

# public works & infrastructure

# Department: Public Works and Infrastructure REPUBLIC OF SOUTHAFRICA

#### **BID DOCUMENT**

PROJECT DESCRIPTION: TONGA MAGISTRATE COURTS: REPAIRS AND UPGRADE OF ROOFTOP PACKAGE UNITS AND DUCTING.

BID NO:	NST 25/017
Closing Date: Closing Time:	27 January 2026 11h00
Bid Briefing Meeting Date:	2026/01/12
Bid Briefing Meeting time:	11h00
Tenderers CSD No:	
Name of the Tenderer:	
Bid Box Address 8i7 Nedbank Building 30 Brown street	

SCM SPECIFIC ENQUIRIES:

Enquires: AYANDA MKONZA

Tel No: 013 753 6318 during office hours

Cell No: 0734501233

Nelspruit 1200

Email Address: Indicate Email

**TECHNICAL / PROJECT SPECIFIC ENQUIRIES** 

Enquires:

**PORTIA KADIAKA** 

Tel No:

013 753 6355/77 during office hours

Cell No:

072 137 6977

Email Address:

MMAPHETOA.KADIAKA@DPW.GOV.ZA



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#### **SUMMARY OF BID INFORMATION**

Bid Number	NST 25/017	
Bid/ Project Description	TONGA MAGISTRATE COURT PACKAGE UNITS AND DUCTING	S: REPAIRS AND UPGRADE OF ROOFTOP
Bid Closing date & Time	Tuesday, 27 January 2026	Closing Time: 11h00
Bid Briefing Date & Time (If applicable)	Date of Bid Briefing (if any) 2026/01/12	Time of Bid Briefing (if any) 11h00
Venue	TONGA MAGISTRATE	
SCM SPECIFIC	AYANDA MKONZA	Indicate Email
ENQUIRIES:	013 753 6355/18	AYANDA.MKONZA@DPW.GOV.ZA
TECHNICAL / PROJECT	PORTIA KADIAKA	MMAPHETOA.KADIAKA@DPW.GOV.ZA
SPECIFIC ENQUIRIES	0137536377	072 137 6977
Bid Validity Period	84 CALENDER DAYS	
Bid Document Price	R 200.00	
Procurement Plan Reference Number	1561	



#### PA 32: INVITATION TO BID

#### **PART A**

YOU ARE HEREBY INVITED	TO BID FOR REQUIREMENTS		NAME OF	DEPAR	RTMENT/ PUBLIC	ENTITY)
BID NUMBER: NST 25/017		Tuesday, January 20	27 )26	CLOS	ING TIME:	11h00
DESCRIPTION TONGA MA	AGISTRATE COURTS: REPAIR	S AND UP	GRADE O	F ROOF	TOP PACKAGE U	NITS AND DUCTING.
THE SUCCESSFUL BIDDER GS).	WILL BE REQUIRED TO FIL	L IN AND	SIGN A W	RITTEN	CONTRACT FOR	RM (DPW04.1 GS or DPW04.2
BID RESPONSE DOCUMEN THE BID BOX SITUATED AT	TS MAY BE DEPOSITED IN (STREET ADDRESS)					
7.						
Bar I						
OR POSTED TO:						
NEW Y						
SUPPLIER INFORMATION	1					
NAME OF BIDDER						
POSTAL ADDRESS						
STREET ADDRESS						
TELEPHONE NUMBER	CODE		NUN	/IBER		
CELLPHONE NUMBER						
FACSIMILE NUMBER	CODE		NUN	/BER		
E-MAIL ADDRESS						
VAT REGISTRATION NUMBER						
	TCS PIN:	C	OR CSI	) No:		
Signature of Bidder			Date			
CAPACITY UNDER WHICH THE BID IS SIGNED (Attached proof			Jale			
of authority to sign this bid (e.g. resolution of Directors, etc.)						
TOTAL NUMBER OF ITEMS OFFERED		(/	OTAL BID ALL INC AXES)	PRICE LUSIVE	R	
BIDDING PROCEDURE ENG	HIDIES MAY DE DIDECTED					
TO:	OIRIES MAT BE DIRECTED	TECHNIC	CAL INFO	RMATIC	N MAY BE DIREC	CTED TO:
DEPARTMENT/ PUBLIC ENTITY	PUBLIC WORKS & INFRASTRUCTURE	CONTAC	T PERSO	N	PORTIA KAD	AKA
CONTACT PERSON	AYANDA MKONZA	TELEPH	ONE NUM	BER	Landline num	ber
TELEPHONE NUMBER	Landline number	FACSIMI	ILE NUMB	ER		
FACSIMILE NUMBER		E-MAIL A	ADDRESS		MMAPHETO	A.KADIAKA@DPW.GOV.ZA
E-MAIL ADDRESS	Email1@dpw.gov.za	CELL NU	JMBER		072 137 697	7

Email1@dpw.gov.za

BID NO: NST 25/017



# PART B TERMS AND CONDITIONS FOR BIDDING

#### 1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED-(NOT TO BE RE-TYPED) OR ONLINE
- 1.3. BIDDERS MUST REGISTER ON THE CENTRAL SUPPLIER DATABASE (CSD) TO UPLOAD MANDATORY INFORMATION NAMELY: (BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS; AND BANKING INFORMATION FOR VERIFICATION PURPOSES).
- 1.4. WHERE A BIDDER IS NOT REGISTERED ON THE CSD, MANDATORY INFORMATION NAMELY: (BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS MAY NOT BE SUBMITTED WITH THE BID DOCUMENTATION.

#### 2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.
- 2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE PROOF OF TCS / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

3.	QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS	
3.1.	IS THE BIDDER A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?	☐ YES ☐ NO
3.2.	DOES THE BIDDER HAVE A BRANCH IN THE RSA?	☐ YES ☐ NO
3.3.	DOES THE BIDDER HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	YES NO
3.4.	DOES THE BIDDER HAVE ANY SOURCE OF INCOME IN THE RSA?	YES NO
	HE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN, IT IS NOT A REQUIREMENT TO OBTAIN A TUS / TAX COMPLIANCE SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (	
	ISTER AS PER 2.3 ABOVE.	o, () / ()

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID. AN ORIGINAL OR CERTIFIED COPY OF THE B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE.

#### Note Well:

- a) In respect of non VAT vendors the bidders may not increase the bid price under Section 67(1) of the Value Added Tax Act of 1991 where the relevant transaction would become subject to VAT by reason of the turnover threshold being exceeded and the bidder becomes liable for VAT.
- b) All delivery costs must be included in the bid price, for delivery at the prescribed destination.
- c) The price that appears on this form is the one that will be considered for acceptance as a firm and final offer.
- d) The grand total in the pricing schedule(s), inclusive of VAT, attached to the bid offer must correlate and be transferred to this form (PA32).
- e) Where there are inconsistencies between the grand total price offer in the pricing schedule(s) and the PA32 price offer, the price offer on the PA32 shall prevail and deemed to be firm and final. No further correspondence shall be entered into in this regard.



#### PA-04 (GS): NOTICE AND INVITATION TO BID

#### THE DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE INVITES BIDDERS FOR:

Project title:	TONGA MAGIST PACKAGE UNITS		S AND UPGRADE OF ROOFTOP
Bid no:	NST 25/017	Procurement Plan Reference no:	1561
Advertising date:	Indicate	Closing date:	Tuesday, 27 January 2026
Closing time:	11h00	Validity period:	Indicate in calendar days

#### 1. FUNCTIONALITY CRITERIA APPLICABLE

1.1. The Bid will not be evaluated on Functionality

Functionality criteria <sup>1</sup> :	Weighting factor:
QUALIFICATION= 40	
The bidder must provide a certified copy of trade test certificate. The trade test certificate should be under the Employee of the Company. NB certification stamp should not be older than six months	40
Attach CV, certified ID and a signed contract of employment between the contractor and employee signed by the contractor and employee to serve as proof that the employee is working for the company.	40
<ul> <li>Trade Test Certificates in both of the following two categories (x1 Electrician, x1 HVAC) or more=5</li> <li>Non submission of the trade certificate =0</li> </ul>	
EXPERIENCE=30	
The bidder must submit proof of current and previous projects done.  Bidder to attach appointment letters/orders and completion certificates/job cards of the related/similar projects.	
In case of current project, no completion letter required, however verification of contractor's performance will be done by the evaluation committee.	
In case of a subcontracted project ,the bidder to attach the copy of the original appointment letter of the main contractor.	30
All the appointment letters/orders and completion certificates/job cards should have a traceable contact details for the purpose of authenticating the work done.	
5 projects=5	
4 projects=4	
3 projects=3	
2 projects=2	
1 projects=1 0 projects=0	

<sup>&</sup>lt;sup>1</sup>The points allocated to each functionality criterion should not be generic but should be determined separately for each tender on a case by case basis.



REPUBLIC OF SOUTHAPPICA	
TRANSPORT =10	
Bidder Must attach a List of resources dedicated to executing the Project and attach proof of ownership or Rental agreement for the below:	
<ul> <li>2 x LDV owned by the company = 5 point</li> <li>2 x LDV rented by the company = 3 points</li> <li>1 X LDV owned by the company = 2 points</li> <li>1x LDV rented by the company = 1 point</li> <li>Non-Submission of the above =0</li> </ul>	10
BANK RATING=20	
The bidder must submit a valid bank rating letter. The bank rating letter should not be older than six months from the date of closure of the project.	20
Rating A=5 Points	20
Rating B=4 Points	
• Rating C = 3 Points	
Rating D= 2 Points	
<ul> <li>Rating E or confirmation of bank letter = 1 Points</li> </ul>	
TOTAL	100
(Weights for functionality must add up to 100. Weightings will be multiplied by the scores allocated duri arrive at the total functionality points)	ng the evaluation process to
Minimum functionality score to qualify for further evaluation:	65
(Total minimum qualifying score for functionality is 50 Percent, any deviation below or above the 50 Pe	rcent, provide motivation below)
Minimum to qualify for further evaluation will be 65%. Experience and Qualif	ication is imperative for
2. EVALUATION METHOD FOR RESPONSIVE BIDS	

☐ Method 1 (Financial offer)	

2.1 The 80/20 Preference points scoring system will be applicable for this bid

#### 3. RESPONSIVENESS CRITERIA



Department:
Public Works and Infrastructure
REPUBLIC OF SOUTHAFRICA
3.1. Indicate substantive responsiveness criteria applicable for this tender.
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	$\boxtimes$	All parts of tender documents submitted must be fully completed in ink and signed where required
4	$\boxtimes$	Use of correction fluid is prohibited.
5	$\boxtimes$	Submission of PA-32: Invitation to Bid
6		Submission of record of attending compulsory briefing session.  signed attended register for briefing meeting
7		Registration on National Treasury's Central Supplier Database.
8	$\boxtimes$	Any cancellation should be appended by signature or initials
9		Contractor must submit certified certificate of licence for gas handling( Category B) the certificate should be under the company's name.
10		
11		
12		

3.2. Indicate administrative requirements applicable for this tender. Tenderers may be required to submit the below documents where applicable.

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	$\boxtimes$	Submission of (PA-11): Bidder's disclosure.
4		Submission of (PA 40): Declaration of Designated Groups for Preferential Procurement.
5		Submission of proof of Registration on National Treasury's Central Supplier Database (CSD) or insert the Supplier Registration Number on the form of offer
6		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.
7		
8		
9		
10		

3.3. Indicate administrative requirements applicable for this tender. Tenderers may be required to submit the below documents where applicable.



Department:
Public Works and Infrastructure
REPUBLIC OF SOUTHAFRICA

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.	$\boxtimes$	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.	$\boxtimes$	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-11): Bidder's disclosure
4.	$\boxtimes$	Submission of proof of Registration on National Treasury's Central Supplier Database (CSD).
5.	$\boxtimes$	All parts of tender documents submitted must be fully completed in ink and signed where required.
6.		Upon request, submission of fingerprints obtainable from local SAPS including any other additional documentation and information required for vetting purposes.
7.	$\boxtimes$	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.
8.		Submission of (PA 40): Declaration of Designated Groups for Preferential Procurement
9.		Bidders will be evaluated as per special conditions of bid (SCB-1)
9.		Submission of DPW-09 (EC): Paticular of Tenderer's Projects: Bidders may use 'own form' - the details of all the tenderers current and previous projects must however be similar to the DPW-09 (EC) forms details. Bidders are required to sign and date the DPW09 / 'own form' and
		Submission of DPW-09 (EC): Paticular of Tenderer's Projects: Bidders may use 'own form' - the details of all the tenderers current and previous projects must however be similar to the
10.		Submission of DPW-09 (EC): Paticular of Tenderer's Projects: Bidders may use 'own form' - the details of all the tenderers current and previous projects must however be similar to the DPW-09 (EC) forms details. Bidders are required to sign and date the DPW09 / 'own form' and cross-reference the documents if 'own form' is used.  Submision of DPW-21 (EC): Record of addenda to tender documents: Bidder maybe requested to confirm receipt and or compliance with the "Record of Addenda" if the record of
10.		Submission of DPW-09 (EC): Paticular of Tenderer's Projects: Bidders may use 'own form' - the details of all the tenderers current and previous projects must however be similar to the DPW-09 (EC) forms details. Bidders are required to sign and date the DPW09 / 'own form' and cross-reference the documents if 'own form' is used.  Submision of DPW-21 (EC): Record of addenda to tender documents: Bidder maybe requested to confirm receipt and or compliance with the "Record of Addenda" if the record of

3.4. Indicate administrative requirements applicable for specific goals, Tenderers will not be required to submit the below document if not provided in the original tender proposals, Failure to comply with the criteria stated hereunder <a href="mailto:shall">shall</a> result in the tenderer not allocated points for specific goals.

1	$\boxtimes$	Submission of (PA-16): Preference Points Claim Form in terms of the Preferential Procurement Regulations 2022
2	$\boxtimes$	A trust, consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE Certificate issued by a SANAS accredited service provider



#### 4. METHOD TO BE USED TO CALCULATE POINTS FOR SPECIFIC GOALS

## 4.1. 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 for points
1.	An EME or QSE or any entity which is at least 51% owned by black people	10	SANAS Accredited BBBEE Certificate or sworn affidavit where applicable.
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	<ul> <li>Official Municipal Rates Statement which is in the name of the bidder.         Or         <ul> <li>Any Account or statement which is in the name of the Bidder.</li></ul></li></ul>
3.	An EME or QSE or any entity which is at least 51% owned by black women	4	SANAS Accredited BBBEE Certificate or sworn affidavit where applicable.
4.	An EME or QSE or any entity which is at least 51% owned by black people with disability	2	<ul> <li>SANAS Accredited BBBEE Certificate or sworn affidavit where applicable. and</li> <li>Medical Certificate indicating that the disability is permanent or</li> <li>South African Social Security Agency (SASSA) registration indicating that the disability is permanent Or</li> <li>National Council for Persons with Physical Disability in South Africa registration (NCPPDSA)</li> </ul>
5.	An EME or QSE or any entity which is at least 51% owned by black youth	2	ID Copy and SANAS Accredited BBBEE Certificate or sworn affidavit where applicable.

#### 5. BID EVALUATION METHOD

This bid will be evaluated according to the preferential procurement model in the PPPFA and the 80/20 preference point scoring system will be applicable

#### 6. COLLECTION OF TENDER DOCUMENTS

⊠ Bid documents are available for free download on e-Tender portal <u>www.etenders.gov.za</u>

☑ Alternatively; Bid documents may be collected during working hours at the following address NDPWI, Eben Donges Building, Cnr Robert and Hancock street, Gqeberha, 6056.

A non-refundable bid deposit of R 200.00 is payable (cash only) on collection of the bid documents.



#### 7. SITE INSPECTION MEETING

#### Details of Bid Briefing meeting (if any)

There will be a compulsory bid briefing meeting and all potential bidders must attend. Details of the compulsory bid briefing meeting is indicated in the table below:

Venue:	TONGA MAGISTRATE		
Virtual meeting link:	N/A		
Date:	Date of Bid Briefing (if any) 2026/01/12	Starting time:	Time of Bid Briefing (if any) 11h00

#### 8. ENQUIRIES

8.1 Technical enquiries may be addressed to:

DPWI Project Manager	PORTIA KADIAKA	Telephone no:	0137536377	
Cellular phone no	0721376977	Fax no:	None	
E-mail	MMAPHETOA.KADIAKA@	DPW.GOV.ZA		

#### 8.1 SCM enquiries may be addressed to:

SCM Official	AYANDA MKONZA	Telephone no:	0137536318	
Cellular phone no	0734501233 Fax no: None		None	
E-mail	Indicate Email		-	

#### 9. 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).

Closing Date: Tuesday, 27 January 2026

Closing Time: 11h00

Tender documents may be posted to: The Director-General		Deposited in the tender box at:
Department of Public Works and Infrastructure Private Bag X 11280 Nelspruit 1200	OR	The Bid Box Department of Public Works & Infrastructure 30 Brown Street, Nedbank Building 9th floor
Documents must be deposited in The Bid Box before the closing date of the bid		



#### **FUNCTIONALITY EVALUATION CRITERIA**

APPLICABLE



### PA-09 (EC): LIST OF RETURNABLE DOCUMENTS

Project title:	Tonga Magistrate Courts: Repairs and Upgrade of Rooftop Package Units and Ducting				
Tender / Quote no:	NST 25/017	Reference no:			
Receipt Number:		1			

#### 1. RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

<u>Note</u>: 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
Declaration of Interest and Tenderer's Past Supply Chain Management Practices (PA-11)	4 Pages	Yes
Resolution of Board of Directors (PA-15.1) (if applicable)	1 Page	Yes
Resolution of Board of Directors to enter into Consortia or JV's (PA-15.2) (if applicable)	2 Pages	Yes
Special Resolution of Consortia or JV's (PA-15.3) (if applicable)	3 Pages	Yes
Preference points claim form in terms of the Preferential Procurement Regulations 2017 (PA – 16)	5 Pages	Yes
Certificate of independent Bid Determination (PA - 29)	4 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) (if applicable).	1 Page	
Record of attending compulsory virtual bid clarification / site inspection meeting (if applicable).	1 Page	
Record of Addenda to tender documents (DPW-21 EC)	1 Page	Yes
Site Inspection Meeting Certificate (DPW-16 EC) (if applicable)	1 Page	
Proof of 30% Subcontracting participation and related documents in terms of the Preferential Procurement Regulations 2017 (if applicable).		

