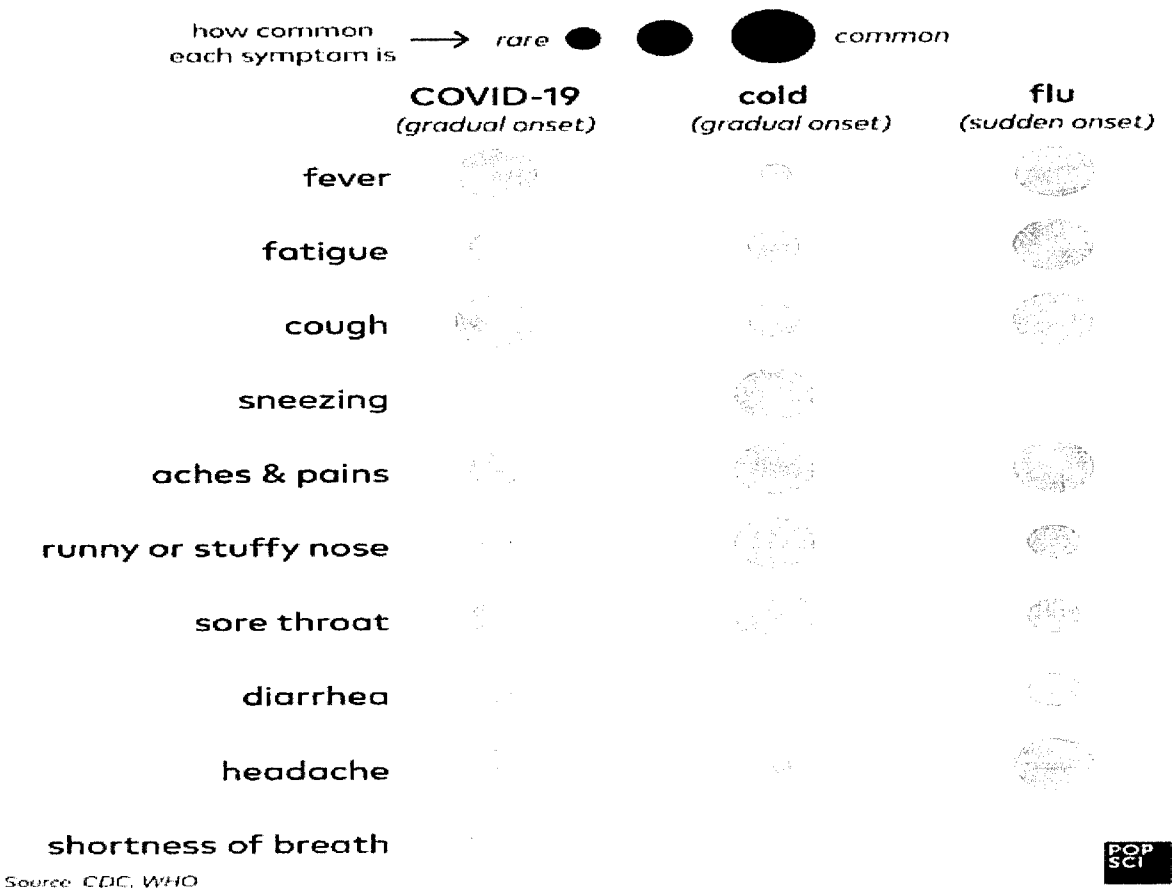
Coronavirus Policy

The Occupational Health and Safety Act clearly dictates to employers that they need to ensure a working environment that is healthy and safe for all employees. In this regard, [Company] is therefore obligated to ensure that it always looks after its employees' well-being whilst the employees are at the workplace. [Company] will identify medical facilities in the area of operations that are best suited to evaluate and treat any employee that is suspected of having the virus.

Symptoms:

- Coughing
- Fever
- Shortness of Breath
- Pneumonia
- Vomiting
- Diarrhoea
- Sever pneumonia
- Kidney Failure

Is it coronavirus, or is it something else?



Transmittal of the Virus:

- Direct contact
- Droplets from patient's coughing and sneezing
- Contact with patients' belongings followed by touching your mouth or nose.

Protecting Yourself:

- Avoid contact with others, and wash your hands frequently
- Maintain good hygiene habits
- Wear a face mask when infected and when dealing with infected patient
- Use tissues when coughing or blowing nose
- Wash and prepare food carefully
- Exercise and proper sleep will bolster the immune system

Should you display any of the Symptoms:

- Stay home and inform your supervisor telephonically of your absence.
- Obtain medical attention.
- Employees should follow the guidance as provided by the Department of Health and inform public authorities promptly.
- The Basic Conditions of Employment Act (BCEA). Section 22 thereof stipulates the period to which an employee is entitled to sick leave. Generally, an employee is entitled to 30 days sick leave during a 36 month or three-year cycle, following commencement of employment. Section 23 of the BCEA stipulates that should the employee be absent for a period longer than two consecutive days or be absent on more than two occasions during an eight-week period, the employer is not obliged to pay that employee their sick leave benefit unless that employee provides a valid medical certificate citing the reason for the incapacity during that period. Such a medical certificate must be issued and signed by a registered medical practitioner.
- If an employee is placed in compulsory quarantine and produces a valid medical certificate to that effect, the employer must deduct such period of absence from the employee's current sick leave cycle and also pay the employee the equivalent of the remuneration they would have received during this period. Should the employee have exhausted their sick leave allotment at the time of being placed in quarantine then, the employer may deduct this period either from the employee's annual leave or may choose to classify the absence as unpaid leave. In this regard, the employee may claim remuneration in terms of S20 of the Unemployment Insurance Fund (UIF) Act.
- If an employee chooses to voluntarily quarantine themselves on approval by his/her Manager, by staying at home to avoid contracting the virus, then this period of absence will not qualify as sick leave. Such period of absence will be taken out of the employees' normal leave cycle and if that employee no longer has any leave entitlement, then this period may be taken as unpaid leave.
- Should the employer reduce working hours as a consequence of the COVID-19 virus, then employees are entitled, as per Section 12 of the UIF Act to claim remuneration from the Fund if the reduction of hours or "unemployment" lasts longer than fourteen (14) days.
- An instance may arise whereby an employer seeks an employee to be placed in quarantine due to the employee having been in contact with an individual who has been diagnosed with the virus or perhaps

the employee has recently travelled overseas to an affected area or perhaps the employee presents with symptoms similar to those associated with the COVID-19. During such absence imposed by the employer, should the employee be diagnosed with the virus and the employee presents a valid medical certificate to that effect, the employer may treat such absence as sick leave. Due to the operational requirements, the employer may assign tasks to the employee which they can then carry out at home or at their chosen site of quarantine should the employer deem it necessary for their employees to be quarantined. If the employees render services from home during this period, they will be entitled to their normal remuneration, and no leave may be deducted.

- Should an unlikely scenario arise whereby The State declares that schools and businesses are to be closed because of the virus, then such an instruction would be through no fault of the employer. After receiving such instruction, employers should consult with their employees and discuss an appropriate way to deal with the shut-down. If the operational requirements of the employer permits, then perhaps the time during which the business is closed can be seen as annual leave. Or, if the employer implements a system of working from home, then this work will be with pay.
- In the case of a positive outcome for the Coronavirus, the site where the affected employee is from will be closed and the rest of the employees will be tested and quarantined.

The most important thing to do is stay calm, carry on as usual and exercise good personal hygiene habits.

10. COVID-19 Case Reporting Template

Reporter Name

First Name

Last Name

Reporter Phone
Number

Area Code

Phone Number

Reported Name

First Name

Last Name

Reported Phone
Number

Area Code

Phone Number

Report Date & Time

Date

Hour

Minutes

When did you first
Suspect?

Date

Hour

Minutes

Why are you reporting this person?

- ☐ Coughing
- ☐ Fever
- ☐ Having shortness of breath
- ☐ Feeling persistent pain or pressure in the chest
- ☐ Having confusion or inability to arouse
- ☐ Just came from abroad, carrying highly risk of COVID-19

Comments



public works
& infrastructure
Department
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

Addendum to the health and safety specification document.

COVID-19 pandemic

Site Name:

Date:

Principal Contractor Name:

Contractor Name:

COVID-19 should not be allowed to destroy the construction sector, or our income in this sector. We are committed to working with government and the private sector towards ensuring that returning to work will achieve the envisioned economic prosperity for all employees and the country as a whole.

You are going to start working on the site as soon as it is allowed by Government. That means you must have a Covid - 19 management plan that form part of your health and safety plan, as an addendum, in your safety file. The Covid - 19 management plan must be developed by a competent person.

Your Covid - 19 management plan must be site specific and practically viable and must cover this sites anticipated areas where infections are likely to occur on your site area. All persons in your employ on site must be trained in your Covid - 19 management plan. The attendance register for the training must be attached to the Covid - 19 management plan.

Your CEO and site management must endorse (sign) the Covid - 19 management plan.

The Regulation that govern your Covid - 19 management plan have not been promulgated yet. We are however being pro-active in this regard. If and when the Regulations are promulgated and published in the Government Gazette, we will amend this addendum to correspond with the Regulations. We do not foresee major changes in the draft Regulations.

Your Covid - 19 management plan must contain at least the following:

- a. A schematical drawing of the actual workarea and where the actual work will be performed.
- b. Health Risk Assessment:
 - i This risk assessment must form part of your management plan. We do not want it as a separate document. It must physically form part of the Covid - 19 management plan. Bind it within the plan document.
 - ii Different areas in the workplace might require different methods of safeguarding the employees. In that case specify the area and determine the risks and mitigating measures of that specific area.
- c. What are the symptoms and how to identify them in the workplace?
- d. Screening of workers. How will it be done and when?
- e. If someone is suspected of having the Covid -19 virus, what will the procedure be?
- f. If an employee suspects that he/she has contracted the virus, what would the procedure be?

- g. What PPE will be issued and when?
- h. Quarantine:- self quarantine, forced quarantine, what will your procedure and policy be?
- i. Working from home guidelines. (When, who, etc.)
- j. Safe travelling to and from work.
- k. How will you safeguard meetings? Precautions during meetings?
- l. Hygiene in the workplace:

This specs was developed for Construction sites.

Page 2

- i. Disinfecting workplace, tools, facilities, etc.
- ii. Disinfecting hands and bodyparts.
- iii. Methods of disinfecting that will be used.
- iv. What type of disinfectant?
- m. Physical contact. (Control, who, when, etc.)
- n. Training of employees
- o. Cross Provincial border travel of employees.
- p. Keeping record and communicating vital information of cases detected on site.
- q. Visitors to the site.
- r. Social distancing on site.
- s. Employee awareness program.
- t. Regularly cleaning common contact surfaces on site?
- u. How will you treat drivers that deliver to site?
- v. Handwashing facilities. (Where, when, how many, type, etc)
- w. Provision and disposal of hand towels.
- x. Cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush.
- y. Portable toilet hygiene.
- z. Break times, how will you reduce congestion and contact?
- aa Hygiene at water drinking stations.
- ab Tracing of infected employees.
- ac Your weekly Covid - 19 reports that must be submitted to the Client.
- ad Congestion at the workplaces.
- ae Consequence of not adhering to the Covid - 19 management plan, the risk assessment and the policy.
- af You must develop a Covid - 19 Policy.
- ag How will you manage your contractors on site regarding the Covid - 19?