<sup>\*</sup> In compliance with the requirements of the CIDB SFU Annexure G



Tender no: NST 25/017

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 (if applicable)	-	Yes

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) (if applicable)	1 Page	Yes
Particulars of Electrical Contractor (DPW-22 EC) (if applicable)	1 Page	Yes
Mechanical / Electrical / Security Work material and equipment schedules (if applicable)	Pages	Yes
Schedule for Imported Materials and Equipment (DPW-23 EC) (if applicable)	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)

<u>Note</u>: 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)	Pages	□Yes □No
Fully priced and completed sectional summary- and final summary pages with the tender.	Pages	□Yes □No
	Pages	□Yes □No
	Pages	□Yes □No
	Pages	□Yes □No



Tender no: NST 25/017

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

Legal	Status of Tendering Entity:	Documentation to be submitted with the tender, or which may be required during the tender evaluation:
If the T	endering Entity is:	
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



#### PA-10: GENERAL CONDITIONS OF CONTRACT (GCC)

#### NOTES:

The purpose of this document is to:

- (i) Draw special attention to certain general conditions applicable to government bids, contracts and orders; and
- (ii) To ensure that clients be familiar with regard to the rights and obligations of all parties involved in doing business with government.

In this document words in the singular also mean in the plural and vice versa and words in the masculine also mean in the feminine and neuter.

- The General Conditions of Contract will form part of all bid documents and may not be amended.
- Special Conditions of Contract (SCC) relevant to a specific bid should be compiled separately for every bid (if applicable) and will supplement the General Conditions of Contract. Whenever there is a conflict, the provisions in the SCC shall prevail.

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#### **General Conditions of Contract**

#### 1. Definitions

- 1. The following terms shall be interpreted as indicated:
- 1.1. "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
- 1.2. "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- 1.3. **"Contract price"** means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
- 1.4. **"Corrupt practice"** means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
- 1.5. **"Countervailing duties"** are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
- 1.6. **"Country of origin"** means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 1.7. "Day" means calendar day.
- 1.8. "Delivery" means delivery in compliance of the conditions of the contract or order.
- 1.9. "Delivery ex stock" means immediate delivery directly from stock actually on hand.
- 1.10. "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
- 1.11. "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.
- 1.12. **"Force majeure"** means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13. **"Fraudulent practice"** means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14. "GCC" means the General Conditions of Contract.
- 1.15. **"Goods"** means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.



- 1.16. "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.
- 1.17. **"Local content"** means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.
- 1.18. **"Manufacture"** means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.19. "Order" means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20. "Project site" where applicable, means the place indicated in bidding documents.
- 1.21. "Purchaser" means the organization purchasing the goods.
- 1.22. "Republic" means the Republic of South Africa.
- 1.23. "SCC" means the Special Conditions of Contract.
- 1.24. **"Services"** means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.
- 1.25. "Written" or "in writing" means handwritten in ink or any form of electronic or mechanical writing.

#### 2. Application

- 2.1. These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2. Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works
- 2.3. Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

#### 3. General

- 3.1. Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
- 3.2. With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za

#### 4. Standards

4.1. The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

#### 5. Use of contract documents and information; inspection.

5.1. The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be

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made in confidence and shall extend only so far as may be necessary for purposes of such performance.

- 5.2. The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3. Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
- 5.4. The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

#### 6. Patent rights

6.1. The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

#### 7. Performance security

- 7.1. Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2. The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3. The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
  - (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
  - (b) a cashier's or certified cheque
- 7.4. The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.

#### 8. Inspections, tests and analyses

- 8.1. All pre-bidding testing will be for the account of the bidder.
- 8.2. If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organization acting on behalf of the Department.
- 8.3. If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4. If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5. Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

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- 8.6. Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7. Any contract supplies may on or after delivery be inspected, tested or analyzed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.
- 8.8. The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.

#### 9. Packing

- 9.1. The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 9.2. The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

#### 10. Delivery and documents

- 10.1. Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.
- 10.2. Documents to be submitted by the supplier are specified in SCC.

#### 11. Insurance

11.1. The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

#### 12. Transportation

12.1. Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC

#### 13. Incidental services

- 13.1. The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
  - (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods:
  - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods:
  - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
  - (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and

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- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.
- 13.2. Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

#### 14. Spare parts

- 14.1. As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:
  - (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
  - (b) in the event of termination of production of the spare parts:
    - (i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
    - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

#### 15. Warranty

- 15.1. The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.
- 15.2. This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
- 15.3. The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.
- 15.4. Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.
- 15.5. If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

#### 16. Payment

- 16.1. The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.
- 16.2. The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of other obligations stipulated in the contract.
- 16.3. Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.
- 16.4. Payment will be made in Rand unless otherwise stipulated in SCC.

#### 17. Prices



17.1. Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.

#### 18. Contract amendments

18.1. No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.

#### 19. Assignment

19.1. The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

#### 20. Subcontracts

20.1. The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

#### 21. Delays in the supplier's performance

- 21.1. Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.
- 21.2. If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.
- 21.3. No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.
- 21.4. The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.
- 21.5. Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.
- 21.6. Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without cancelling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

#### 22. Penalties

22.1. Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

#### 23. Termination for default

23.1. The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

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- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
- (b) if the Supplier fails to perform any other obligation(s) under the contract; or
- (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
- 23.2. In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.
- 23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period of not exceeding 10 years.
- 23.4 If a purchaser intends imposing a restriction on a supplier or any person with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.
- Any restriction on any person by the Accounting Officer/ Authority will, at the discretion of the Accounting Officer/ Authority, also be applicable to any enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which the first-mentioned person, is or was in the opinion of the Accounting Officer/ Authority actively associated.
- 23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish The National Treasury, with the following information:
  - i) The name and address of the supplier and/or person restricted by the purchaser;
  - ii) The date of commencement of the restriction
  - iii) The period of the restriction; and
  - iv) The reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a count of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the pubic sector for a period not less than five years and not more than ten years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

#### 24. Anti-dumping and countervailing duties and rights

24.1. When, after the date of bid, provisional payments are required, or antidumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.



#### 25. Force Majeure

- 25.1. Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.
- 25.2. If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

#### 26. Termination for insolvency

26.1. The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

#### 27. Settlement of Disputes

- 27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in Connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4 Mediation proceedings shall be conducted in accordance with the rules of the procedure specified in the SCC.
- 27.5 Notwithstanding any reference to mediation and/or court proceedings herein,
  - (a) the parties shall continue to perform their respective obligations under contract unless they Otherwise agree; and
  - (b) the purchaser shall pay the supplier any monies due the supplier.

#### 28. Limitation of Liability

- 28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;
  - (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss 12 or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and
  - (b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

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 "Tenderr" or "Tenderer".

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#### 29. Governing language

29.1. The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

#### 30. Applicable law

30.1. The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.

#### 31. Notices

- 31.1. Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice
- 31.2. The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

#### 32. Taxes and duties

- 32.1. A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
- 32.2. A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
- 32.3. No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African

#### 33. National Industrial Participation Programme (NIPP)

33.1 The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.

#### 34. Prohibition of Restrictive Practices

- In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is / are or a contractor(s) was / were involved in collusive bidding (or bid rigging).
- 34.2 If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.
- 34.3 If a bidder(s) or contractor(s), has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

Name of Bidder	Signature	Date



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#### 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.

	the bidder to make this declaration in respect of the details required hereunder.		
		in the Register for Tender Defaul tomatically be disqualified from the b	ters and / or the List of Restricted id process.
2.	BIDDER'S DECLARATION		
2.1		ectors / trustees / shareholders / mem nterprise, employed by the state?	bers / partners or any person having
	v		☐ YES ☐ NO
2.1.1		rectors / trustees / shareholders / mei	s, and, if applicable, state employee mbers/ partners or any person having
Ful	l Name	Identity Number	Name of State institution
		14)	
alterr			ority of the equity of an enterprise, or to direct the course and decisions
	ference to words "Bid" or Bidder" here "Tender" or "Tenderer".	in and/or in any other documentation shall be	e construed to have the same meaning as the



2.2	2.2 Do you, or any person connected with the bidder, have a relationship with any person who employed by the procuring institution?		
Ciripio	yed by the procuring methation:	YES	□ NO
2.2.1	If so, furnish particulars:		
	3 - 13	1616-16 <b>1</b> SEESENS, I	\$\$\$î
	8. 199. 299. 199. 199. 199. 199. 199. 199	886	
2.3	Does the bidder or any of its directors / trustees / shareholders / members / partr having a controlling interest in the enterprise have any interest in any other related or not they are bidding for this contract?		
2.3.1	If so, furnish particulars:		
		80-800	
3.	DECLARATION		
	I, the undersigned, (name)the accompanying bid, do hereby make the following statements that I decla complete in every respect:	in su re to be t	bmitting rue and
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 for and complete in every respect;	und not to	be true
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 consortium <sup>4</sup> will not be construed as collusive bidding.		
3.4	In addition, there have been no consultations, communications, agreements or arrangements wi any competitor regarding the quality, quantity, specifications, prices, including methods, factors formulas used to calculate prices, market allocation, the intention or decision to submit or not submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars the products or services to which this bid invitation relates.		ctors or r not to
3.5	The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, director 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 bidder with any official of the procuring institution in relation to this procurement producing the bidding process except to provide clarification on the bid submitted where the institution; and the bidder was not involved in the drafting of the specifical reference for this bid.	ocess prio ere so requ	r to and uired by
<sup>4</sup> Joint	venture or Consortium means an association of persons for the purpose of combini	ng their ex	pertise,

property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

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 "Tenderer".
For External Use



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 DECLARE 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.

Name of Bidder	Signature	Date	Position

This form is aligned to SBD 4.



REPUBL	Name	Capacity	Signature
1		-	
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#### Note:

- 1. \* Delete which is not applicable.
- NB: This resolution must, where possible, be signed by all the Directors / Members / Partners of the Tendering Enterprise
- 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 Tendering Enterprise (attach proof of shareholding / ownership hereto).
- 4. Directors / Members / Partners of the Tendering Enterprise may alternatively appoint a person to sign this document on behalf of the Tendering 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 Tendering Enterprise (proof of shareholding / ownership and power of attorney are to be attached hereto).
- 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**

BID NO: NST 25/017



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

_	
(leg	gally correct full name and registration number, if applicable, of the Enterprise)
Не	ld at (place)
on	(date)
RE	SOLVED that:
1	The Enterprise submits a 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:
1	(project description as per Tender Document)  Tender Number:
•	in *his/her Capacity as:(Position in the Enterprise)
2	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.  The Enterprise accept 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
3	into with the Department in respect of the project described under item 1 above.  The Enterprise chooses as its <i>domicilium citandi et executandi</i> for all purposes arising from this joint ventura agreement and the Contract with the Department in respect of the project under item 1 above:
	Physical address:
	Postal Code



Postal Address:	
	Postal Code
Telephone number:	Fax number:

	Name	Capacity	Signature
1			
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3			
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The tendering 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 <u>all</u> the Directors / Members / Partners of the Tendering 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 Tendering Enterprise (attach proof of shareholding / ownership hereto).
- 4. Directors / Members / Partners of the Tendering
  Enterprise may alternatively appoint a person to sign this
  document on behalf of the Tendering 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 Tendering
  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	

BID NO: NST 25/017



# 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 tender 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 Held at \_\_\_\_\_\_(place) **RESOLVED** that: A. The above-mentioned Enterprises submit a tender in consortium/joint venture to the Department of Public Works & Infrastructure in respect of the following project: (project description as per Tender Document) Tender Number: \_\_\_\_\_ (tender number as per Tender Document)



В.	Mr/Mrs/Ms:
	in *his/her Capacity as: (position in theEnterprise)
	and who will sign as follows:
	be, and is hereby, authorised to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the tender 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 <sub>i</sub>	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 <i>domicilium citandi et executandi</i> 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
	, ostar codo
	Postal Address:
	Postal Code
	Telephone number Fax number:
	E-mail address:



### PA-15.1: RESOLUTION OF BOARD OF DIRECTORS

documentation, resulting from the award of the Tender to the Enterprise mentioned above.

## State Owned Company [TICK APPLICABLE BOX]

- 4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:
  - i) The information furnished is true and correct;
  - ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
  - iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
  - iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have
    - (a) disqualify the person from the tendering process;
    - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
    - 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:	3
ADDRESS:	



#### DPW-05: (EC) CONTRACT DATA - GCC 2015: 3RD EDITION

Project title:	Tonga Magis Ducting	trate Courts:	Repairs Ai	nd Upgrade Of Rooftop Package Units And	d
Tender no:	NST 25/017	WCS no:	055472	Reference no:	

The Conditions of Contract applicable to this Contract are clauses 1 to 10 and contract price adjustment schedule of the GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS, THIRD EDITION (2015) prepared by The South African Institution of Civil Engineering Private Bag X200, Halfway House, 1685.

Contractors are cautioned to read the GCC Third Edition (2015) and Contract Data [DPW-05 (EC)] together as some clauses in the GCC Third Edition (2015) have been amended in the Contract Data [DPW-05 (EC)]

Specific data, which together with these General Conditions of Contract, collectively describe the risks, liabilities and obligations of the contracting Parties and the procedures for the administration of the Contract. Clauses as amended in the Contract Data amends or replaces the corresponding clauses in the GCC Third Edition (2015).

Copies of these conditions of contract may be obtained through www.saice.org.za.

#### **CONTRACT VARIABLES**

THE SCHEDULE (Contract Data [1.1.1.8])

The **schedule** is the listed variables in this agreement and contains all variables referred to in this document including specific changes made to **GCC Third Edition (2015)** documentation. It is divided into part 1: contract data completed by the **employer** and part 2: contract data completed by the **contractor**. Part 1 must be completed in full and included in the tender documents. Both the part 1 and part 2 form part of this **agreement** 

**Spaces requiring information must be filled in, shown as 'not applicable' but not left blank.** Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross referenced to the applicable clause of the **schedule**. Key cross reference clauses are italicised in [] brackets

#### PART 1: CONTRACT DATA COMPLETED BY THE EMPLOYER:

#### A PROJECT INFORMATION

#### **A 1.0** Works [1.1.1.35]

Works description	Refer to document PG01.1 (EC) - Scope of Works for detailed description
Repairs And Upgrad	le Of Rooftop Package Units And Ducting



REPUBL	Name	Capacity	Signature
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The tendering 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:

- \* Delete which is not applicable.
   NB: This resolution must be signed by <u>all</u> 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.
- 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).



# 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).

igtimes The applicable preference point system for this tender is the <b>80/20</b> 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	90
SPECIFIC GOALS	20	10
Total points for Price and Specific Goals	100	100

## 1.5 Breakdown Allocation of Specific Goals Points

1.5.1. 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 in table 1 below are applicable.

### Table 1

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 (Mandatory)	10	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.
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 (Mandatory)	2	<ul> <li>Official Municipal Rates         Statement which is in the name         of the bidder.</li> <li>Or</li> <li>Any account or statement which         is in the name of the bidder.</li> </ul>
			Or
			<ul> <li>Permission to Occupy from local chief in case of rural areas (PTO) which is in the name of the bidder.</li> </ul>
			Or
			Lease Agreement which is in the name of the bidder.
3.	An EME or QSE which is at least 51% owned by black women (Mandatory)	4	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.
4.	An EME or QSE which is at least 51% owned by black people with disability (Mandatory)	2	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.

			and
			Medical Certificate indicating that the disability is permanent.
			Or
			South African Social Security Agency (SASSA) Registration indicating that the disability is permanent.
			Or
			National Council for Persons with Physical Disability in South Africa registration (NCPPDSA).
5.	An EME or QSE which is at least 51% owned by black youth (Mandatory)	2	ID Copy and SANAS Accredited BBBEE Certificate or Sworn Affidavit where applicable.
	<u> </u>		

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

## Table 2

 $\boxtimes$ 

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 or any entity which is at least 51% owned by black people (Mandatory)	10	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.
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 (Mandatory)	2	Official Municipal Rates     Statement which is in the name     of the bidder.  Or

			Any account or statement which is in the name of the bidder.  Or
			Permission to Occupy from local chief in case of rural areas (PTO) which is in the name of the bidder.
			Or
			Lease Agreement which is in the name of the bidder.
3.	An EME or QSE or any entity which is at least 51% owned by black women (Mandatory)	4	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.
4.	An EME or QSE or any entity which is at least 51% owned by black people with disability (Mandatory)	2	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.
			and
			Medical Certificate indicating that the disability is permanent.
			Or
			South African Social Security Agency (SASSA) Registration indicating that the disability is permanent.
			Or
			National Council for Persons with Physical Disability in South Africa registration (NCPPDSA).

		5.	An EME or QSE or any entity which is at least 51% owned by black youth (Mandatory)	2	•	ID Copy and SANAS Accredited BBBEE Certificate or Sworn Affidavit where applicable.	
--	--	----	--	---	---	---	--

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

NB. The use of one of goal numbers' 4 or 5 is mandatory. The BSC must select either one of the two, but not both.