The required document must be submitted to DPW Consultants/Projectmanagers/OHS Managers. We will issue a letter of approval if all the requirements in this addendum to the health and safety plan, have been met. Please note that these requirements are minimum requirements only and all of the items must be addressed in your Covid - 19 management plan, risk assessment and Covid - 19 policy document.

The index to your Covid - 19 File should contain at least the following:

- | | |
|-------------------------------------|------------------------------------|
| 1 Covid - 19 Management plan | 7 Toolbox Talks |
| 2 Covid - 19 Risk Assessment | 8 Safe Work Procedures |
| 3 Covid 19 Policy | 9 Checklists |
| 4 Employee Screening declarations | 10 Training Material |
| 5 PPE Issue Register | 11 Posters |
| 6 Compliance Employees Appointments | 12 Compliance Officer Appointments |

I herewith my signature confirm that I have received this Covid - 19 specification document.

This specs was developed for Construction sites.



public works & infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

DECLARATION – EPWP PROGRAMME

I _____ from company

Hereby Undertake To Comply To:

1. LABOUR INTENSIVE CONSTRUCTION METHODS (LIC)

1.1 Comply With Implementation Of LIC BOQ Items Specified Elsewhere In The Tender Documents.

2. RECRUITMENT AND PLACEMENT OF LOCAL LABOURERS

2.1 Recruitment And Placement Of minimum 2 (Two) Local Labourers

2.2 Comply With Applicable Wage Order/Determination or Agreement, In Terms of Labour Relations Act or Wage Act

3. COMPLY TO EPWP MONTHLY REPORTING REQUIREMENTS

Monthly prepare and submit below EPWP reports attached to monthly payments certificate:

3.1 All Employees and EPWP Participants Contracts

3.2 All Employees and EPWP Participants Certified SA ID Copies

3.3 All Employees and EPWP Attendance Register

3.4 All Employees and EPWP Proof of Payment

3.5 EPWP Reports Populated on Standard Templates

4. PENALTIES FOR NON COMPLIANCE

Acknowledge Non Compliance Penalty of 20% of the value of the works on items where unauthorised use of plant was used to carry out work which was to be done labour-intensively.

Signed by : _____
Director of the Company

Company name : _____

Date: : _____

C4 Site Information



PG-03.1 (EC) SITE INFORMATION – GCC (2010) 2nd Edition 2010

Project title:	<i>Ficksburg Magistrates Office: Upgrading of DB and electricity. Installation of eight (8) air conditioner split units and back-up generator to the existing building: Department of Justice and Constitutional Development</i>			
Tender no:	<i>BL23/009</i>	WCS no:		Reference no: <i>14/1/7/1/18/6718</i>

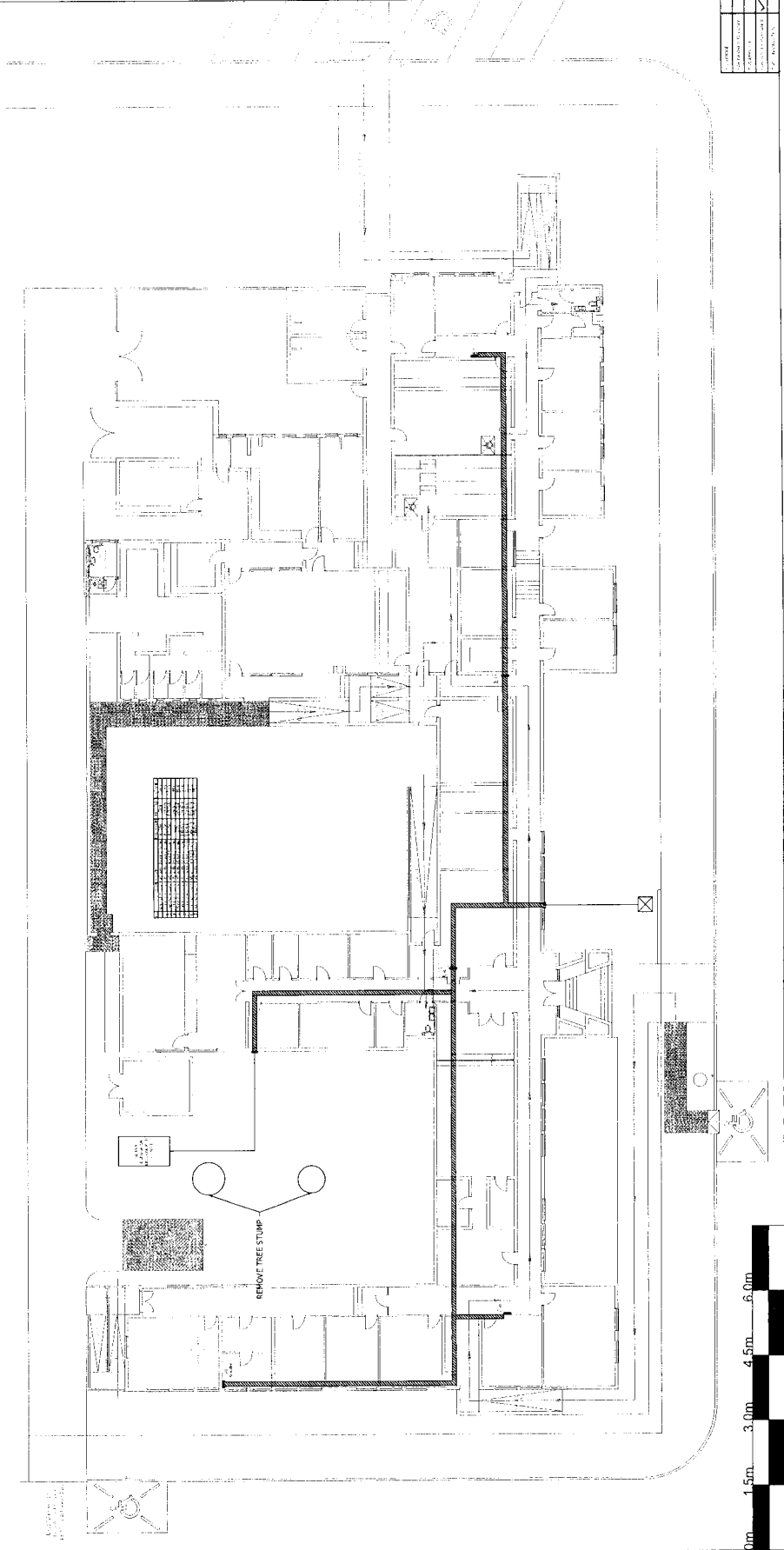
C4 Site Information

FICKSBURG MAGISTRATE COURT IS LOCATED AT (LAT: -28.871057, LONG: 27.873863)

THE SITE IS SURROUNDED BY A STEEL FENCE. THE BUILDING IS FAIRLY RESISTRICTIVE IN TERMS OF LARGE VEHICLE PARKING ON THE OUTSIDE OF THE PREMISES AS THREE SIDES OF THE BUILDING IS SURROUNDED BY PUBLIC ROADS AND THE FOURTH SIDE BY A POLICE STATION. THERE IS A SMALL VEHICLE PARKING HOWEVER. THERE ARE ALSO TREE STUMPS ON THE PREMISES THAT MUST BE REMOVED BEFORE INSTALLING THE GENERATOR. THE BUILDING IS OLD AND CARRIES A HERITAGE STATUS, THEREFORE THERE SHALL BE NO DRILLING OF HOLES INTO WALLS, ETC WITHOUT APPROVAL FIRST AS MOST OF THE EQUIPMENT IS TO BE REPLACED IN THE SAME POSITION. THERE IS A VEHICLE ENTRANCE INTO THE BUILDING IN WHICH THE GENERATOR CAN BE BROUGHT IN BUT THIS MUST BE CONFIRMED BY THE CONTRACTOR BEFORE DELIVERY.

DRAWINGS

SYMBOL DESCRIPTION	
	EXISTING MUNICIPAL ROAD
	DISTRIBUTION BOARD
	PIPE SLEEVE ENTRY TO CABLE TRAY
	JOHNSON CABLE TRAY
	100MM DIAMETER SLEEVE IN TRENCH



NO. DATE	REVISION	DATE	BY
1	PRELIMINARY DESIGN		

NOTES
1. TREE STUMPS TO BE REMOVED BEFORE FINAL CONSTRUCTION.

Copyright vests in the
Department of Public Works and Infrastructure
as-built drawings
certified as-built drawings as per Controlled Drawing
Archives AS-BUILT DRAWING REQUIREMENTS

Name: _____
date: _____
professional
signature: _____
date: _____

Client: **dojvco**
Department of Justice and Correctional Services
REPUBLIC OF SOUTH AFRICA

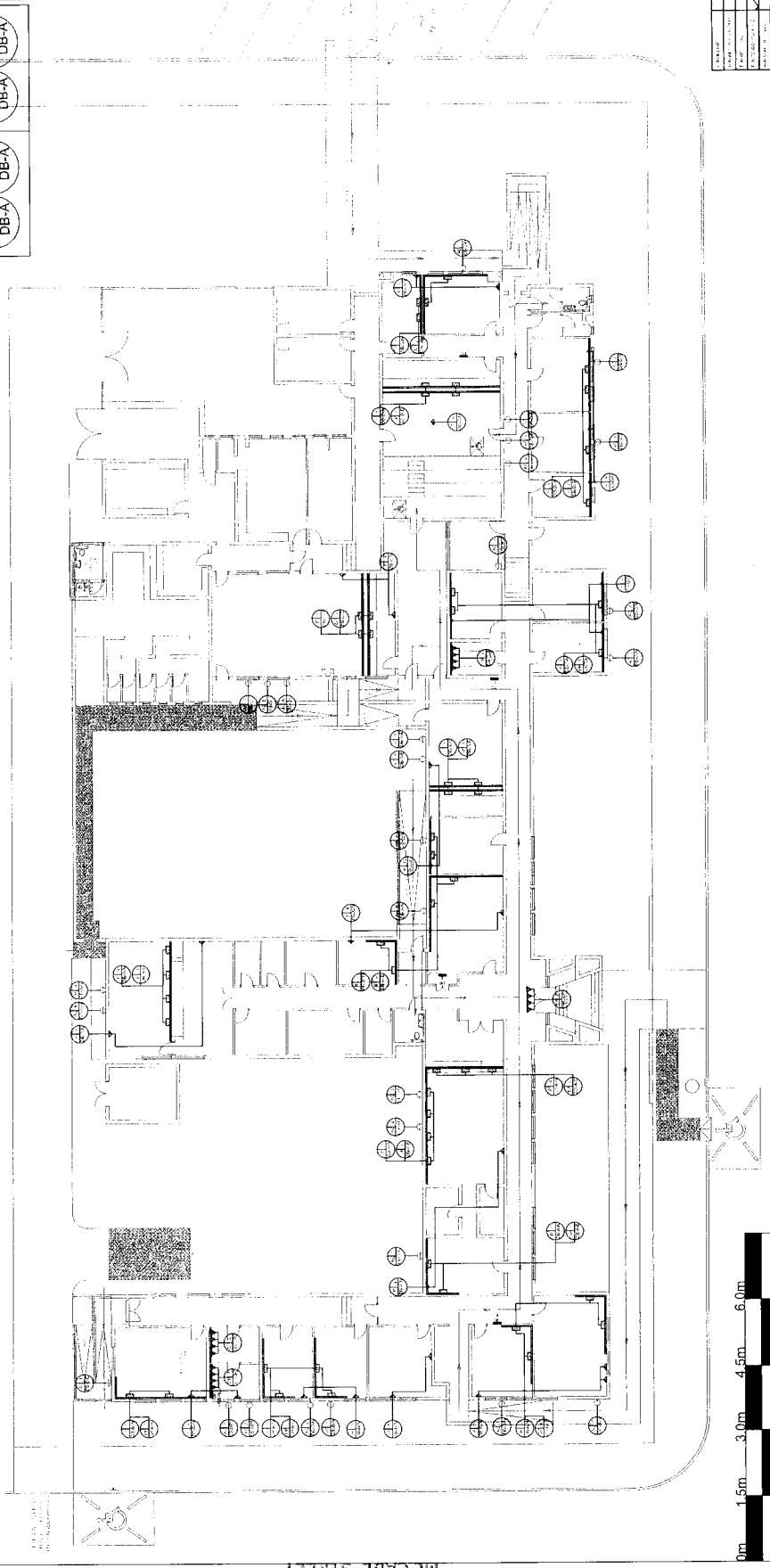
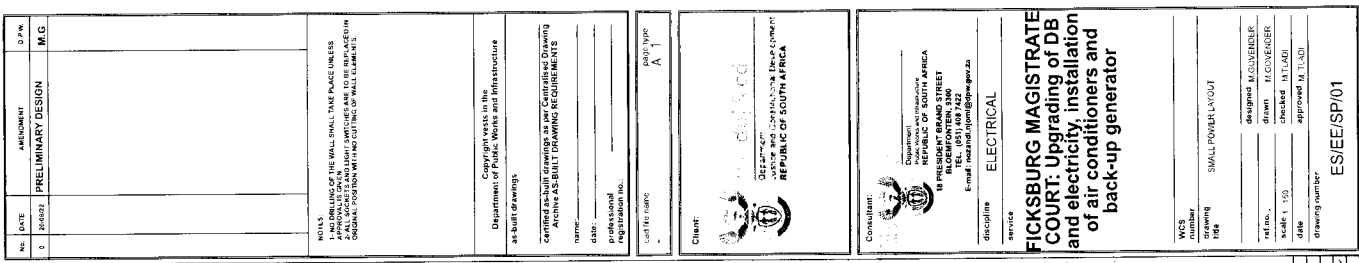
Consultant: **dojvco**
18 PRINCE ALBERT STREET
FLORENCE PARK
TEL: (051) 488 7423
Email: info@dojvco.co.za