#### Table 3

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 or any entity which is at least 51% owned by black people (Mandatory)	4	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.
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 (Mandatory)	2	Official Municipal Rates     Statement which is in the name     of the bidder.  Or
			Any account or statement which is in the name of the bidder.
			Or
			Permission to Occupy from local chief in case of rural areas (PTO) which is in the name of the bidder.
			Or
			Lease Agreement which is in the name of the bidder.
3.	An EME or QSE or any entity which is at least 51%	2	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.

	owned by black women (mandatory)		
4.	An EME or QSE or any entity which is at least 51% owned by black people with disability (Mandatory)	2	SANAS Accredited BBBEE     Certificate or Sworn Affidavit     where applicable.
			and
			Medical Certificate indicating that the disability is permanent.
			South African Social Security
			Agency (SASSA) Registration indicating that the disability is permanent.
			Or
			National Council for Persons with Physical Disability in South Africa registration (NCPPDSA).
OR			13
5.	An EME or QSE or any entity which is at least 51% owned by black youth (Mandatory)	2	ID Copy and SANAS     Accredited BBBEE Certificate     or Sworn Affidavit where     applicable

Black people mean Africans, Coloureds and Indians, who - (a) are citizens of the Republic of South Africa by birth or descent; or (b) became citizens of the Republic of South Africa by naturalisation - (i) before 27 April 1994; or (ii) on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalisation prior to that date. (BROAD-BASED BLACK ECONOMIC EMPOWERMENT ACT No 25899, 2003 of 9 JANUARY 2004).

- 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**

(a) "tender" means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations,

competitive tendering process or any other method envisaged in legislation;

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

#### 3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

#### 3.1. POINTS AWARDED FOR PRICE

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

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

80/20 or 90/10

$$Ps = 80\left(1 - \frac{Pt - Pmin}{Pmin}\right)$$
 or  $Ps = 90\left(1 - \frac{Pt - Pmin}{Pmin}\right)$ 

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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

#### 3.2.1. POINTS AWARDED FOR PRICE

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

$$Ps = 80\left(1 + rac{Pt - P \, max}{P \, max}
ight)$$
 or  $Ps = 90\left(1 + rac{Pt - P \, max}{P \, max}
ight)$ 

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

Page **7** of **10**Effective date 21 July 2023 Version 2023/08

#### 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:
- 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 4: 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)
An EME or QSE (or any entity for procurement transaction with rand value greater than R1 Million) which is at least 51% owned by black people	4	10		
Located in a specific Local     Municipality or District     Municipality or Metro or	2	2		ogo 9 of 10

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)
Province area for work to be done or services to be rendered in that area				
3. An EME or QSE (or any entity for procurement transaction with rand value greater than R1 Million) which is at least 51% owned by black women	2	4		
4. An EME or QSE (or any entity for procurement transaction with rand value greater than R1 Million) which is at least 51% owned by black people with disability	2	2		
5. An EME or QSE (or any entity for procurement transaction with rand value greater than R1 Million) which is at least 51% owned by black youth.*	2	2		

## **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



Tender / Quotation no: Error! Reference source not found.

## **A 2.0** Site [1.1.1.29]

Erf / stand number	1341 Tonga road
Site address	Mashekesheni,nkomazi
Township / Suburb	Tonga
City / Town	Tonga
Province	Mpumalanga
Local authority	Nkomazi
GPS Coordinates	-25.204555,31.862413

## A 3.0 EMPLOYER AND ITS REPRESENTATIVE

#### A 3.1 Employer:

Official Name of Organ of State / Public Sector Body	Government of the Republic of South Africa in its Department of Public Works & Infrastructure		
Business registration number	Not applicable VAT number Not applica		
E-mail		Telephone	
Postal address	insert postal address insert suburb insert town insert postal code	'	
Physical address	insert physical address insert suburb insert town insert postal code		

#### A 3.2 Employer's Representative:

Name	Portia Mmaphetoa Kadiaka	Telephone number	013 753 6377
E-mail	Mmaphetoa.kadiaka@dpw.gov.za	Mobile number	0721376977
Postal address	PO BOX 12 Nel		
Physical address	30 Brown Street Nedbank Building, 9 <sup>th</sup> floor Nelspruit 1200		



A 4.0	Employers Agent/s		
A 4.1	Principal Agent [1.1.1.16]	Discipline	

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

## **A 4.2** Agent [1.1.1.16] Discipline

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

## A 4.3 Agent [1.1.1.16] Discipline

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail		A FED. TO STANDARD A FED. TO STANDARD S	
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		



Agent [1.1.1.16]	Discipling		
 Agent [1.1.1.10]	Discibilie		

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail		The state of the s	
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

## **A 4.5 Agent** [1.1.1.16] **Discipli**ne

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

## A 4.6 Agent [1.1.1.16] Discipline

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		



Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

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Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail		NO. TO THE CONTRACT OF THE CON	
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		



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#### **B** CONTRACT INFORMATION

#### B 1.0 Definitions [1.1.1.2]

Bills of quantities: System / Method of measurement	SANS 1200
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#### B 2.0 Law, regulations and notices [1.3.2]

Law applicable to the works [1.3.2]	Law of the Republic of South Africa

#### B 3.0 Offer and acceptance [1.1.1.20]

Currency applicable to this agreement [1.1.1.20]	South African Rand

#### B 4.0 Documents [1.1.1.7]

The original signed agreement is to be held by the principal agent [1.1.1.7], if not, indicate by whom	Employer
Number of copies of construction information issued to the contractor at	_
no cost. (3 Copies of all relevant construction documentation – this to includes 1 priced Bills of Quantities and 2 unpriced Bills of Quantities)	3

Documents comprising the agreement	Page numbers
GCC GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS, THIRD EDITION (2015)	
DPW-05: (EC): GCC 2015: 3RD EDITION	
The GCC General Preliminaries for use with the GCC 2015: 3RD EDITION	
Contract participation goal documentation as further defined in clause 1.1.1.37 [CD] and B16 [CD]	
Drawings as per drawing register issued with the tender	
Specifications issued with the tender	
Schedules issued with the tender	
Bills of Quantities issued with the tender	
Addenda as issued during tender stage, if applicable	As issued



#### B 5.0 Employer's agents [3.0]

Authority is delegated to the following agents to issue contract instructions and perform duties for specific aspects of the works [3.0] [3.2.3 [CD]]

Principal Agent/Engineer Oliver Chimusoro Pr Eng ECSA No. 20130252

incipal agent's and agents' interest or involvement in the works other than a professiona terest
one

#### B 6.0 Insurances [8.6]

	-	
Insurances	by	contractor

NB: Insurances 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). **Insured amounts to include VAT.** 

	The Contract Price [8.6.1.1.1] New Works With a deductible not exceeding 5% of each and every claim [8.6.2]	Contract sum plus 10%	Select
Or	The Contract Price [8.6.1.1.1] Works with alterations and additions (reinstatement value of existing structures / works without or including new works) with a deductible not exceeding 5% of each and every claim [8.6.2]	Contract sum plus 10%	Select
Or	The Contract Price [8.6.1.1.1] Works with practical completion in sections with a deductible not exceeding 5% of each and every claim [8.6.2]	Contract sum plus 10%	Select
	Plant and materials supplied by the Employer [8.6.1.1.2]	R Eng / PQS to determine value	Select
	Professional fees not included in the Contract Price, payable in respect of the repair or reinstatement of damage to the Works or said movables, plus Escalation thereon (if not included above). Minimum R1m unless other amount indicated. [8.6.1.1.3]	R Eng / PQS to determine value	Select
	Direct contractors [8.6.1.1.2] where applicable, to be included in the contract works insurance	R Eng / PQS to determine value	Select
	Special Risks Insurance issued by Sasria [8.6.1.2]	R Eng / PQS to determine value	Select



R Eng / PQS to determine value R Eng / PQS to	Select
R Eng / POS to	
determine value	Select
R Eng / PQS to determine value	Select
R Eng / PQS to determine value	Select
R Eng / PQS to determine value	Select
R Eng / PQS to determine value	Select
	R Eng / PQS to determine value  R Eng / PQS to determine value  R Eng / PQS to determine value

### B 7.0 Obligations of the employer

Existing premises will be in use and occupied [5.4.1 & 5.4.2]	Select
If applicable, description:	
Restriction of working hours [5.8]	Select
If applicable, description:	
Natural features and known services to be preserved by the contractor [4.7]	Select
If applicable, description:	
Restrictions to the site or areas that the contractor may not occupy [5.4.1 &	Select
5.4.2]	OCICCI
If applicable, description:	

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Select

#### B 8.0 Subcontractors [4.4]

Select	If applicable, description of specialisation
Specialisation 1	
Specialisation 2	
Specialisation 3	
Specialisation 4	
Specialisation 5	

#### B 9.0 Description of different portions of the works, if applicable [5.14.7, B10.3 [CD]]

Select	If applicable, description of sections
Section 1	
Section 2	
Section 3	
Section 4	
Section 5	
Section 6	
Remainder of th	ne works.

B 10.0 Contract period [B18: 1.2], Construction period [B18: 1.1], Possession of site [5.4.1], Practical Completion [1.1.1.14, 5.14.1], Completion (Final Approval Certificate) [5.16.1] and Penalties [5.13]

#### B 10.1 Contract Period

Contract period: Period in months as indicated, include the time from the date of award (commencement date [5.2.1]) for submitting contractual obligatory documents, submission of Health & Safety Plan and approval, period for obtaining the Construction Permit (if applicable), the Construction Period and the Defect Liability Period up to and including Final Completion

The contract period is determined as follows (Period/s indicated in months):	
Period to submit contractual obligatory documents including submission and approval of health and safety plan by the appointed Health & Safety Agent	
Period to obtain Construction Permit from Department of Labour upon approval of the Health & Safety Plan by the appointed Health & Safety Agent	
Total construction period for the Works as a whole from date of Access to and Possession of the Site up to and including <b>Practical Completion</b> , as indicated below [1.1.1.14, 5.4.1, 5.14.1]	
Period to achieve Completion [5.14.4]	
Defect liability period up to and including issuing Final Approval Certificate in months [5.16.1]	
Total Contract Period	

## B10.2 Construction Period for completion of the Works as a whole

Construction period [B18: 1.2] and Practical Completion for the Works as a whole [5.14.1] The time for achieving Practical Completion of the whole of the Works is measured from the date of Access to and Possession of the site (5.4.1) by the contractor inclusive of all public holidays, special non-working days and builders' holiday shut down periods.	12 months
The date for practical completion for the works as a whole shall be the period in <b>months</b> as indicated, starting from the date of Access to and Possession of the site by the contractor inclusive of all special non-working days and builders' holiday shut down periods [1.1.1.14, 5.4.1, 5.14.1]	12 months
Notification period for inspection in working days by the principal agent.	
<b>Penalty amount</b> per calendar day for late submission of contractual obligatory documents: Ten percent (10%) of the penalty amount per calendar day for late Practical Completion, excluding VAT. [5.13]	R 640.00
<b>Penalty amount</b> per calendar day for <b>late Practical Completion</b> , excluding VAT. [5.13].	R 640.00
<b>Penalty amount</b> per calendar day for <b>late Completion</b> [5.14.4, 5.13]: Thirty percent (30%) of penalty amount per calendar day for late Practical Completion, excluding VAT.	R 640.00
<b>Penalty amount</b> per calendar day for <b>late Final Completion</b> (Issuing of Final Approval Certificate) [5.16, 5.13]: Fifteen percent (15%) of penalty amount per calendar day for late Practical Completion, excluding VAT.	R



### B10.3 Construction Period for completion of the Works in portions

Construction period and Practical completi [5.14.7]	on for po	ortions of	the Wor	ks	applic	cable	
Portions of the Works in sections:	1	2	3	4	5	5 6	
Notification period for inspection by the principal agent in working days.							
The date for practical completion shall be the period in 12months as indicated from the date of access and possession of the site by the contractor [1.1.1.14, 5.4.1, 5.14.1]							
The date for practical completion for the whole be the period in months as indicated from the of the Site by the contractor inclusive of all pul working days and builders' holiday shut do	date of A	ccess to a	and Poss cial non-	ession	12 m	onths	
Penalty for late Practical Completion, if completion	letion in	sections	is requir	<b>ed</b> , exclu	ding VAT	[5.13]	
The penalty amount per day for failing to comp	olete <b>sect</b>	i <b>on 1</b> of th	ne Works	is:	R		
The penalty amount per day for failing to comp	ete <b>sect</b>	ion 2 of th	ne Works	is:	R		
The penalty amount per day for failing to comp	olete <b>sect</b>	ion 3 of th	ne Works	is:	R		
The penalty amount per day for failing to comp	lete <b>sect</b>	ion 4 of th	ne Works	is:	R		
The penalty amount per day for failing to comp	lete <b>sect</b>	ion 5 of th	ne Works	is:	R		
The penalty amount per day for failing to comp	lete <b>sect</b>	ion 6 of th	ne Works	is:	R		
The penalty amount per day for failing to compapplicable, is:	lete <b>the</b> v	<b>whole</b> of t	he Works	s, if	R		
<b>Penalty amount</b> per calendar day for late su calculated at Ten percent (10%) of penalty / indicated above, excluding VAT.							
Penalty amount per calendar day for late Comp (30%) of penalty / calendar day to complete th	oletion [5 e whole	.14.4, 5.13 of the wo	B]: To be o	calculated	d at Thirty	percent	
Penalty amount per calendar day for late Fin [5.16, 5.13]: To be calculated at Fifteen percent of the work, excluding VAT							

## **B 11.0** Criteria to achieve Practical Completion [1.1.1.14, 5.14.1]

Criteria	to achieve Practical Completion not covered in the definition of practical completion
13.1	Obtain Occupation Certificate from the relevant authority prior to issuing the Practical Completion certificate
13.2	All relevant CoCs
13.3	All guarantees



13.4	Training on electrical, security and mechanical installations if contractually required
13.5	Maintenance / operating manuals
13.6	CPG and cidb BUILD programme achievement certificates submitted with substatiating documentation
13.7	
13.8	
13.9	
13.10	

#### B 12.0 Defects liability period [5.16]

Defects liability period: Refer B10.1

Select	If applicable, description of applicable elements
14.1	All civil works (e.g. roads, storm water system, paving, sewer and water lines, etc.)
14.2	Mechanical equipment (e.g. pumps including switchgear, etc.)
14.3	Landscaping including automated systems (irrigation)
14.4	Electrical equipment (e.g. emergency generators, electronic switchgear,etc)
14.5	Security system/s (e.g. Access control, Intruder alarm, etc.)
14.6	Air conditioning system and plant
14.7	
14.8	
14.9	
14.10	



#### B 13.0 Payment [6.10]

Date of month for issue of regular payment certificates Refer [6.10.1]	
Contract price adjustment / cost fluctuations [6.8.2]	Not applicable
If yes, method to calculate [6.8.2 [CD]]	Contract price adjustment factor
Employer shall pay the contractor within: Refer [6.10.4 [CD]]	Thirty (30) calendar days

## B 14.0 Dispute resolution [10.5 [CD]]

Mediation	YES
Name of nominating body	Association of Arbitrators (Southern Africa)
Appointment of Mediator	State Attorney
Litigation	Court with Jurisdiction



## B 15.0 SPECIFIC CHANGES MADE TO GCC 2015: 3RD EDITION

CONTRACT SPECIFIC DATA  The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition (2015) are applicable to this Contract:	
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.
1.1.1.9	Add to Clause 1.1.1.9 the following:
	"If the Contractor constitutes under the Law of the Republic of South Africa (B2.0) a joint venture, consortium or other unincorporated grouping of two or more persons:
	<ul> <li>(a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;</li> </ul>
	<ul><li>(b) these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and</li></ul>
	(c) the Contractor shall not alter its composition or legal status without the prior consent of the Employer."
1.1.1.13	Amend Clause 1.1.1.13 as follows:
	"Defects Liability Period" means the period stated in the Contract Data, commencing on the date indicated on the Certificate of Completion for the works as a whole 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.
	The Defects Liability Period for the works shall commence on the calendar day following the date of the Certificate of Completion for the works as a whole or Certificates of Completion in the event of more than one Certificate of Completion is issued for different parts of the Works and end at midnight (00:00) three hundred and sixty five days (365) calendar days from the date of the Certificate of Completion.
1.1.1.14	Amend Clause 1.1.1.14 as follows:
	"Due Completion Date" means the date of expiry of the time stated in the Contract Data for achieving Practical Completion of the Works, calculated from the date of Access to and Possession of Site date (5.4.1) and as adjusted by such extensions of time or acceleration as may be allowed in terms of Contract (5.12).
.1.1.15	The name of the Employer: Refer to A 3.1 [CD]
.1.1.16	The name of the Employer's Representative: Refer to A 3.2 [CD]
.1.1.17	The name of the Employer's Agent: Refer to A 4.0 and B 5.0 [CD]



1.1.1.20	Amend Clause 1.1.1.20 by inserting the following words at the end of this definition: "If the
	Acceptance section of the Form or Offer and Acceptance" contains conditional statements or a schedule of deviations is attached to the Form of Offer and Acceptance, then Form of Offer and Acceptance means the Contract Agreement, that shall be substantially in accordance with the form attached to the Scope of Works, and the date of signing the Contract Agreement shall be the date of the Form of Offer and Acceptance"
1,1.1.21.A	Add new Clause 1.1.1.21.A
	The interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be the rate as determined by the Minister of Finance from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No 1 of 1999) as amended, calculated as simple interest, in respect of debts owing to the State, and will be the rate as published by the Minister of Justice and Correctional Services from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No 55 of 1975) as amended, calculated as simple interest, in respect of debts owing by the State.
1,1.1.27	This 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 Employer's Agent 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.
1.1.1.36	Insert the definition of "Latent and Patent Defects" as Clause 1.1.1.36:
	A 'latent defect' is a material defect, which was not visible after 'reasonable' inspection. The latent defect period commences at the date of Final Approval Certificate and ends 5 years [after that date [5.16.3].
	A patent defect is a flaw that is not hidden and ought to be easily identified upon reasonable inspection.
1.1.1.37	Add new Clause 1.1.1.37
	Contract participation goals applicable to this Contract are as indicated in B16 [D] and described in the following tender documents: DPW 03 (EC): TENDER DATA, PG 01.1 (EC) SCOPE OF WORK and PG 02.1 (EC) PRICING ASSUMPTIONS.
1.2.3.	Replace Clause 1.2.3. with the following:
	The Employer's Agent is as indicated in clause B 5.0 and shall have the authority to act on behalf of the employer as indicated in the contract document read with the contract data. [3.2.3].
1.2.6	Add new Clause 1.2.6
	The priority of the documents shall be in accordance with the following sequence:
	(a) The Form of Offer and Acceptance and the signed Schedule of Devia7ons,
	(b) Contract Data,
	(c) These General Conditions of Contract,
	(e) Scope of Work, and
	(f) Pricing Data
1.3.4	Not applicable to this Contract.