discipline: **ELECTRICAL**
service: **ELECTRICAL**

WCS number: _____
drawing title: **SITE LAYOUT**

designed by: G. G. G. G.
drawn by: M. G. G. G.
checked by: M. G. G. G.
approved by: M. G. G. G.

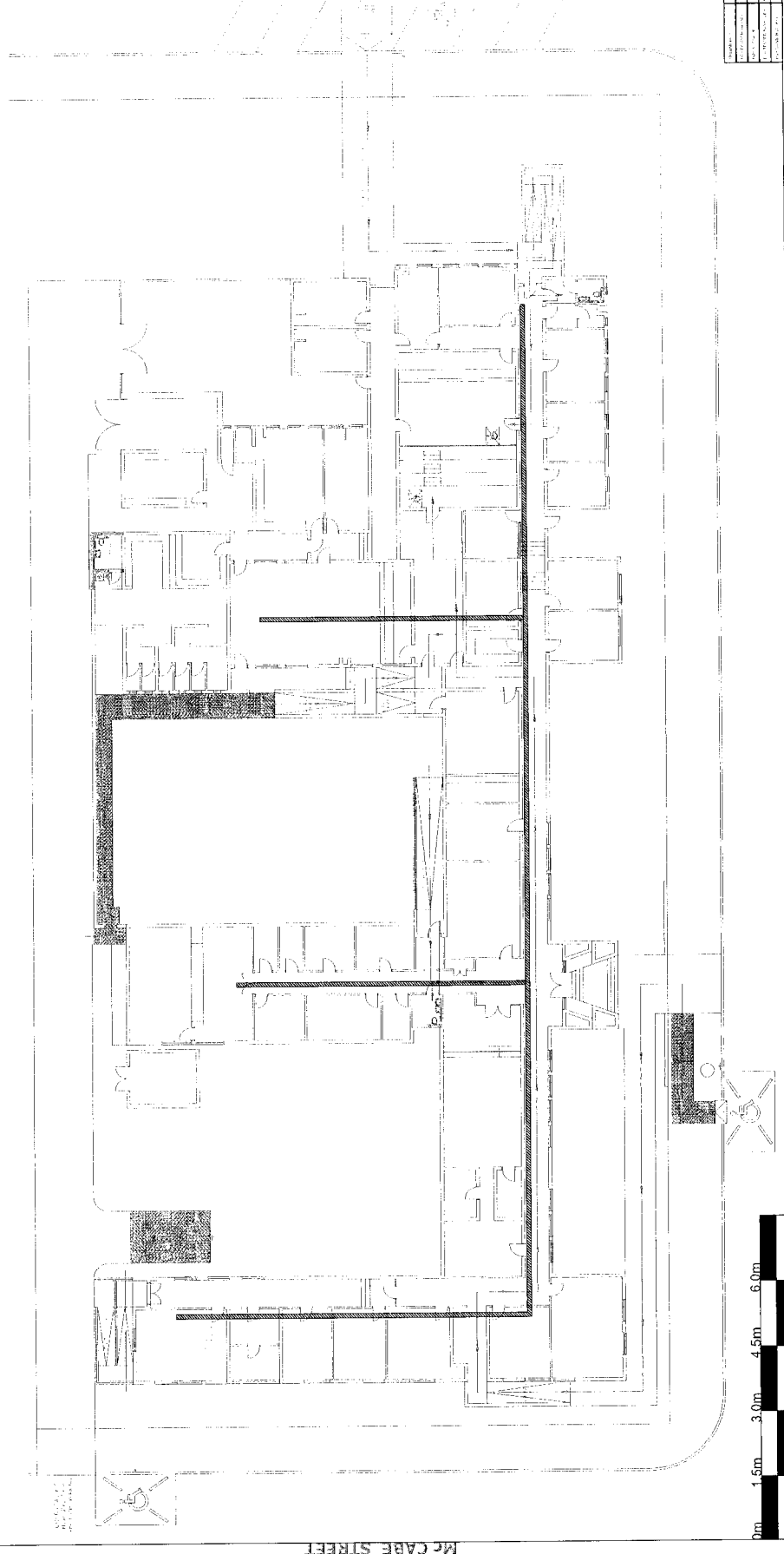
drawing number: **ES/EE/SU/01**



SYMBOL DESCRIPTION	
□	RECEPTACLE, BREAK-GLASS UNIT, 300x150x60mm ELEM. OUTLET BOX WITH 200mm STEEL CONDUIT WITH 25mm WIRE LINED TO EACH ONE
○	NOTICE OF DETECTION, 150x150x60mm ELEM. OUTLET BOXES INTERCONNECTED WITH 200mm STEEL CONDUIT AND 25mm WIRE LINED TO EACH ONE
○	RE-ENTRY POINT, 150x150x60mm ELEM. OUTLET BOXES MOUNTED IN POSITIONS AS SHOWN AND INTERCONNECTED WITH 200mm STEEL CONDUIT AND 25mm WIRE LINED TO EACH ONE
⌋	ADVISABLE AND VISUAL, SMOKE-OUTLET BOXES AND CONDUIT AS FOR SMOKE DETECTION
—	200x200x100mm ELEM. OUTLET BOX WITH 150x75mm STEEL CONDUIT AND 25mm WIRE LINED TO CEILING VOID TO EACH ONE AS SHOWN
	200x200x100mm ELEM. OUTLET BOX WITH 150x75mm STEEL CONDUIT AND 25mm WIRE LINED TO CEILING VOID TO EACH ONE AS SHOWN
	200x200x100mm ELEM. OUTLET BOX WITH 150x75mm STEEL CONDUIT AND 25mm WIRE LINED TO CEILING VOID TO EACH ONE AS SHOWN

McCARRE STREET

SYMBOL DESCRIPTION		
	420MPa/200M GALVANISED STEEL - TRUNKING FOR POWER	
	420MPa/200M GALVANISED STEEL - TRUNKING FOR DATA CABLES	



No.	DATE	REVISION	D.W.
0	2009/02	PRELIMINARY DESIGN	M.G.

NOTES:
1. NO INSULATING OF THE WALL SHALL TAKE PLACE UNLESS APPROVAL IS GIVEN

Copyright vests in the
Department of Public Works and Infrastructure

as-built drawings

certified as-built drawings as per Contracting Drawing
ACTIVE AS-BUILT DRAWING REQUIREMENTS

name: _____
date: _____
professional registration no.: _____
can be done: _____
good type: A 1

Client:

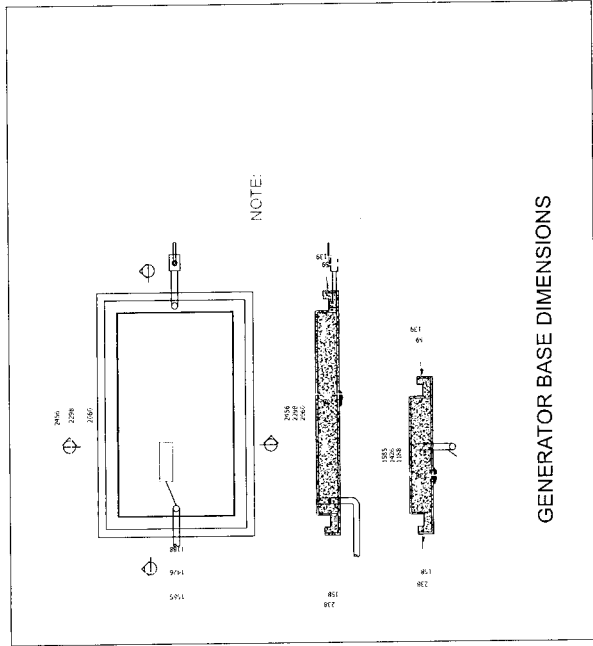
Consultant:
Department of Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA
18 PRESIDENT BRAND STREET
JOHANNESBURG 2001
TEL: 011 400 7427
Email: maband@dpw.gov.za

Discipline: ELECTRICAL

Service: FICKSBURG MAGISTRATE COURT: Upgrading of DB and electricity, installation of air conditioners and back-up generator

NCS number: _____
drawing title: TRUNKING LAYOUT

designed: M.G. (M.G.)
drawn: M.G. (M.G.)
scale: 1:50
checked: M.G. (M.G.)
date: _____
approved: M.G. (M.G.)
drawing number: ES/EE/TU/01



DANGER

THIS MACHINE
STARTS
AUTOMATICALLY

DANGER

ELECTRICAL
EQUIPMENT
AUTHORIZED
PERSONNEL ONLY

DANGER
GEVAAR
INGOZI

ELECTRIC SHOCK TREATMENT

BEFORE ATTEMPTING ANY RESUSCITATION, ALWAYS BRING YOUR OWN SAFETY

- DO NOT TOUCH CASUALTY'S HEAD OR FACE. HANDS WILL BE IN CONTACT WITH THE LIVE WIRE.
- IF YOU ARE IN CONTACT WITH THE LIVE WIRE, SWITCH OFF CURRENT IF POSSIBLE.
- IF YOU ARE NOT IN CONTACT WITH THE LIVE WIRE, USE A WOODEN STICK OR A THICK POLYMER BLANKET OR COAT WOOD OR THICK POLYMER BLANKET OR COAT CASUALTY OR YOUR HANDS WITH THE SAME.