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1.3.5	Replace Clause 1.3.5 with the following:		
	(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 during the contract, but in any event on completion of contract, the termination and/or cancellation of this Contract for whatever reason. The Contractor relinquishes its lien / 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.		
1.3.7	Replace Clause 1.3.7 with the following		
	By entering into this contract, the Contractor waives any lien that he may have or acquire, notwithstanding any other condition/s in this contract.		
3.2.3	Add to Clause 3.2.3 the following:		
	1. The Employer's Principal Agent's authority to act and/or to execute functions or duties or to issue instructions are expressly <b>excluded</b> in respect of the following, unless same has been approved by the employer:		
	(a) Appointment of Subcontractors – clause 4.4.4;		
	(b) Granting of an extension of time and/or ruling on claims associated with claims for extension of time – clauses 5.12, 10.1.5;		
	(c) Acceleration of the rate of progress and determination of the cost for payment of such acceleration – clause 5.12.4; (c) Rulings on claims and disputes – clauses 10.1.5, 10.2.3 and 10.3.3;		
	(d) Suspension of the Works – clause 5.11.2;		
	(e) Final Payment Certificate – clause 6.10.9;		

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 4 August 2023

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- (f) Issuing of *mora* notices to the Contractor clauses 9.1.1, 9.1.2.1 and 9.2.1;
- (g) Cancellation of the contract between the Employer and Contractor clauses 9.1.1, 9.1.2.1 and 9.2.1.
- (h) Any variation orders clause 6.3.1
- 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 Employer's Agent 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 Employer's Agent and in the correct format will invalidate any claim and the consequences of such failure will *mutatis mutandis* 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 Employer's Agent 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 Employer's Agent 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's Agent shall within 14 days issue to the Contractor a Final Payment Certificate the amount of which shall be paid to the Contractor within 30 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. If no ruling has been made within the 28 days, as referred to in clause 10.1.5. or any extension thereof as agreed to by the parties, the claim shall be regarded as rejected by the Employer.

5. Insert the following under 3.2.3:

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 Employer's Agent 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 Employer's Agent, 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 Employer's Agent and which has subsequently been rescinded.

3.3.2.1 Amend Clause 3.3.2.1 to insert the word "plant" to read as follows:

Observe how the Works are carried out, examine and test materials, plant and workmanship, and receive from the Contractor such information as he shall reasonably require.



3.3.2.2.3	Add to Clause 3.3.2.2.3 the following:
	All oral communication must be reduced into writing to be binding on the parties.
3.3.2.2.4	Add to Clause 3.3.2.2.4 the following:
	All oral communication must be reduced into writing to be binding on the parties.
3.3.3.2	Amend Clause 3.3.3.2 to insert the word "plant" to reads as follows:
	Notwithstanding any authority assigned to him in terms of Clauses 3.3.2 and 3.3.4, failure by the Employer's Agent's Representative to disapprove of any work, workmanship, plant or material shall not prejudice the power of the Employer's Agent's thereafter to disapprove thereof an exercise any of his powers in terms of the Contract in respect of thereof.
4.4.4	Ref Clause 3.2.3.
4.4.6	Not applicable to this Contract.
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
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,
4.12.3	Add to Clause 4.12.3 the following:
	All oral communication must be reduced into writing to be binding on the parties.
5.3.1	Add to Clause 5.3.1:
	The documentation required before commencement with Works execution are:
	<ul> <li>Health and Safety Plan to be provided within 14 calendar days from award (Ref Clause 4.3)</li> <li>Initial programme to be provided within 21 calendar days of handing over the site to the contractor (Clause 5.6)</li> <li>Security (C1.0, Clause 6.2)</li> <li>Insurance/s (B6, Clause 8.6)</li> <li>insert other requirements</li> <li>insert other requirements</li> <li>insert other requirements</li> </ul>
5.3.2	Add to Clause 5.3.2:
	The time to submit the documentation required before commencement with Works execution is: 2′ calendar days.
5.4.2	Add to Clause 5.4.2:
	The access to, and possession of, the Site referred to in Clause 5.4.1 shall be <b>enter "exclusive" or "not exclusive"</b> to the Contractor. In the event of access to, and possession of, the Site is not exclusive to the Contractor, the following limitations apply:
	Insert an exposition of limitation or refer to separate attachement in specifications



5.6.2.2	Replace Clause 5.6.2.2 with the following:  The sequence, timing of activities and resources for carrying out the Works.
5.6.2.7	Add the following to Clause 5.6.2.7:  Updated cash flows and construction programme/s to be submitted on a monthly basis to the Employer's Agent and the Employer.
5.8.1	Add the following to Clause 5.8.1:  The non-working days are: Saturdays and Sundays  The special non-working days are: Public Holidays and the year-end break annually published by the BCCEI (Bargaining Council for the Civil Engineering Industry)
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.
5.11.2	Ref Clause 3.2.3
5.12	Ref Clause 3.2.3
5.12.2.2	Amend Clause 5.12.2.2 as following:  "Abnormal climatic conditions, therefore any weather conditions i.e. rain, wind (speed or dust), snow, frost, temperature (cold or heat) that have an adverse effect on the progress of the Works and during which no work is possible on site."
5.13.1	Add the following to Clause 5.13.1:  The penalty for failing to complete the Works: Refer to B10 CD
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 Employer's Agent 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 Employer's Agent 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.
.14.4	Add the following to Clause 5.14.4:  Penalty for late Completion will be 30% of penalty applicable to late Practical Completion / calendar day.  Penalty for late Final Completion will be 15% of penalty applicable to late Practical Completion / calendar day.
.16.1	Amend Clause 5.16.1 by deleting the provision in the third paragraph of this clause.



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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 Employer's Agent 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.
6.3.1	Amend first paragraph to Clause 6.3.1 as follows:
	If, at any time before the issue of the <b>Practical Completion</b> , the Employer's Agent shall require any variation of the form, quality or quantity of the Works or any part thereof provided that such Variation Order shall not substantially alter the Scope of Work, he shall have power to order the Contractor to do any of the following subject to obtaining approval from the Employer (3.2.3):
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	When Contract Price Adjustment is applicable [B13] the value of payment certificates is to be adjusted by a Contract Price Adjustment Factor (CPAF):
	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Factor 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) The urban area nearest the Site is <i>insert name of urban area</i> . (Select urban area from Statistical News Release, P0141, Table A)
	The applicable industry for the Construction Material Price Index for materials / plant is <i>insert name of industry</i> .  (Select the applicable industry from Statistical News Release, P0151.1, Tables 2,4,5)
	The area for the Producer Price Index for fuel is <i>insert name of area</i> .  (Select the area from Statistical News Release, P0142.1, Table 1.)
	The base month is insert month insert year. (The month prior to the closing of the tender.)



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6.8.3	Price adjustments for variations in the costs of special materials are not allowed.
6.9.1	Replace Clause 6.9.1 with the following:
	"Plant and materials will only be certified and paid for upon furnishing proof of ownership by the contractor. Once paid, material and goods shall become the property of the Employer and shall no be removed from site without the written authority of the Employers Agent.
6.10.1	Add at end of Clause 6.10.1
	The contractor shall provide the Employer's Agent every month, on dates as agreed between parties / instructed by the Principal Agent, with the following information:
	<ul> <li>(a) Monthly Local content report,</li> <li>(b) EPWP / NYS payment register, labour reports and certified ID document of EPWP/ NYS beneficiaries, Contract between Contractor and EPWP/ NYS beneficiaries, attendance register. (if applicable)</li> <li>(c) Tax Invoice</li> <li>(d) Labour intensive report</li> <li>(e) Contract participation goal reports</li> <li>(f) Updated construction programme</li> <li>(g) Revised cash flows</li> </ul>
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.
6.10.4	Replace "28 days" with "30 days" provided all required documents including an invoice have been submitted and are correct in all respects.
6.10.5	Replace Clause 6.10.5 with the following:
	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 Employer's Agent 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.
	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 Employer's Agent 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.
	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 Employer's Agent 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.



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6.10.6.2	Replace Clause 6.10.6.2 with the following:  "In the event of failure by the Employer to make the payment by the due date, he shall pay to the Contractor interest, at the rate as published by the Minister of Justice and Correctional Services from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No 55 of 1975) as amended, calculated as simple interest, in respect of debts owing by the State".  (1.1.1.21.A).
6.10.9	Ref Clause 3.2.3.
7.2.1	The last sentence to read "Failing requirements or instructions, the Plant, workmanship and materials of the respective kinds shall be suitable for the intended purpose provided that materials procured for the works are 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 DPWI. Failing to comply, unless specified or approval granted will result in a ten percent (10%) penalty of the value of imported material used without approval.
7.5.3	Add the following to Clause 7.5.3
	"Should the work inspected by the Employer's Agent be rejected, all consultant's fees / costs pertaining to the unsuccessful inspection shall be recovered from the contractor".
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.
8.3.1.10	Replace Clause 8.3.1.10 with the following:
	"lonising, radiation, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuels, excluding leakages of any radioactive material / gases / corrosive liquids/chemicals, which are harmful to the environment and biological life, brought on to site for installation or used in the Works prior to final approval".
8.4.3	Add the following as Clause 8.4.3:
	Where the Contractor has caused damage to property (moveable and immovable), of any person, the Employer or third parties, the Contractor shall on receiving a written instruction from the Employer's Agent 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	Replace Clause 8.6.1 with the following:
	Except if provided otherwise in the Contract Data, the Contractor, without limiting his obligations in terms of the Contract, shall effect and keep the respective insurances [CD] in force, in favour of the employer as beneficiary, from the date of possession of the site until the issue of the certificate of practical completion and with an extension to cover the contractors obligations after the date of practical completion [8.2.1]
8.6.1.1.1	Ref B6.0 CD for value of insurance.
8.6.1.1.2	Ref B6.0 CD for value of insurance.



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8.6.1.1.3	Ref B6.0 CD for value of insurance.
8.6.1.3	Amend Clause 8.6.1.3 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 fulfilment of the Contract, from the Commencement Date to the date of the end of the Defects Liability Period, if applicable, or otherwise to the issue of the Certificate of Completion.
8.6.4	Not applicable to this Contract.
8.6.6	Replace Clause 8.6.6 with the following:
	Without limiting the contractor's obligations in terms of the contract, the contractor shall, within twenty-one (21) calendar days of the date of letter of acceptance, but before commencement of the works, submit to the employer all the policies by which the insurances are effected and due proof of upfront payment of all premiums thereunder to keep the policies effective from the Commencement Date to the date of the end of the Defects Liability Period, if applicable, or otherwise to the issue of the Certificate of Completion.
8.6.7	Replace Clause 8.6.7 with the following:
	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	Add new Clause 8.6.8.
	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:
	(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 Employer's Agent, 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.			
9.1.1	Ref Clause 3.2.3			
9.1.2.1	Ref Clause 3.2.3			
9.1.4	Replace the first paragraph of Clause 9.1.4 with the following:			
	"In the circumstances referred to in Clauses 9.1.1, 9.1.2 or 9.1.3 (provided that the circums in 9.1.3 is not due to the fault of the Contractor, his employees, contractors or agents), and wor not the Contract is terminated under the provisions of this Clause, the Contractor shall be on proof of payment of any increased cost of or incidental to the execution of the Works was specifically attributable to, or consequent upon the circumstances defined in Clauses 9.1.3 or 9.1.3; necessary changes"			
9.1.5	Replace the first paragraph of Clause 9.1.5 with the following:			
	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: "			
9.1.5.5	Not applicable to this Contract.			
9.1.6	Not applicable to this Contract.			
9.2.1	Ref Clause 3.2.3			
9.2.1.3.9	Add new Clause 9.2.1.3.9:			
	Has failed to effect and keep in force any of the insurances referred to in Clause 8.6.1.			
9.2.4	Add the following as Clause 9.2.4:			
	In the case where a contract is terminated by the Employer by no fault by any party, the contractor shall be entitled to no other compensation than for work done and materials on site as certified by the Principal Agent at the date of termination.			



9.3.2.2	Replace Clause 9.3.2.2 with the following:
	All Plant and Construction Equipment, Temporary Works and unused materials brought onto the Site by the Contractor, and where ownership has not been transferred to the Employer (see Clause 6.9.1), shall be removed from the Site on termination of the contract by any party.
9.3.2.3	Not applicable to this Contract.
9.3.3	Add 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.
	Nothing in this Clause shall prejudice the right of the Contractor to exercise, either in lieu of or in addition to the Contractor rights and remedies specified in this Clause, any other rights or remedies to which the Contractor may be entitled under the Contract or common law.
10.1.3.1	Replace Clause 10.1.3.1 with the following:
	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 Employer's Agent, records in a form approved by the Employer's Agent, 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, plant, labour, and materials relevant to each claim. Such records shall be submitted promptly after the occurrence of the event giving rise to the claim.
10.1.3.6	Replace Clause 10.1.3.6 with the following:
	The Employer, the Employer's Agent and the Contractor shall in any proceedings in accordance with Clauses 10.3 and 10.11 be entitled to give or lead evidence of or rely on any fact or circumstance not recorded in terms of this Clause, if other party to the dispute is prejudiced by such non-recording of the facts.
10.1.4	Ref Clause 3.2.3.
10.1.5	Ref Clause 3.2.3.
10.1.6	Add new Clause 10.1.6:
	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.
10.1.3.6	Replace Clause 10.1.3.6 with the following:
	The employer, the Employer's Agent and the Contractor shall in any proceedings in accordance with Clauses 10.3 and 10.11 be entitled to give or lead evidence oof or rely on any fact or circumstance not recorded in terms of the Clause, if the other party to the dispute in prejudiced by such nor-recording of the facts.
10.2.1	Replace Clause 10.2.1 with the following:
	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 Employer's Agent. This written claim shall be supported by particulars and substantiated.



10.2.2	Replace Clause 10.2.2 with the following:
	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.
10.2.3	Ref clause 3.2.3.
10.3.2	Replace Clause 10.3.2 with the following:
	If either party shall have given notice in compliance with Clause 10.3.1, the dispute shall be referred immediately to mediation under Clause 10.5, unless amicable settlement is contemplated.
10.3.3	Replace Clause 10.3.3with the following::
	In respect of a ruling given by the Employer (Ref clause 3.2.3), and although the parties may have
	delivered a Dispute Notice, the ruling shall be in full force and carried into effect unless and until
	otherwise agreed by both parties, or in terms of a mediation decision or court judgement.
10.4.2	Replace Clause 10.4.2 with the following:
	If the other party rejects the invitation to amicable settlement in writing, or does not respond in writing to the invitation within 14 days, or amicable settlement is unsuccessful, referral to mediation shall follow immediately. Should mediation be unsuccessful, the dispute shall be resolved by Litigation.
10.4.4	Replace Clause 10.4.4 with the following:
	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	Replace Clause 10.5 with the following: The parties may, by agreement and at any time before Litigation, refer a dispute to mediation, in which event:
	10.5.1 The appointment of a mediator, the procedure, and the status of the outcome shall be agreed between the parties.
	10.5.2 Regardless of the outcome of a mediation the parties shall bear their own costs concerning the Mediation and equally share the costs of the mediator and related expenses.
10.6	Not applicable to this Contract.
10.7	Not applicable to this Contract.
10.10.3	Replace Clause 10.10.3 with the following:
	The court shall have full power to open up, review and revise any ruling, decision, order, instruction, certificate or valuation of the Employer's Agent and Employer and neither party shall be limited in such proceedings before such court to the evidence or arguments put before the Employer's Agent or Employer for the purpose of obtaining his ruling.



#### B 16.0 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.	Select
(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.	Select
(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.	Select
(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.	Select
(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. 48491 of 28 April 2023. and the cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.	Select
(f)	DPWI National Youth Service training and development programme (NYS) – Condition of Contract.	Applicable
(g)	Labour Intensive Works – Condition of Contract.	Select
(h)		Select
(i)		Select



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### PART 2: CONTRACT DATA COMPLETED BY THE TENDERER:

### C TENDERER'S SELECTIONS

### C 1.0 Securities [11.0]

In respect of contracts with a contract sum up to R1 million, the security to be provided by the contractor to the employer will be a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT).

In respect of contracts with a contract sum more than R1 million, the security to be provided by the contractor to the employer will be selected by the Contractor as indicated below:

Guarantee for construction: Select Option A, B, C, D or E	

Option A	cash deposit of 10 % of the contract sum (excluding VAT)
Option B	variable construction guarantee of 10 % of the contract sum (excluding VAT) (DPW-10.3 EC)
Option C	payment reduction of 10% of the value certified in the payment certificate (excluding VAT)
Option D	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)
Option E	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) (DPW-10.1 EC)]

NB: Insurances 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.