SEND FOR MEDICAL ASSISTANCE

- DO NOT GIVE STIMULANTS UNLESS ORDERED BY A DOCTOR.
- DO NOT GIVE FOOD OR DRINK TO THE CASUALTY.
- DO NOT GIVE MEDICINE TO THE CASUALTY.
- IF PATIENT IS BREATHING, KEEP HIM WARM, COVER WITH BLANKET OR POLYMER BLANKET OR COAT.
- IF PATIENT IS NOT BREATHING, LOOK FOR ANY OBSTRUCTION WHICH MAY BE IN HIS MOUTH.

TREATMENT

PERFORM MOUTH-TO-MOUTH ARTIFICIAL RESPIRATION. A THIN HANDKERCHIEF MAY BE PLACED OVER THE CASUALTY'S MOUTH OR NOSE IF DESIRED.

- PLACE THE CASUALTY ON HIS BACK AND SIT ON KNEEL ON THE SIDE OF HIS HEAD. HOLD THE HEAD IN HANDS. ONE HAND SHOULD BE ON THE CASUALTY'S FOREHEAD AND THE OTHER ON THE CASUALTY'S JAW. PULL THE JAW UPWARD AND FORWARD. THIS IS IMPORTANT TO ENSURE AN UNRESTRICTED PASSAGE TO THE CASUALTY'S LUNGS.
- PINCH THE CASUALTY'S NOSE CLOSED WITH ONE HAND.
- TAKE A DEEP BREATH, OPEN YOUR MOUTH WIDE AND SEAL YOUR LIPS AROUND THE CASUALTY'S MOUTH. BLOW AIR STRAIGHT ON TO THE CASUALTY'S LUNGS UNTIL HIS CHEST RISES.
- REMOVE YOUR MOUTH AND TURN YOUR BACK TO ONE SIDE TO TAKE ANOTHER BREATH. THE CASUALTY WILL AUTOMATICALLY BREATHE OUT THROUGH HIS MOUTH.
- SEE BREATHING SHOULD BE GIVEN AS SUCKLY AS POSSIBLE. TURN HEAD AT THE SIDE AT 2 SECOND INTERVALS. KEEP PATIENT'S HEAD FLAT ON THE GROUND.

No.	DATE	REVISION	D.P.W.
1	20/02/22	PRELIMINARY DESIGN	M.G.

NOTES:	
Copyright vests in the Department of Public Works and Infrastructure	
as-built drawings	
CABLES SHALL BE INSTALLED IN ACCORDANCE WITH THE ACTING AS-BUILT DRAWING REQUIREMENTS	
name	date
signature	registration no.
contract name	page type
	A 1

Client:	Republic of South Africa
Department:	Department of Public Works and Infrastructure
Address:	18 PRESIDENT BRAND STREET, BLOCK 1, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
Telephone:	011 900 1000
Facsimile:	011 900 1001
E-mail:	main@dwpe.gov.za
Website:	www.dwpe.gov.za
Project:	ELECTRICAL
Service:	

FICKSBURG MAGISTRATE COURT: Upgrading of DB and electricity, installation of air conditioners and back-up generator	
WCS number	GENERATOR BASE AND SIGNAGE
Drawing number	
Designed by	DESIGNED
Drawn by	DRAWN
Checked by	CHECKED
Scale	1:25
Date	20/02/22
Approved by	APPROVED
Signature	
Drawing number	ES/EE/GB/01



[illegible]

FACILITIES			DATE	BY
A	Pat Duggan Design		12/17/11	MEL OMRO CA
B	Pat Tammie		11/30/12	MEL OMRO UK

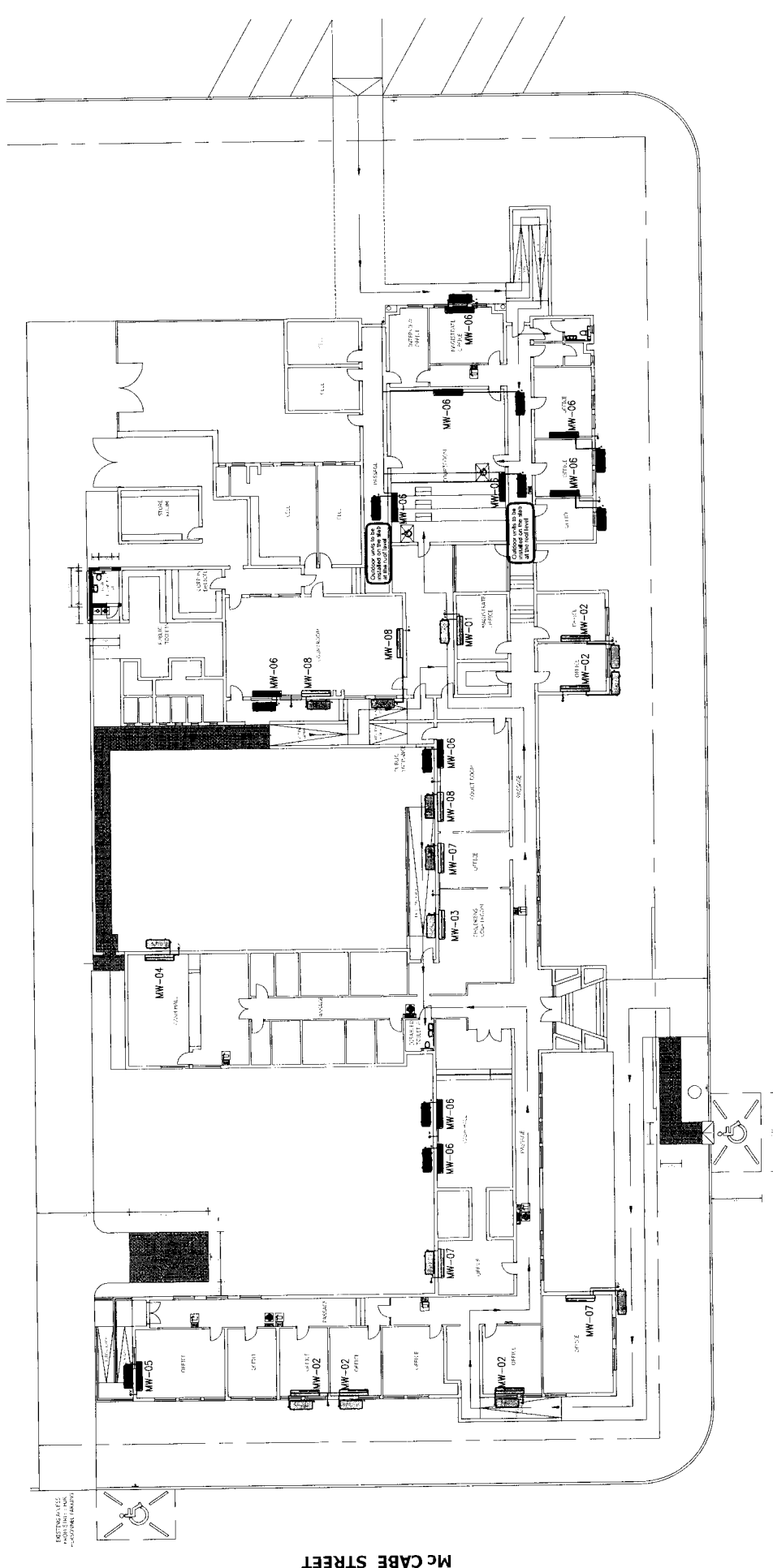
	SINGLE PHASE ISOLATOR (B1 OTHER)
	THREE PHASE ISOLATOR (B1 OTHER)
	CIRCUIT BREAKER
	UNIT CONTROLLER
	UNDERCOAT 20mm
	BALANCING DAMPER
	DISK VALVE
	MEDIUM UNIT - NEW INSTALLATION
	OUTDOOR UNIT - NEW INSTALLATION
	MEDIUM UNIT - RE-ATTACHMENT
	OUTDOOR UNIT - RE-ATTACHMENT
	MEDIUM UNIT - SERVICE
	OUTDOOR UNIT - SERVICE
	REFRIGERANT PIPES
	COMPOSITE DRAIN PIPE

1. This drawing may only be used for HVAC services.
2. To prepare the construction/working drawing, the sub-contractor must design the construction/working drawing, structural and other services design drawings in accordance with the relevant HMC specification and standards pertaining to the works and should acquaint themselves with the general arrangement of all other services and ensure that it fitting their work it will not obstruct the fitting or future maintenance of other services.
3. The drawings must be checked to the attention of the mechanical engineer before close of tender.
4. The HVAC sub-contractor is responsible for correct field dimensions, clearances and layout, quantities, fabrication increases and correct installation of all services.
5. The HMC will not be liable for all their designs providing all services necessary for safe and satisfactory operation.
6. Final size measurements must be made by the HVAC sub-contractor before construction or ordering is made to any equipment specified.
7. All specified equipment must be installed according to manufacturer's specification.
8. All HVAC equipment to be protected against vibrations by means of anti vibration mountings.
9. The sub-contractor shall be responsible for all stopcocks in walls, ceiling, doors for HVAC lines of equipment.
10. Refrigerant piping, control and electrical wiring in ceiling void to run on cable tray - supported piping and wiring to run in trunking.
11. Lifting must be done in full compliance with the relevant HMC specification and tagged and signed.

AC UNIT SCHEDULE NEW INSTALLATIONS				
TYPE MARK	TYPE	COOLING CAPACITY	HEATING CAPACITY	POWER SUPPLY (kW/VA/MV)
WAC-01	MID-WALL UNIT	2.8kW	2.8kW	1W-230V-50Hz-0.8kVA
WAC-02	MID-WALL UNIT	3.5kW	3.6kW	1W-230V-50Hz-1.5kW
WAC-03	MID-WALL UNIT	7.0kW	7.0kW	1W-230V-50Hz-1.8kW
WAC-04	MID-WALL UNIT	9kW	9.0kW	1W-230V-50Hz-1.8kW
				QTY

AC UNIT'S SCHEDULE REPLACEMENT INSTALLATIONS					
TYPE MARK	TYPE	COOLING CAPACITY	HEATING CAPACITY	POWER SUPPLY (kW/VOLTM)	QTY
MA-25	MD-WALL UNIT	4.8 kW	5.2 kW	1Ph-220V-50Hz 1.6kW	1
MA-86	MD-WALL UNIT	7.0 kW	7.4 kW	1Ph-220V-50Hz 1.6kW	10

AC UNITS SCHEDULE: SERVICING				
TYPE MARK	TYPE	COOLING CAPACITY	HEATING CAPACITY	POWER SUPPLY (kW/VOLTA)
MW-07	MID-WALL UNIT	4.8 kW	5.2 kW	1ph-230V-50Hz/1.6kW
MW-08	MID-WALL UNIT	7.0 kW	7.4 kW	1ph-230V-50Hz/2.6kW



VOORTREKKER STREET

CREATING ISSUES FOR	
1. <i>What's the story?</i>	
2. <i>What's the problem?</i>	
3. <i>What's the solution?</i>	
4. <i>What's the impact?</i>	
5. <i>What's the next step?</i>	
6. <i>What's the conclusion?</i>	
7. <i>What's the next step?</i>	

[illegible]

NAME _____
ADDRESS _____
CITY _____
STATE _____
ZIP _____
PHONE _____
E-MAIL _____
SIGNATURE _____
DATE _____

[illegible][illegible]