Guarantee for payment by employer [11.5.1; 11.10]	Not applicable
Advance payment, subject to a guarantee for advance payment [11.2.2; 11.3]	Not applicable



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### C 2.0 Payment of preliminaries [25.0]

### Contractor's selection

Select Option A or B

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

### Payment methods

Option A

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

Option B

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

### Lump sum contract

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

### C 3.0 Adjustment of preliminaries [26.9.4]

### Lump sum contract

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

### Contractor's selection

Select Option A or B

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

### Provision of particulars

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

Option A	An allocation of the <b>preliminaries</b> amounts into Fixed, Value-related and Time-related amounts as defined for adjustment method Option A below, within fifteen (15) <b>working days</b> of the date of acceptance of the tender
Option B	A detailed breakdown of the <b>preliminaries</b> amounts within fifteen (15) <b>working days</b> of possession of the <b>site</b> . Such breakdown shall include, inter alia, the administrative and supervisory staff, the use of <b>construction equipment</b> , establishment and dis-establishment charges, insurances and guarantees, all in terms of the <b>programme</b>

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".

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### Adjustment methods

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

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

### Failure to provide particulars within the period stated

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

For Internal & External Use



Project title:

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

Tonga Magistrate Courts: Repairs and Upgrade of Rooftop Package Units and Ducting

Tender / Quotation no:	NST 25/017	Reference no:	
OFFER	¥		
procurement of:	the acceptance signature blooftop Package Units and Du		enter into a contract for the
	e offer signature block, has exa able schedules, and by submit		in the tender data and addenda the conditions of tender.
acceptance, the Tenderer of including compliance with all	ffers to perform all of the obliq	gations and liabilities of the rding to their true intent and	part of this form of offer and Contractor under the contract d meaning for an amount to be
	SIVE OF ALL APPLICABLE TAXE ance fund contributions and skills d	•	es value- added tax, pay as you earn,
Rand (in figures) R			
Rand (in words)			
	lence over the amount in figures. The a otiated and agreed price will be consid		
returning one copy of this do	ocument to the Tenderer before	the end of the period of va	rm of offer and acceptance and alidity stated in the tender data, ons of contract identified in the
THIS OFFER IS MADE BY 1 Company or Close Corporation	THE FOLLOWING LEGAL EN	FITY: (cross out block whic Natural Person or Partner	
	***************************************		
And: Whose Registration Num		Whose Identity Number(s	) is/are:
	O	R	
And: Whose Income Tax Refe	rence Number is:	Whose Income Tax Refer	ence Number is/are:
CSD supplier number:		CSD supplier number:	99393

<sup>\*</sup>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".

<sup>\*\*</sup>Any reference to the words "payment reduction" herein shall be construed to have the same meaning as the word "retention" For Internal & External Use



Tender / Quotation no: NST 25/017

		А	ND WHO IS (if appli	cable):		
Tradi	ng under	the name and style of:	econo de la compansión de			
			AND WHO IS:			
Repr	esented h	nerein, and who is duly authorised to o	do so, by:	Note:		
Mr/M	rs/Ms:			A Resolution / Power of Attorney, signed b Directors / Members / Partners of the Leg-must accompany this Offer, authorisis		
	In his/her capacity as:			Representative to make		
SIGN	ED FOR	THE TENDERER:				
	Na	ame of representative	S	ignature	Date	
WITN	ESSED	BY:				
		Name of witness	S	gnature	Date	
The or The or Own a	fficial do fficial alt alternativ	respect of: (Please indicate with cumentsernativeernative makes properties of the control of the co			(N.B.: Separate Offer and Acceptance forms are to be completed for the main and for each alternative offer)	
SECU	RITY O	FFERED:				
(a) (b)	(exclud	enderer accepts that in respect of co ding VAT) will be applicable and will be ect of contracts above R1 million, the	e deducted by the E	mployer in terms of the ap	plicable conditions of contract	
(~)	(1)	cash deposit of 10 % of the Contract			Yes 🗌 No 🗌	
	(2)	variable construction guarantee of	10 % of the Contrac	t Sum (excluding VAT)	Yes ☐ No ☐	
	(3)	payment reduction of 10% of the va	alue certified in the p	ayment certificate (excludir	ng VAT) <b>Yes</b> 🗌 <b>No</b> 🗌	
	(4)	cash deposit of 5% of the Contract of the value certified in the paymen			of 5% Yes No	
	(5)	fixed construction guarantee of 5% reduction of 5% of the value certific			yment 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 proforma will be accepted.

<sup>\*</sup>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

<sup>&</sup>quot;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: NST 25/017

The Tenderer elects as its domicilium citano notices may be served, as (physical address)	di et executandi in the Republic of South Africa, where any and all legal: ):
5-50	
Other Contact Details of the Tenderer are:	
Telephone No	Cellular Phone No.
Fax No	
Postal address	U
Banker	Branch
Registration No of Tenderer at Department of	f 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

<sup>\*</sup>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".

<sup>\*\*</sup>Any reference to the words "payment reduction" herein shall be construed to have the same meaning as the word "retention" For Internal & External Use



Tender / Quotation no: NST 25/017

Name of Organisation:	Department of Public Works and Infrastructure			
Address of Organisation:				
WITNESSED BY:				
Name of with	ess	Signature	е	Date
Schedule of Deviations				
1.1.1. Subject:				
Detail:				
1.1.2. Subject: Detail:				
1.1.3. Subject:	_			
1.1.4. Subject:				
1.1.5. Subject:				
Detail:				
1.1.6. Subject:				
Detail:				
Detail:	contativos cianina t	this agreement the Emplo	wer and the Tond	oror agree to and accept the

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.

<sup>\*</sup>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".

<sup>\*\*</sup>Any reference to the words "payment reduction" herein shall be construed to have the same meaning as the word "retention" For Internal & External Use



# DPW-10.4 (EC): FIXED CONSTRUCTION GUARANTEE GCC 3<sup>rd</sup> Edition (2015)

Director-General
Department of Public Works and Infrastructure
Government of the Republic of South Africa

### FOR ATTENTION

-				
$\mathbf{P}$	rıv	ate	Bac	ŀ

Sir.

4.

## FIXED CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF GCC 3rd Edition (2015)

1.	With reference to the contract	t between	
	of Public Works and Infrastre NST 25/017, for the Tonga M	r") and the Government of the Republic of South Africa in its I ucture (hereinafter referred to as the "employer"), Contract/agistrate Courts: Repairs and Upgrade of Rooftop Package to as the "contract"), for the sum of R	Tender No:
	I / We,		
	in my/our capacity as	e	and hereby
		(hereinafter referre juarantor holds at the employer's disposal the sum of R sing 5% of the contract sum (excluding VAT), for the due fulfille	,
2.	debiti; excussionis et divisionis the enforcement of this guara to be conversant, and undert	inces the benefits of the exceptions non numeratae pecunia; s; and de duobus vel pluribus reis debendi which could be plead intee, with the meaning and effect whereof I/we declare mysel ake to pay the employer the amount guaranteed on receipt of do so, stating that (in the employer's opinion and sole discrete	ded against f/ourselves of a written
	(a) the <b>contractor</b> has faile or	ed or neglected to comply with the terms and/or conditions of the	econtract;
	(b) the <b>contractor</b> 's estate in force within the Repu	is sequestrated; liquidated or surrendered in terms of the insolublic of South Africa.	vency laws
3.	Subject to the above, but with procedures provided for in the prior to the expiry of this guara	nout in any way detracting from the <b>employer</b> 's rights to adopt the <b>contract</b> , the said demand can be made by the <b>employer</b> at antee.	any of the any stage

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**.



DPW-10.4 (EC): Fixed Construction Guarantee - GCC GCC (2010) 2<sup>nd</sup> Edition 2010

Contract/Tender No: NST 25/017

- 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 aforegoing, 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.

	D AT	ON THIS	DAY OF	20
WIT	NESS			
	By and on behalf of	<del></del>		
				-
		(		
		(insert the name	and physical address	of the guaran
		NAME:	·	
		CAPACITY:		
		(duly authorised Annexure A)	thereto by resolution	attached mari
		DATE:		
1	No alterations and/or additions of the wo	ording of this form w	ill be accepted.	
1	The physical address of the guarantor m domicilium citandi et executandi, for all p	ust be clearly indica	ted and will be regarded	as the guaranto
C				



### **DPW-16. TENDER BRIEFING MEETING CERTIFICATE**

Project title:	TONGA MAGISTRATE C PACKAGE UNITS AND D	OURTS: REPAIRS UCTING.	AND UPGRADE OF ROOFTOP
Tender / Quotation no:	NST 25/017	Reference no:	1561
Date Bid Briefing Meeting			
Time of Bid Briefing Meet	ing: 11h00		
Venue: TONGA MAGISTI	RATE		
This is to certify that I,			
representing			
attended the tender clarifica	ition meeting on:		
I further certify that I am s clarification meeting and tha this contract.	atisfied with the description at I understand the work to b	of the work and ee done, as specifie	explanations given at the tender d and implied, in the execution of
Name of Tenderer	Signa	ure	Date
Name of DPW Represer	ntative Signal	ure	Date



### **DPW-21: RECORD OF ADDENDA TO TENDER DOCUMENTS**

Project title:	TONGA MAGISTRATE C PACKAGE UNITS AND DI		S AND UPGRADE OF ROOFTOP
Tender / Quotation no:	NST 25/017	Reference no:	1561

1. I / We confirm that the following communications received from the Department of Public Works 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.		

	Name of Tenderer	Signature		Date	
2.	I / We confirm that no commi			of Public Works	before the
	submission of this tender offer,	amending the tender docume	ents.		

Name of Tenderer	Signature	Date	

Page 1 of 1 DPW-21 (EC)



# PA- 40: DECLARATION OF DESIGNATED GROUPS FOR PREFERENTIAL **PROCUREMENT**

	Name of Tenderer
Tender Number: NST 25/017	Name of Tenderer

me of Tenderer					☐ EME <sup>2</sup>	☐ QSE³ ☐ Non	🔲 EME² 🔲 QSE³ 🔲 Non EME/QSE (tick applicable box)	plicable box)
1. LIST ALL PROPRIETORS, MEMBERS OR SHAREHOLD	ORS, MEMBERS O	R SHAREHOLD	ERS BY NAME, IC	ENTITY NUMBER	ERS BY NAME, IDENTITY NUMBER, CITIZENSHIP AND DESIGNATED GROUPS.	ND DESIGNATED	GROUPS.	
Name and Surname #	Identity/ Passport number and Citizenship##	Percentage	Black	Indicate if youth	Indicate if woman	Indicate if person with disability	Indicate if living in rural / under developed area/township	Indicate if military veteran
+			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
2.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
3.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
4.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
5.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
6.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	□ Yes □ No	☐ Yes ☐ No
7.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
8			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
9.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
10.			☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ 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) ##

<sup>&</sup>lt;sup>2</sup> EME: Exempted Micro Enterprise <sup>3</sup> QSE: Qualifying Small Business Enterprise



# 1. DECLARATION:

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the Tenderer, hereby confirms that:

- The information and particulars contained in this Affidavit are true and correct in all respects;
- 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, 2022, 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;
- 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; 3
- 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;
- 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; S

Date
Signature
Name of representative



### PRICING SCHEDULE

Bid no: NST 25/017

Bid/ Project Description: TONGA MAGISTRATE COURTS: REPAIRS AND UPGRADE OF ROOFTOP

PACKAGE UNITS AND DUCTING.

Paste Pricing Schedule here

### **DEPARTMENT OF PUBLIC WORKS & INFRASTRUCTURE** DOJ: TONGA MAGISTRATE COURT

### REPAIRS AND UPGRADE OF ROOFTOP PACKAGED UNITS AND DUCTING

### SCHEDULE OF QUANTITIES

**BILL 01: PRELIMINARIES AND GENERALS** 



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

Item	Description	Unit	Qty	Rate	Amount
	DADT 44 DDFLIMINARY AND CONTRACT				
	PART 1A: PRELIMINARY AND GENERAL				
	The agreement is to be the Concret Conditions of			-	
	The agreement is to be the General Conditions of Contract (GCC 2015), Published by the	_			
	SA Institution of Civil Engineering.				
	CAMBARAGON OF CAME Engineering.				
	The preliminaries are to be the Construction and	-			
	management requirements for works contracts - Part 1:				
	General engineering and construction works (Latest				
	SANS 1921) prepared by SABS 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		1.7		
	each relevant clause heading.	1			
	Where any item is not relevant to this specific contract	1			<del>                                     </del>
	such items is marked N/A (signifying "not applicable").				
	termination in the state of the				
	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.	+ +			
	value and it denotes an amount in proportion to time.				
	Time (T) related Draliminaries will only be editated for				
	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				
	extention of time has been granted.				
_	extention of time has been granted.	+			
	SECTION A: GENERAL CONDITIONS OF CONTRACT	+			
	SECTION A. SEMENAE SOMETHONS OF CONTINACT				<del>                                     </del>
A1	General (Clause 1)	-			
AI	General (Glause 1)				
	F: V: T:	Itama			
	F V I	Item			
A2	Basis of Contract (Clause 2)				
AZ	Dasis of Collitact (Clause 2)				
	F. 76 F	<del>                                     </del>			<del>                                     </del>
	F: V: T:	Item			
A3	Engineer (Clause 3)	+			
73	Linguisco (olause o)	+			-
	F: V: T:	Item			
	1	пеш			

### **DEPARTMENT OF PUBLIC WORKS & INFRASTRUCTURE** DOJ: TONGA MAGISTRATE COURT

### REPAIRS AND UPGRADE OF ROOFTOP PACKAGED UNITS AND DUCTING

### **SCHEDULE OF QUANTITIES**



Item	Description	Unit	Qty	Rate	Amount
	Doorphon	Olit	Qty	Rate	Amount
					"
	BROUGHT FORWARD				
A4	Contractor's General Obligation (Clause 4)				
	F: V: T:	la			
	F V I	Item			
A5	Time and Related Matters (Clause 5)				
	F: V: T:				
	1	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:T:	Hana			
	VV.	Item			
B2	Normative references				
	F:V:T:	Item			
B3	Definitions				<del> </del>
	F: V: T:	Henry			
		Item			
B4	Requirements for construction and management				
	F: V: T:	Item			ļ
		item			
B4.1	General	It			
	· · · · · · · · · · · · · · · · · · ·	Item			
B4.2	Responsibilities for design and construction				
	F: V: T:	Item			

### SCHEDULE OF QUANTITIES

### **BILL 01: PRELIMINARIES AND GENERALS**



Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

Item	Description	Unit	Qty	Rate	Amount
			BROU	IGHT 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:	Item			
B4.10	Earthworks				
	F: V: T:	Item			
B4.11	Testing F: V: T:	Item			
B4.12	Materials, samples and fabrication drawings	Rem			
D4.12	F: V: T:	Item			
B4.13	Equipment				
	F: V: T:	Item			
B4.14	Site establishment				
	F: V: T:	Item	İ		
B4.15	Survey control				
	F:T:	Item			
			CADI	RIED FORWARD	

### SCHEDULE OF QUANTITIES



Item	Description	Unit	Qty	Rate	Amount
			PPOL	ICUT FORWARD	
			BROU	JGHT FORWARD	
B4.16	Temporary works				
	F: V: T:	Item			
B4.17	Existing services				
	F: V: T:	Îtem			
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:T:	Item			
B4.22	Attendance on nominated and selected subcontractors	item			
	F: V: T:	Item			
	SECTION C: SCOPE OF WORK IN ACCORDANCE	item			
	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			
				RIED FORWARD	

### SCHEDULE OF QUANTITIES



ltem	Description	Unit	Qty	Rate	Amount
		T T	BROU	JGHT 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			
03	Samples of materials. Workmanships and finishes - (Clause 4.12.1)			JUGHT FURWARD	
	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			

### **SCHEDULE OF QUANTITIES**

**BILL 01: PRELIMINARIES AND GENERALS** 



public war kit. & infrastructure Department: Public Works and Infrastructure REPUBLIC OF SOUTH AFRICA

tem	Description	Unit	Qty	Rate	Amount
		Т т	BROL	JGHT FORWARD	
D6	Telephone - (Clause 4.14.3)				
	F: V:	Item			
D7	Office for inspector of works - (Clause 4.14.3)				
	F: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				
	F V I:	Item			
D8	Telephone in office for inspector of works -				
_	(Clause 4.14.3)				
	F: V: T:	Item			
D9	Provision and erection of signhoards (Clause 4.14.6)				
	1 - Original and erection of signibilities - (Clause 4.14.0)	1			
	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)	n of signboards - (Clause 4.14.6) T:			
	F: V: T:	Item			
D12	Detection apparatus - (Clause 4.17.4)				
	F: V: T:	Item			
D13	Additional health and safety requirements -	+			
	(Clause 4.18)	tor of works - (Clause 4.14.3)			
_	F: V: T:	Ifam			
	1	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.				
	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			
				RIED FORWARD	_======================================

### SCHEDULE OF QUANTITIES



Wherever a Trade Name for any product has described in the Bill of Quantities, the Bidder's is drawn to the fact that any other product of emay be used, subject to the written approval of Principal Agent being obtained prior to the clofor the submission of the Bids.  F:	Unit	Qty	Rate	Amount
Site instructions issued on site are to be reconstriplicate in a Site Instruction book which is to maintained on site by the Contractor  F:				
Site instructions issued on site are to be reconstriplicate in a Site Instruction book which is to maintained on site by the Contractor  F:		BROL	JGHT FORWARD	
Site instructions issued on site are to be reconstriplicate in a Site Instruction book which is to maintained on site by the Contractor  F:				
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triplicate in a Site Instruction book which is to maintained on site by the Contractor  F:V:T:	rded in			
maintained on site by the Contractor  F:				
F:				
At every site meeting, the Contractor shall pro Engineer/Principal agent with a written record schedule form, reflecting the number, type an of all plant, excluding hand tools, currently use works.  F:				
At every site meeting, the Contractor shall provided Engineer/Principal agent with a written record schedule form, reflecting the number, type and of all plant, excluding hand tools, currently usworks.  F:	Item			
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Engineer/Principal agent with a written record schedule form, reflecting the number, type an of all plant, excluding hand tools, currently use works.  F:	ovide the			
schedule form, reflecting the number, type an of all plant, excluding hand tools, currently us works.  F:	l, in			
of all plant, excluding hand tools, currently us works.  F:				
works.  F:	ed on the			
E4 SITE OFFICE  The Contractor is to allow for the provision and of a site office in accordance with the Principal requirements. To accommodate 6 persons.  F:				
E4 SITE OFFICE  The Contractor is to allow for the provision and of a site office in accordance with the Principal requirements. To accommodate 6 persons.  F:				
The Contractor is to allow for the provision an of a site office in accordance with the Principal requirements. To accommodate 6 persons.  F:	Item			
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requirements. To accommodate 6 persons.  F:	d removal			
requirements. To accommodate 6 persons.  F:	al Agent's			
E5 TRADE NAMES  Wherever a Trade Name for any product has described in the Bill of Quantities, the Bidder's is drawn to the fact that any other product of emay be used, subject to the written approval of Principal Agent being obtained prior to the closofor the submission of the Bids.  F:	- I			
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Wherever a Trade Name for any product has described in the Bill of Quantities, the Bidder's is drawn to the fact that any other product of emay be used, subject to the written approval of Principal Agent being obtained prior to the closofor the submission of the Bids.  F:	Item			
described in the Bill of Quantities, the Bidder's is drawn to the fact that any other product of emay be used, subject to the written approval of Principal Agent being obtained prior to the closofor the submission of the Bids.  F:				
described in the Bill of Quantities, the Bidder's is drawn to the fact that any other product of emay be used, subject to the written approval of Principal Agent being obtained prior to the closofor the submission of the Bids.  F:	been			
may be used, subject to the written approval of Principal Agent being obtained prior to the close for the submission of the Bids.  F:	attention			
Principal Agent being obtained prior to the clo for the submission of the Bids.  F:	equal quality			
Principal Agent being obtained prior to the clo for the submission of the Bids.  F:	of the			
for the submission of the Bids.  F:	sing date			
E6 INACCURATE AND DEFECTIVE WORK EX UNDER PREVIOUS CONTRACT The contractor shall, after taking possession of and before commencing the work, check all lest profiles and the like and satisfy himself as to the dimensional accuracy of all work executed undeprevious contract which may affect his work.  Should any inaccurate or detective work be for contractor shall immediately notify the principal in writing requesting his instructions with regard and afford every facility to those rectifying suclinaccurate or defective work.				
INACCURATE AND DEFECTIVE WORK EX UNDER PREVIOUS CONTRACT The contractor shall, after taking possession of and before commencing the work, check all less profiles and the like and satisfy himself as to the dimensional accuracy of all work executed under previous contract which may affect his work.  Should any inaccurate or detective work be for contractor shall immediately notify the principal in writing requesting his instructions with regard and afford every facility to those rectifying succinaccurate or defective work.				
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### SCHEDULE OF QUANTITIES



Item	Description	Unit	Qty	Rate	Amount
E7	VIEWING THE SITE IN SECURITY AREAS		BROL	IGHT FORWARD	
	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.				
	to enter the site for Bloding purposes.				
	F: V: T:	Item			
	1	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 aditional				
	costs will be for the contractor's account.	+-+	_		
	The second secon				
	F: V: T:	Item			
		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 ans 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			
10	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		1	
11	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			

### **SCHEDULE OF QUANTITIES**

### **BILL 01: PRELIMINARIES AND GENERALS**



Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

ltem	Description	Unit	Qty	Rate	Amount
			BROU	GHT FORWARD	
E12	MANAGEMENT OF WATER	1 1			
	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 purposes. 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			
		Rent			
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 explicity 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	1			
	Regulations and Health and Safety specification is	1			
	compulsory. In the event of partial or total non-	1 1			
	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).				
			CARR	IED FORWARD	

### **SCHEDULE OF QUANTITIES**

### **BILL 01: PRELIMINARIES AND GENERALS**



Department.
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

Item	Description	Unit	Qty	Rate	Amount
			BBOL	ICHT FORWARD	
			BRUL	JGHT 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	-		
		1			
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				
L 10.0	(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				
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			CARE	RIED FORWARD	

### **SCHEDULE OF QUANTITIES**



Item	Description	Unit	Qty	Rate	Amount
E40.4	LICALTILAND SAFETY FILE / Constanting	7 7	BROL	JGHT 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 ans 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.	+			
	salety file to the principal agent.	+			_
	F: V: T:	Item			
E13.5	SUPERVISION OF CONSTRUCTION WORK ( Safety				
	officier) (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 officier 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			
E40.0	DIOY ACCESSIVENT AND CAFETY DOLLOW				
E13.6	RISK ASSESSMENT AND SAFETY POLICY			ARRIED FORWARD	
	( 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				
	precuations 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.				
	present as assuming to property at terms of the guidation //				
	F: V: T;	Item			
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### SCHEDULE OF QUANTITIES

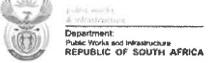
**BILL 01: PRELIMINARIES AND GENERALS** 



Department:
Public Works and Infrastructura
REPUBLIC OF SOUTH AFRICA

ltem	Description	Unit	Qty	Rate	Amount
			BRO	UGHT FORWARD	
13.7	SIGNIFICANT HAZARD IDENTIFICATION RISK	-			
	ASSESSMENT PREPARED BY THE DESIGN				
	CONSULTANTS	+ +			
	The Contractor shall allow for additional finanical	+ +			
	provision, if any , to take the necessary precauations		-	-	
	regarding the significant hazards and risks identified		-		
	and assessed by the design consultants.	-			
	and deceased by the decign contentants.				
	F: V: T:	Item			
E13.8	ADDITIONAL FINANICAL PROVISION				
	The Contractor shall allow for additional finanicial				
	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	-			
L 10.0	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.	+			
	meant and safety plan and file.				
	F: V: T:	Item			
		1.0			
13.10	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.				
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### SCHEDULE OF QUANTITIES



Item	Description	Unit	Qty	Rate	Amount
			BRO	UGHT FORWARD	
<b>≣13.11</b>	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:	Mana			
	F	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:T:	Item			
	1	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			
	7	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.				
	T				
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### SCHEDULE OF QUANTITIES



Item	Description	Unit	Qty	Rate	Amount
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			BRO	JGHT FORWAR	D
4245	DISIZ COMPLIANCE AREAS (A. O. 45.				
13.15	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 conductor of the conductor				
	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				
	Boarders				
	F: V:	Item			
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### SCHEDULE OF QUANTITIES



Item	Description	Unit	Qty	Rate	Amount	
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		BROL	OUGHT 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	l Ul				
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### SCHEDULE OF QUANTITIES



Item	Description	Unit	Qty	Rate	Amount
_			BROL	JGHT FORWARD	
14.1	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 5 (Five)				
	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:	Item			

### SCHEDULE OF QUANTITIES

### **BILL 01: PRELIMINARIES AND GENERALS**



Department:
Public Works and Infrastructural
REPUBLIC OF SOUTH AFRICA

tem	Description	Unit	Qty	Rate	Amount			
		BROUGHT FORWARD						
			DICO	JOHN TORWARD				
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:T:T:	Item						
15.2	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							
_	accordance with the mivialus specification							
	F: V: T:	Item						
		+						
			CARI	RIED FORWARD				

### SCHEDULE OF QUANTITIES



Item	Description	Unit	Qty	Rate	Amount
_					
			BROU	JGHT FORWARD	
15.3	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			
		HCIII			
15.4	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				
	The state of the s				
	F: V: T:	Item			
		Rem			
15.5	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			
		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			
		Hell			
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 premesis.				
	F: V: T:	Item			
		Relli			
		+			
		_			
$\neg$		+			
- 1	CARRIED FORWARD TO SECTION 1 OF SUMMARY				
	THE PROPERTY OF SUMMARY				



### **SCHEDULE OF QUANTITIES**

### BILL 2: HEATING, VENTILATION AND AIR-CONDITIONING

### PAGE 1 OF 3

BILL No. 2 : HVAC (As per drawing)

tem	Description				
.001	MAJOR EQUIPMENT	Unit	Quantity	Rate	Amount
1.002					
	Tanit complete with:	ויי			
1.003	Packaged units shall include; Supply, delivery, installation and	1			) i
	commissioning by supplier. Installation shall include all required accessories	1			
	and consumables to complete installation		1 1		1
1.004	Contractor is required to submit a minimum of 3 different reputable	1			
	equipment submittals and data sheets with proof of spares available locally	1			
	to the Engineer for approval.				
1.005	and the control of the country and nearing at the required canacity				
1.006	- Anti Vibration Mouning		1 1		
1.007	- 401 0011100(10110				
1.008	1 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -		1 1		
1.009	- Commissioning by supplier				
1.010	The second post of ficon all and lefter all this				
1.011	- Fresh air intake grille c/w Opposed Blade Damper				
1.012	- Hard-wired wall-mounted controller				
1 040	Dura :				
	Drawing reference:				
1.014	- RTU 01: Capacity 53Kw, 3300 l/s	No	2		
004	DUCTING		-		
001	1				
2002	Allowance shall be made for all ducting penetrations and joints to be sealed and made good.				
002	All dust installations would be	l d			
.003	All duct installations must include supports, consumables and any other	1			
.004	accessories necessary to complete the installations.				
	External Ducting - Externally insulated Galvanised sheet metal ducting	1 1	1		
.005	rectangular ducting supported on concrete slab.				
	Category 1 Category 2	m²	20		
	Category 2	m²	16		
.000	Category 3	m²	0		
009	Extra over for rectangular fittings supported on concrete slab.	1	1		
010	- Extra over fittings - Bends	- 1			
011	Category 1				
	Category 2	No	8		1
	Category 3	No	8		
- 0		No	0		1
014	- Extra over fittings - Transformations				
015	Category 1	. 1			1
016	Calegory 2	No	2		
	Category 3	No	2		1
	l.	No	o		
	Cladding	- 1			
019	Sheet metal cladding around ducting with external insulation	m²	40		
- 1		n²	40		
	1				
	Carried forward				

### PAGE 2 OF 3

BILL No. 2 : HVAC (As per drawing)

tem	Description	Unit	Quantity	Rate	Amount
	Brought forward				
2.020	Internal Ducting - Externally insulated galvanised sheet metal ducting				
2.021	Rectangular ducting supported from roof trusses				
2.022	Category 1	m <sup>2</sup>	260		
2.023	Category 2	m²	102		
2.024	Category 3	m²	60		
2.025 2.026	Extra over for rectangular fittings supported from trusses - Extra over fittings - Bends				
2.020					
2.027		No	6		
2.026	Category 2 Category 3	No No	4		
		INO	4		
2.030 2.031	- Extra over fittings - Transformations Category 1				
2.031		No	4		
	Category 2	No	4		
2.033	Category 3	No	4		1
2.034	- Extra over - Spigots				
2.035	Category 1	No	18		
	Category 2	No	0		
2.037	Category 3	No	0		
2.038	- Extra over - Shoe				
2.039	Category 1	No	18		
	Category 2	No	0		
2.041	Category 3	No	ő		
2.042	- Extra over - Stop End				
	Category 1	N-	ار		
2.045	Category 1	No	4		
2.044	Flexible ducting				
	Flexible ducting must include connection to supply air ducting and air				
	terminals. Maximum length must not exceed 1.5m long.				
2.046	Ø250mm	m	o		
	Ø300mm	m	0		
	Ø350mm	m	27		
	ODILLES I DIFFLIOF DO				
	GRILLES and DIFFUSERS All air terminal installations must include connection to ducting and mounting				
- 1	on the ceiling grid.				
	Constant Volume Terminals, with opposed blade damper				
3,002	Supply Air Diffuser - SAD 01	. I	40		
	Return Air Grille - RAG 01 -600 X 600	No	18		
3,004	Transfer Air Grille: TAG 01 - 600 X 600	No	6		
	Weather Louver - WL 01 - 450 X 450	No	6		
,,003	**Cauter Louver - **L 01 - 450 A 450	No	2		
	Sound Attenuator				
, ,,,_	Damper, connected to an internal sheet metal bend c/w sonic liner. (Supply				
	ducting)	No	2		
	Damper, connected to an internal sheet metal bend c/w sonic liner. (Return				
8,008	air ducting)	No	2		1
			- 1		
- 1	Carried forward	- 1	- 1		

### PAGE 3 OF 3

BILL No. 2 : HVAC (As per drawing)

em	Description	Unit	Quantity	Rate	Amount
	Brought forward				
3,004 3,005		No No No m No Lot	4 0 80 2 1 1 1		Amount
	TOTAL TRANSFERDED TO ITEMA OF SUMMER				
	TOTAL TRANSFERRED TO ITEM 2 OF SUMMARY				



### **SCHEDULE OF QUANTITIES**

**BILL 03: BUDGETARY ALLOWANCE** 

### PAGE 1 OF 1

11 11 11		1			
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DECOMMISSIONING				
	Decommissiong and removal existing package units	No	,	R	
	Credit to the department for decommissioned and disposed scrap	'''	-	l '`	
	material	Lot	-2	R	
		1-0.		. ` `	
	TRUSSES				
	Roof truss structural integrity assessment by specialist and				
	competent person. Produce a report with findings and				
	recommendations to be signed off by ECSA registered				
	Professional Engineer.	Lot	2	R	
	PC Sum for repairs/ replacement of roof truss elements	Sum			
	SCAFFOLDING				
	Scaffolding for				
	- ceiling installation				
	- lighting installation				
	- Ducting installations			Į.	
	- Roof truss repairs/ installation				
	PC Sum for erection of approved scaffolding	Sum	-		
	CEILING INSTALLATIONS				
	- Removal of all existing ceiling panels and ceiling grid to make				
	way for ducting installation.	sqm	432	R	
	- Installation of new ceiling grid and ceiling panels				
	(a) Ceilling grid (216 sqm) 600x600 grid	No	2	R	
	(b) 600 x 600 gypsum ceiling panels	No	1200	R	
	LIGHTING INSTALLATIONS				
	- Removal of all existing light fittings to make way for ceiling				
	removal.				
	- Installation of new light fittings similar to existing.				
	(a) Fluorecent light fittings 600x 1200	No	20	R	
	(b) Installation of wiring to connect to light fittings.	m	200	R	
	OTHERS				
	PC Sum for Cranage & Lifting of Roof Equipment	Sum			
	PC Sum for roof leak detection and repairs	Sum	-		
	PC Sum for builder's works	Sum			
	PC Sum for access door and cat ladder to plant area and cat				1 1
	ladder				
	PC Sum for trunking	Sum			1 1
	PC Sum for cable trays	Sum			
	TOTAL TRANSFERRED TO ITEM 3 OF SUMMARY				

DOJ: MP: Tonga Magistrate Courts: Repairs And Upgrade Of Rooftop Package Units And Ducting: WCS 055472

PROJECT NAME:



ITEM NO	DESCRIPTION	UNIT	QUAN- TITY	RATE	AMOUNT
200	SECTION No 4				
	BILL BO				
	EMPLOYMENT AND TRAINING OF LABOUR ON THE EPWP-NYS				
	PREAMBLES				
	Tenderers are advised to study the Additional Specification SL: Employment and Training of Labour on the Expanded Public Works Programme (EPWP) Infrastructure Projects: National Youth Service, as bound elsewhere in the Bills of Quantities, and then price this Bill accordingly				
200,01	TRAINING OF YOUTH WORKERS: EXPERIENCIAL LEARNING (TARGET: 2 YOUTH WORKERS)				
	Orientation, Life skills development and technical training:				
200.01.01	Orientation and Life skills development training for youth workers for an average of 1 month per youth worker (ref. SL 11.01.01)				
200.01.02	Technical skills training for youth workers for an average of 11 months per youth worker (ref. SL 11.01.02)				
	The above items are only applicable if NYDA do not fund the specific training.				
200.01.03	Payment Reduction due to not meeting the training target (ref. SL 11.03)	Youth-worker	-2 500		
200.01.04	Profit and attendance on condition that services and cost has been incurred (on items 200.01.01 and 200.01.02 above)	%	R -		-
200,02	TRAVELING DURING ON-SITE TRAINING:				
200.02.01	Practical Work based Experiential training for 10 days each (ref. SL 11.02.01)				
	.01 Traveling (based on R40 per day return trip/youth worker)	PC		Sum	12 149,47
	Profit and attendance on condition that services and cost has been incurred (on item .01 above)	%	R 12 149		0,00
	Carried forward			R	12 149,47



NO NO	DESCRIPTION	UNIT	QUAN- TITY	RATE	AMOUNT
	Brought forward			R	12 149,4
200,03	EMPLOYMENT OF YOUTH WORKERS				
200.03.01	Employment of youth workers	PC		Sum	91 121,05
	The unit of measurement shall be the number of youth workers at the labour rate of R 150.00 per day on Training as per EPWP Ministerial Determination multiplied by the period employed in months and the rate tendered shall include full compensation for all costs associated with the employment of youth workers and for complying with the conditions of contract. The cost for the training shall be excluded from this item. This item is based on 9 months appointment for youth workers				
200.03.02	Profit and attendance on condition that services and cost has been incurred (ref. SL 11.04.02)	%	91 121,05		-
200,04	PROVISION OF EPWP DESIGNED OVERALLS AND HARD HATS TO YOUTH WORKERS				
200.04.01	Supply EPWP branded 2 x overalls, safety boots and 1 x EPWP branded hard hat to youth workers (ref. SL 11.05.01)	PC		Sum	3 451,56
200.04.02	Profit and attendance on condition that services and cost has been incurred (ref. SL	%	3 452		-
200,05	PROVISION OF BASIC TOOLS FOR YOUTH WORKERS				
200.05.01	Provide all youth workers with prescribed tools for their respective trades.  Specification for the mentioned tools to be provided by the Service Provider. These tools will become the property of the youth workers after the completion of the programme (ref. SL 11.06.01)	PC		Sum	4 141,87
200.05.02	Profit and attendance on condition that services and cost has been incurred (ref. SL 11.06.02)	%	4 142		-
arried to F	inal Summary			R	110 863,95
-					



# MECHANICAL ENGINEERING SERVICES

	BILL 04 : FINAL SUMMARY	
Bill no	Description	AMOUNT
1	PRELIMINARIES AND GENERAL	R
2	HVAC	R
3	BUDGETARY ALLOWANCE	R
4	EMPLOYMENT AND TRAINING OF LABOUR ON THE EPWP-NYS	R 110 863,95
5	SUB TOTAL	R
ļ	TOTAL TENDERED VALUE EXCLUDING, VAT.	R
	15% VAT	R
<u> </u>	TOTAL TENDERED VALUE INCLUDING VAT. CARRIED TO FORM AND OFFER AND ACCEPTANCE DPW-07(EC)	R



# **OCCUPATIONAL HEALTH AND SAFETY**

# HEALTH & SAFETY SPECIFICATIONS

**FOR** 

PROJECTS AND MAINTENANCE (BUILDING/ELECTRICAL/MECHANICAL)

MANAGED ON BEHALF OF

THE NATIONAL DEPARTMENT OF PUBLIC WORKS

PROJECT: Ref No:

### **PUBLIC WORKS:**

Mr. - HEALTH & SAFETY OFFICER (ELECTRICAL)

Mr. K.E Nkuna (079-699-2114)

Mr. - HEALTH & SAFETY OFFICER (MECHANICAL)

Mss NW Mahlanyana (073-167-2956)

Mr. - HEAD: PROJECTS & MAINTENANCE

Mr - PROJECT MANAGER

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	HEALTH AND SAFETY FILE COMPILATION AND CONTENT	
15.	SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL	
1.	INSTALLATIONS  OHIDE TO THE CENERAL ADMINISTER ATIVE RECYLLATIONS	
	GUIDE TO THE GENERAL ADMINISTRATIVE REGULATIONS	
17.	IMPORTANT CONTACT DETAILS (HEALTH & SAFETY ONLY)	

#### 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, cognisance 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; "(name of 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, 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.

#### 4. **DEFINITIONS**

#### "Purpose of the Act" -

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, 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:

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 <u>sun-protection</u> 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, 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 are 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. above
- \* 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 that 20 persons (including the employees of other Contractors (subcontractors) he has to appoint one H&S Representatives 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
- Housekeeping improvement
- 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
  - 1. 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:
  - o Office/s
  - o 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:
  - o Angle grinder
  - o Electrical Drilling machine
  - o Skill saw
- \* Excavations including:
  - o Ground/soil conditions
  - Trenching
  - o Shoring
  - Drainage
  - Daily inspections
- \* Welding including:

- Arc Welding
- o Gas welding
- Flame Cutting
- o 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:
  - o Trenching machine
  - o Excavator
  - o Bomag Roller
  - o Plate Compactor
  - Front End Loader
  - Mobile Cranes and the ancillary lifting tackle
  - o 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

14.1 Administrat	ive & Legal Requirements Subject	Requirements
OHS Act Section/	Subject	Requirements
Regulation		
Construction.	Notice of carrying out	Department of Labour notified
Regulation 3	Construction work	Copy of Notice available on Site
General Admin.	*Copy of OH&S Act (Act	Updated copy of Act & Regulations on site.
Regulation 4	85 of 1993)	Readily available for perusal by employees.
COID Act	*Registration with	Written proof of registration/Letter of good standing available on
Section 80 Construction.	Compens. Insurer	Site
	H&S Specification &	H&S Spec received from Client and/or its Agent on its behalf
Regulation 4 & 5(1)	Programmed	OH&S programme developed & Updated regularly
Section 8(2)(d) Construction.	*Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded Risk Assessment and – Plan drawn up/Updated
Regulation 7	RISK ASSESSIFER	RA Plan available on Site
Regulation /	1	Employees/Sub-Contractors informed/trained
Section 16(2)	*Assigned duties	Responsibility of complying with the OH&S Act assigned to other
500000110(2)	(Managers)	person/s by CEO.
Construction.	Designation of Person	Competent person appointed in writing as
Regulation 6(1)	Responsible on Site	Construction Supervisor with job description
Construction.	Designation of Assistant	Competent person appointed in writing as
Regulation 6(2)	for above	Assistant Construction Supervisor with job description
Section 17 & 18	*Designation of Health &	More than 20 employees - one H&S Representative, one additional
General	Safety Representatives	H&S Rep. for each 50 employees or part thereof.
Administrative		Designation in writing, period and area of responsibility specified in
Regulations 6 & 7		terms of GAR 6 & 7
		Meaningful H&S Rep. reports.
		Reports auctioned by Management.
Section 19 & 20	*Health & Safety	H&S Committee/s established.
General Administrative	Committee/s	All H&S Reps shall be members of H&S Committees
Regulations 5		Additional members are appointed in writing.  Meetings held monthly, Minutes kept.
Regulations 5		Auctioned by Management.
Section 37(1) & (2)	*Agreement with Man	Written agreement with (Sub-)Contractors
500000000000000000000000000000000000000	dataries/	List of (Sub-)Contractors displayed.
	(Sub-)Contractors	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 &	*D	Last last Described Described to 1
General Admin.	*Reporting of Incidents	Incident Reporting Procedure displayed.
Regulation 8	(Dept. of Labour)	All incidents in terms of Sect. 24 reported to the Provincial Director, Department of Labour, within 3 days. (Annexure
COID Act Sect.38, 39		1?)(WCL 1 or 2) and to the Client and/or its Agent on its behalf
& 41		Cases of Occupational Disease Reported
		Copies of Reports available on Site
		Record of First Aid injuries kept
General Admin.	*Investigation and	All injuries which resulted in the person receiving medical
Regulation 9	Recording of Incidents	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
Construction	Fall Duana-4: 0	Action taken by Site Management.
Construction. Regulation 8	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan
regulativii o	TIOLOCHON	Protection Plan Proof of appointees competence available on Site
		1 roof 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/	*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,

Electrical Installation Regulations		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 coordinate 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

		<ul> <li>every 36 months.</li> <li>Register/Log kept of inspections, tests. Modifications &amp; repair</li> </ul>
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 Policy signed by CEO and published/Circulated to Employees		
OH&S Policy	Policy displayed on Employee Notice Boards	
Section 7(1)	Management and employees committed.	
*Company/Site	Rules published	
OH&S Rules	Rules displayed on Employee Notice Boards	
(Section 13(a)	Rules issued and employees effectively informed or trained: written proof	
	Follow-up to ensure employees understand/adhere to the policy and rules.	
*Induction &	All new employees receive OH&S Induction Training.	
Task Safety	Training includes Task Safety Instructions.	
Training	Employees acknowledge receipt of training.	
(Section 13(a)	Follow-up to ensure employees understand/adhere to instructions.	
*General OH&S	All current employees receive specified OH&S training: written proof	
Training	Operators of Plant & Equipment receive specified training	
(Section 13(a)	Follow-up to ensure employees understand/adhere to instructions.	
*Occupational	Incident Experience Board indicating e.g.	
Health & Safety	* No. of hours worked without an Injury	
Promotion	* 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	Access control measures/register in operation
Measures	Security patrols after hours during weekends and holidays
	Sufficient lighting after dark
	Guard has access to telephone/ mobile/other means of emergency communication
Emergency	Emergency contact numbers displayed and made available to Security & Guard
Preparedness	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		Adequate No. of employees trained to use Fire Fighting Equipment.
Drill	&	Emergency Evacuation Plan available, displayed and practiced.
Evacuation		(See Section 1 for Designation & Register)

Subject	tective Equipment 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	Eye and Face (also Hand and Body) Protection (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	Hearing Protectors (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	Protective Gloves worn by employees handling / using:  * Cement / Bricks / Steel / Chemicals  * Welding Equipment  * Hammers & Chisels  * Jack / Kango Hammers etc.
*Respiratory Protection	Suitable/efficient prescribed Respirators worn correctly by employees handling / using:  * Dry cement  * Dusty areas  * Hazardous chemicals  * Angle Grinders  * Spray Painting etc.
*Fall Prevention Equipment	Suitable Safety Belts / 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	All items of Scrap/Unusable Off-cuts/Rubble and redundant material
System	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	Stacking:
	* Stable, on firm level surface/base.
	* Prevent leaning/collapsing
	* Irregular shapes bonded
	* Not exceeding 3x the base
	* Stacks accessible
	* Removal from top only.
	Storage:
	* Adequate storage areas provided.
	* Functional – e.g. demarcated storage areas/racks/bins etc.
	* Special areas identified and demarcated e.g. flammable gas,
See Section 1 for	cement etc.
Designation &	* Neat, safe, stable and square.
Register)	* Store/storage areas clear of superfluous material.
,	* Storage behind sheds etc. neat/under control.
	* Storage areas free from weeds, litter etc.
Waste	Re-usable off-cuts and other re-usable material removed daily and kept to
Control/Reclamati	a minimum in the work areas.
n	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	Sub-contractors required to comply with Housekeeping requirements.
Housekeeping)	The state of the s

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

4.7 Scaffolding / Formwork / Support Work

Subject	Requirement	
Access/System	Foundation firm / stable	
Scaffolding	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	Foundation firm / stable	
Scaffolding	Sufficient bracing.	
_	Platform boards in good condition/sufficient/secured.	

	Territory and the second secon
	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	All components in good condition.
Work	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 /	Stepladders - hinges/stays/braces/stiles in order.
Use & Storage	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 <u>b'R'own</u> wire connects to the <u>'R'ight</u> hand connector. "Blue" has the letter 'L'
	in it, so the <u>b'L'ue</u> wire connects to the <u>'L'eft</u> 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.
ļ.	Cable arrestors in place and used inside plugs
*Physical condition of	Electrical Equipment and Tools: (includes all items plugging in to a 16 Amp supply socket)
Electrical Appliances	Insulation / casing in good condition.
& Tools	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  The correct and adequate Fire Extinguishing Equipment available for:  * 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	Fire Extinguishing Equipment:  * 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.
*Storage, Issue & Control of Hazardous Chemical Substances (HCS)	Leaking acetylene vessels to be returned to the supplier IMMEDIATELY.  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	Shored / Braced to prevent caving / falling in.
than 1m.	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	Shovels / Spades / Picks:  * Handles free from cracks and splinters  * Handles fit securely  * Working end sharp and true  Hammers:  * Good quality handles, no pipe or reinforcing steel handles.  * Handles free from cracks and splinters  Handles fit securely  Chisels:  * No mushroomed heads / heads chamfered  * Not hardened  * Cutting edge sharp and square  Saws:  * 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.

14.14 Site Plant and	
Subject	Requirement
Brick Cutting	Operator Trained.
Machine	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.
Compressors	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 /	Top platform provided with guardrails.
Batch Plant	Dust abatement methods in use.
Davell I land	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.
	Operators of values and annual and annual and annual and annual and annual and annual
*Gas Welding / Flame	Only authorised/trained persons use the equipment.
Cutting Equipment	Torches and gauges in good condition.
Cutting Equipment	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.
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14.15 Plant & Storage Yards/Site Workshops Specifics

Subject	Requirements	
Section 8(2)(1)	Person/s with specific knowledge and experience designated in writing to Supervise	
General Machinery Regulation	the Use & Maintenance of Machinery	
2(1):	Critical items of Machinery identified/numbered/placed on register/inventory	
Supervision of the Use &	Inspection/maintenance schedules for abovementioned	
Maintenance of Machinery	Inspections/maintenance carried out to above schedules	
*	Results recorded	
General Machinery Regulation	Schedule D Notice posted in Work areas	
9(2): Notices re. Operation of		
Machinery		
Vessels under Pressure	Person/s with specific knowledge and experience designated in writing to Supervise	
Regulation 13(1)(b):	the Use & Maintenance of VuP's	
Supervision of the Use &	VuP's identified/numbered/placed on register/Manufacturers plate intact	
Maintenance of Vessels under	Inspection/maintenance schedules for abovementioned	
Pressure (VuP)	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 excessiv
	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/	Only operated by trained/authorised persons
Shears	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 dieseline into storm water and other drains or into	

	existing or newly dug holes/cavities on site expressly prohibited.
*Hazardous Chemical	All substances identified and list available e.g. acids, flammables, poisons etc.
Substances	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 - Notification of construction work Regulation No. 3 Regulation No. 5 - Principal Contractor and Contractor Regulation No. 6 - Supervision of construction work Regulation No. 7 - Risk Assessment - Stacking & Storage on construction sites Regulation No. 26 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	<ul> <li>Use and temporary storage of flammable liquids on construction sites</li> </ul>
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:

- 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

TEM REGULATION		REGULATION APPOINTMENT	
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 information on the structure	Principal Contractor
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	Contractor

		Fall Protection Plan [CR 8(1)]	
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( <i>l</i> )	Fire Evacuation Plan	Contractor

# 3. INSPECTION CHECKLIST

5. INSTECTION 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:

Co	tractor 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	

SECTION/REGS	ITEM CHECKED	N/A	YES	NO
	A DE CAMPA COLUMN			
CR6(1)	APPOINTMENTS Supervisor:		-	
CR6(2)	Assistant Supervisor:			
S17(1)	Health & Safety Representative: (ratio)			
	Health & Safety Committees		-	
S19(1) 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)(I)	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	
	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	+
	0	
	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	
010		
	FIRE HAZARD & PRECAUTIONS	
GSR 4	Flammables used, waste, hot work, diesel	
ER 9(1)	Portable Extinguishers	
	Ü	
	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	
221 0(2)(1)	Floor slab sides, Shafts	
	2.001 Dano Danou, Manage	
	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)

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 mandatary appointments are contemplated.

- 26. GUIDE TO THE GENERAL ADMINISTRATIVE REGULATIONS (Document attached)
- IMPORTANT CONTACT DETAILS (HEALTH & SAFETY ONLY) (Document 27. attached)

# ATACHIENTS

- 14. HEALTH AND SAFETY FILE COMPILATION AND CONTENT
- 15. SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS
- 16. GUIDE TO THE GENERAL ADMINISTRATIVE REGULATIONS
- 17. IMPORTANT CONTACT DETAILS HEALTH & SAFETY ONLY

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#### **FOR**

PROJECTS AND MAINTENANCE (BUILDING/ELECTRICAL/MECHANICAL)

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(1)]

H&S Rep & Committee Members details

H&S Committee Meetings' Minutes

Other appointments in terms of OHASA

The following further identified requirements in terms of the Act and other Regulations of the Act are similarly applicable as part of the contents of the 'Health and Safety File':

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

\*The Appointments to be made in writing with job descriptions as per the Construction Regulations may include some or all of the following:

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** 

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#### 1 REGULATIONS AND DEFINITION OF COMPETENT PERSON:

#### 1.1 <u>REGULATIONS</u>:

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 linesmen, 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 be 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 <u>Circuit Breaker</u>

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.
- 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 <u>Link</u>

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  $(+2\,000^{\circ}\text{C})$  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.

# 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.

Table 1 - Test Voltages After Installation

1	2	3	4	
ble operating voltage	_	Test V	oltage	
, ,	Where test voltage is to be applied	V		
		m.s)	d.c.	
300/500	Between Conductors and conductors/earth		1	
600/1000	Between Conductors and conductors/earth			
1900/3300	Between conductors			
1900/3300	Between Conductors and conductors/earth			
1900/3300	Between conductors			

#### 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
			Test V	Voltage		
age Rating of Cable		Belte	d Cables		ngle-core and	screened cables
kV	Between	conductors	From condu	ctor to sheath	ween conduc	tor 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
						J .

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:

- a) Very low frequency (VLF): An Alternating waveform that is either sinusoidal or pseudo-square/cosine rectangular, of nominal frequency 0,1 Hz.
- b) 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

2.2.1.1 <u>Leakage Resistance.</u> 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.

1	2	3	4	5
		Minimum leakag	e resistance, MS	2
Cable Operating voltage <i>U</i> , kV		Cable le	ength, m	
Toxonge 3, III	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:

- The value of leakage resistance multiplied by the cable length should not be less than  $(2 \text{ U} + 2) \text{ M}\Omega$ .km, where U is the voltage rating of the cable in kilovolt.
- 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—COM	MISSIONING '	TEST VOI	TAGES (r	.m.s.)	
1	2	3	4	5	6
Test waveform (see	Duration.	Commis	ssioning tes	st voltage	e, kV
2.2)	Min	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.

<u>CAUTION</u>: 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	
		Maintenance/repair test voltage, kV				
Test waveform (see 2.2)	Duration	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	VOLTA	GES	
1	2	3	4	5
	D.	c. test v	oltage, k	cV
Duration, s	Cable	operati	ng voltag	ge, kV
	6.6	11	22	33
10	6	10	20	30

- SOFT DISCHARGE OF CABLE. An XLPE-insulated cable should always be soft-discharged through a resistance of at least 200 k $\Omega$ , 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 <u>Faulty or Unknown Cable Conditions</u>. 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 <u>Voltage Doubling</u>. 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.

# MPORTANT 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			
C	Police			
	Fire Brigade			
	Engineer			

ADD OTHER IMPORTANT HEALTH & SAFETY CONTACT DETAILS AS MAY BE FOUND NECESSARY.

# **SUPPLEMENTARY TECHNICAL SPECIFICATION**

## **FOR THE**

## **HEATING VENTILATION AND AIR CONDITIONING**

## <u>AND</u>

**DUCTING INSTALLATIONS** 

#### A. GENERAL

#### SCOPE OF WORKS

This particular Technical Specification is for the supply and installation and repairs of the air conditioning installations: Rooftop packaged units, ducting and air terminals.

- a) This specification covers the particulars of the air conditioning systems at the Tonga Magistrate Court. The Specification consists of 22 pages numbered consecutively. HVAC layout drawing accompanies this Specification.
- b) The installation to be installed and maintained under this contract includes the following systems and equipment:
  - · Rooftop Packaged Air Conditioning Units
  - · Supply and Return Air Ducting
  - · Air terminals (Diffusers, Return Air Grilles, Weather Louvre and Pressure Relief Vents)
- c) All electrical and drain piping connections for the complete air conditioning rooftop packaged unit.
- d) Commissioning and testing of the rooftop packaged unit, air terminals, ducting, controls, equipment supports etc. and the handover of a complete operation installation.

#### 2. GENERAL

This supplementary specification is to be read as forming part of one or more Department of Public Works 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.

#### 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 eruption of the installation and inspections executed by the Department do not exempt the contractor of this obligation.

#### 4. DRAWING

Any drawing which accompany this specifications are schematic and did 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 drawing 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 ratings. 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. PAINTING

All exposed steel surfaces, excluding new galvanised and stainless steel, shall be painted. Thereafter the surfaces shall be painted with a zinc chromate primer, followed by one coat of universal undercoat and one final coat of high gloss enamel paint, the colour of which shall be determined by the Regional Representative.

#### 11. 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.

#### 12. **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.

#### 13. 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.

#### 14. INSTRUCTIONS MANUALS

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

#### 15. SIMILAR OR EQUAL

Any trade name mentioned merely serves as a guideline and doesn't indicate preference for that specific make. Tenderers are at liberty to offer any other equipment and /or material, which comply with the specification requirements

#### 16. POWER SUPPLY

The electrical equipment shall be suitable for connection to 400/230V 3 phase 50Hz 4 wire AC supply.

#### 17. 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.

#### 18. 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, INSTALLATION AND REPAIRS OF AIR CONDITIONING SYSTEM.

#### 1. SITE

The Tonga Magistrate Court is located in Nkomazi, in the Mpumalanga Province 100km east-southeast of Nelspruit.

#### 2. GENERAL: AIR CONDITIONING UNITS SPECIFICATION

Each unit is complete with fan/s, direct expansion cooling coil, compressor unit, condenser, expansion valve, refrigerant tubing and accessories, air filters, return air grille and/or mixing plenum control panel and control thermostat. Units are totally outdoor type. Condensers are air-cooled.

Indoor air terminals shall be suitable for the attachment of ductwork with adjustable directional air louvres (Automatic sweep acceptable). Return air shall similarly be ducted or through unit mounted return air grille.

Packaged units are suitable for ducted supply and return air with a proper mixing plenum, dampers and filter arrangement as indicated on the drawings.

Units are installed outdoors and shall be totally waterproof. Easily detachable panels giving free access to all components shall be provided. The total interior of the cabinet shall be insulated with neoprene or sonic liner faced fibreglass at least 25mm thick (or other approved method of insulation).

Compressors shall be of the hermetically sealed or semi-sealed, reciprocating or rotary 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 in this Supplementary Specification and/or the Standard Specification as applicable.

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

Drainage to points other than a proper building drain shall comply with SABS 0400: P.

All panels shall be neat fitting with hardwearing exposed surfaces of baked enamel or equal finish of approved colour.

#### 3. ROOFTOP INVERTER PACKAGED UNITS

Diagnose, assess and replace to fully functional state two (2) 43.7kW rooftop packaged units. The units to be returned to normal operation performance and meet original design and operation specifications as follows:

#### 3.1. Design Conditions

Total Cooling Capacity	53kW
Sensible Cooling Capacity	37.9kW
Running Amps - Cooling	30A
Full Load Amps	50.3A
Air Quantity	3300L/s
Fresh Air	1548L/s

#### 3.2. Compressor Data

No. of Compressors	1	
Capacity Each	45.3kW	
Suction Temperature	8.29°C	
Condensing Temperature	51.2°C	
Absorbed Power	14.5kW	
Refrigerant	R410A	
Running Amps	21.56A	
COP	3.1	
Model	VZH 088BG	

#### 3.3. Evaporator Coils

Tube/Fin/Frame Material	Copper/Aluminium/GSM		
Total Air Flow	3300L/s		
Capacity Per Coil/Number off	1 X 53kW		
Air On (DB/WB)	27.0/19.0°C		
Air Off (DB/WB)	15.7/14.3°C		
Size H x L mm/ Rows & Fins	1219 x 850/ 4r12.0952f		
Face Velocity	2.7m/s		
Air PD	112Pa		

#### 3.4. Air-Cooled Condenser Coil

Tube/Fin/Frame Material	Copper/Aluminium/GSM	
Total Heat Rejection	58.4kW	
Condensers/ No. of Circuits	1	
Condensing Temperature	1 X 51.2°C	
Ambient DB	35°C	

### 3.5. Supply Fan

Volume	3300L/s		
Model	SYD400K		
Max Fan Speed/Fan Inner Power	1800/2.27 rpm/kW		
Drive Speed/Motor/Pole	1410/3/4 rpm/kW		
Fan Efficiency	63.6%		
Total Pressure (At site density)	507Pa		
Static Pressure	420Pa		
Sound Power Levels Lw (A)	81.0dB (A)		
Evap Fan Current	5.0A		

## 3.6. Condenser Fans

Motor Output	1 X 1.25kW	
Running Current	1 X 3.4A	

#### 3.7. Controls

Description	CAREL
Temperature Controller	PCO 5
No. of Control Steps	PROPOTIONAL
Head Pressure Control Method	INVERTER
	CONTROLLED
Electrical Supply	415/3/50 V/ph/Hz

#### 3.8. Filters

Primary Filters	
Make/Type	FILTA MATIX - PANEL
No. and Size (LXHXD) 2 x (400X600X50)	
No. and Size (LXHXD)	2 x (500X600X50) mm
Filter Face Area	1.08 m <sup>2</sup>
Filter Face Velocity	2.6 m/s

#### 3.9. Unit Measurements

Length	1400mm
Width	1950mm
Height	1550 mm
Unit Mass	750kg

Note: These values may vary from manufacturer to manufacturer. Final specification which meets the required cooling capacity will be selected and approved by the engineer subsequent to a minimum of 3x equipment submittals.

#### 4. AIR FILTERS

#### 4.1. General

Filters of the type, size and quantity as specified in the technical details of the packaged unit shall be provided. Additional filters along ductwork shall be installed as per sizes and quality as specified or shows on the drawing. 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.

Filter efficiency and arrestance shall be in accordance with ASHRAE Test Standard 52-76.

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.

Filters installed close to exposed air inlets shall be weather protected with weather louvres and a wire mesh screen.

Tubes for the measuring of the pressure drop across each filter bank shall be fitted as standard to enable connecting a manometer or other instrument as specified.

All filters and filter banks, including two-stage high efficiency and final filters shall be fitted with inclined pressure differential manometer gauges, clearly marked with filters clean (green) and filters dirty (red) indicators of a permanent type.

A separate manometer shall be fitted for each filter stage.

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.

#### 4.2. 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.

The frame shall be galvanised steel or a distortion and corrosion free moulding.

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.

#### 4.3. Pad Type Panel Filters

Pad type panel filters shall make use of disposable replacement media of thickness as specified, 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.

#### 4.4. High Efficiency Particulate Air Filters (HEPA)

Filter media shall be self-supporting leak-free and stable under all airflow conditions.

The media shall be bonded in to a pressed and sealed particle board housing.

Filters shall be provided with silicone filled channel seals.

"Slide-in" type of arrangements will not be accepted for filters in this class.

Filters shall be arranged in two or three stage configuration.

Filter depths less than 300mm will not be accepted and effective filter media surface area shall exceed 50m2 per square metre nominal face area.

Each filter shall be individually tested in the factory for leakage with a DOP aerosol and supplied to site in completely sealed protection containers.

Corrugated media separators shall be of aluminium or kraft paper.

Filter efficiency shall be not less than 99,9% when tested with 0,3 micrometer Dioctylphthalate smoke.

Dust holding capacity shall not be less than 2 000g per square metre nominal face area.

Nominal filter face velocity shall not exceed 1,5m/s with initial clean filter resistance to be 250Pa or less and final resistance not to exceed 500Pa.

Pressure monitoring across the HEPA filters is required with warning light and/or alarm as specified.

#### 4.5. Filter Holding Frames

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.

#### 5. COOLING COILS

#### 5.1. General

Replacement of coils to be conducted with coils match the original equipment specifications and further meet requirements as set out in this specification.

Cooling coils shall be suitable for direct expansion air to refrigerant heat transfer. Coils shall be of the extended surface type, constructed of seamless copper tubes with mechanically bonded aluminium or copper fins.

Coils shall be designed and constructed for a test pressure of 1 400kPa or the system working pressure times 1,5, whichever is the greatest.

Coil face velocity shall be low enough to ensure that no water is carried over in the air stream, generally not more than 2,5m/s. Where moisture carry-over may be a problem proper eliminators shall be fitted downstream of the coil.

Coil casings shall be flanged and constructed of 1,6mm or thicker sheet steel hot dip galvanised after manufacture. Tubes shall be silver soldered to headers.

All coils subject to mechanical damage shall be properly protected with galvanised sheetmetal covers over the entire coil face area. Covers shall only be removed when commissioning commences.

#### 5.2. Direct Expansion Coils

Direct expansion coils shall be circuited for the most economic balance between heat transfer, refrigerant pressure drop and proper oil return.

The suction header shall be constructed to ensure complete oil drainage from the coil. Liquid and vapour distributors on multi-circuit coils shall ensure uniform refrigerant distribution between circuits.

#### 5.3. Heating Coils

Heating coils shall conform to the same requirements as cooling coils.

#### 5.4. Drain Pan

Drain pans to collect water condensing on the coil shall be provided under all cooling/dehumidifying coils.

The pan shall be constructed from galvanised sheet steel or copper (1,6mm thick or thicker). Fibreglass moulded or uPVC welded drippans are acceptable.

The pan bottom shall slope from all sides towards the drain point.

The pan shall be fitted with a screwed drain connection 20mm or larger depending on coil size and application.

The drain connection shall be fitted with a manometric trap matching fan pressure but not less than 50mm water depth.

Coils shall be arranged so that all condensate water is collected with no air bypassing the coil.

Pans at risk of "sweating" on the outside and causing water dripping or collecting outside the pan where it cannot be properly drained away, shall be insulated.

The drain from the drippan shall be piped to the nearest building or plantroom drain with 20mm galvanised steelpipe (or copper) or larger.

Damming up of water or puddles of water anywhere in the air-handling unit will not be accepted.

#### 6. DUCTWORK

#### 6.1. Sheet Metal Ductwork

The Contractor shall supply, install and test all metal duct work complete with air balancing and commissioning as shown in shop floor drawings. All such working drawings shall be approved by the Engineer or his Representative. The duct work shall commence only after such approval is obtained from the Engineer. This shall apply to new duct installations

Where there is existing ductwork the contractor shall perform air leakage tests, replace the insulation reuse the existing duct work.

Sheet metal ductwork shall be manufactured in accordance with SANS 1238 : 2005 as amended and installed, balanced and tested as set out in SANS 10173 : 1980, as amended.

Ducts shall be made of galvanized steel sheets. Galvanized steel sheets shall conform to:

SANS 12173-2003 : The installation, testing and balancing of air- conditioning

ductwork

SANS 1222:20012 : Metal roofing tiles

SANS 1238:2005 : Air-conditioning ductwork

SANS 1123:2004 : Fire dampers

**SANS 12400:2011** : The application of the National Building Regulations.

SANS 60204 : Safety of machinery - Electrical equipment of machines

Ductwork layouts, dimensions etc. shall be as indicated on the drawings issued with the Supplementary Specification.

Where changes in duct sizes indicated are necessitated on site, duct sizes shall be determined using equivalent diameters (hydraulic diameter) and not cross-sectional area.

Aspect ratios in excess of 4:1 shall be avoided in rectangular ductwork. Internal duct dimensions of less than 200mm in rectangular ducting will not be acceptable in low and medium velocity ductwork.

Adjustable opposed blade dampers, duct splitters and turning vanes shall be provided where shown on the drawings.

Unless otherwise specified ductwork shall be manufactured of galvanised sheet steel.

Ductwork shall be painted as specified.

Flexible joints shall be provided between all fans, airhandlers, vibration inducing equipment, etc.

and ducting.

Flexible joints exposed to weather shall be provided with protecting galvanised sheet steel cover strips.

Flexible connections shall be made of fireproof fabric reinforced airtight material attached both sides with approved galvanised steel collars or frames.

Ductwork connected to equipment such as rooftop packaged unit shall be provided with flanged removable sections to allow for removal and access to eliminators etc.

#### 6.2. Duct Hangers

Duct hangers shall be as follows:

Longest Duct dimensions	Round hangers(mm)	Galvanized Strap hangers	Shelf Angles	Maximum Spacing(mm)
(mm)	. ,	(mm)		j spanis (min)
Up to 760	6	25X1.6	25X25X3	3.0
761-1000	10	25X1.6	38X38X3	3.0
1001-2100	10	25X1.6	50X50X3	2.4
2101-2400	10	25X1.6	50X50X6	2.4
2401 and over	12	25X1.6	50X50X6	2.4

Note: Round hangers shall not protrude below the lowest part of the shelf angles

#### 6.3. Flexible Ductwork

Where indicated on the main drawings ductwork shall be connected to mixing boxes and integrally mounted ceiling diffusers by means of flexible ducting.

Flexible ducting shall consist of aluminium foil faced glass fibre fabric mechanically interlocked by a corrosion resistant metal spiral helix on the outside of the fabric.

Flexible ducting shall comply with local fire codes, NFPA Bulletin 90A and SANS 10400:T fire resistance requirements.

Flexible ducts connected to diffusers or mixing boxes shall, unless otherwise shown or approved, not exceed 1,5m in length nor have more than the equivalent of two 90-degree bends. Bends shall be of the maximum possible radius without flattening or distorting the flexible ducting.

Flexible ducting shall be supported with sufficient and correct brackets that will ensure maintenance of shape. Flexible ducting shall be externally insulated where insulation of ductwork is called for.

#### 6.4. Installation of Ductwork

Ductwork shall be installed in accordance with the service drawings issued with the Supplementary Specification.

The tender drawings are schematic and do not purport to show exact positions of ducts or specific details of construction. All final dimensions must be checked on site before preparation of manufacturing drawings and the fabrication of ducting.

The duct fabrication and installation shall generally conform to **SANS 1238:2005**. The Contractors shall provide and neatly erect all sheet metal work as may be required to carry out the intent of these specifications and shop floor drawings. All necessary allowances and provisions shall be made by the Contractor for beams, pipes or other obstruction in the buildings whether or not the same shown on the drawings. Where necessary to avoid beams or other structural work or plumbing or other pipes or conduits, the ducts shall be transformed, divided or curved to one side the required area being maintained. All metal work in dead or furred down spaces shall be erected in time at no occasion to delay to other contractors work in the building.

Ducting over false ceiling shall be supported from the slab above and from beams.

In no case shall the duct be supported from the false ceiling hangers or be permitted to rest on ceiling. If a duct cannot be run as shown on the drawing the Contractor shall install the duct between the required points by any path available subject to the approval of the Mechanical Engineer.

All ducts shall be rigid and shall be adequately supported and braced where required with standing seams, tees or angles should be of ample size to keep the ducts true to shape and prevent buckling vibrations or breathing.

All joints shall be made air tight and all interior surfaces shall be smooth. Bends shall be made with a radius not less than one half the widths or the duct or with scientifically designed interior curved vanes, as approved. The vane shall be so placed that the aspect ratio of each of the individual elbow formed by the vanes will be about five.

All sheet metal connection, partitions and plenums required to continue the flow of air to and through the filters and fans, shall be constructed of 18G galvanized steel sheets thoroughly stiffened with adequate thick MS angle iron braces and fitted with all necessary doors and as required by the Engineer-in- charge to give access to all parts of the apparatus. Doors shall not be less than 450mm x 450mm in size.

Where metal ducts or sleeves terminate in woodwork, brick or masonry openings, air tight joints shall be made by means of closely fitted heavy flanged collars.

Doors shall be set in ducts and air plenums for access to pipes dampers, coils, valves, etc. Doors shall be provided with suitable latches. All access doors in the duct work shall be air tight.

The Fresh air handling units / HRV units, supply air grilles shall be connected to duct work by inserting at air inlet and air outlet double canvas sleeve / flexible air ducts as required. Each sleeve shall be 120 mm long minimum securely banded and bolted to duct and units. Each sleeve shall be made smooth and the connecting duct work rigidly held in line with unit inlet or outlet.

Duct shall be supported by means of painted MS rod or angle (min.12 mm dia) or angle suspenders hung from RCC slab by means of expansion bolts or anchor fasteners min. 12 mm dia.

Where beams, stanchions or other obstructions interfere with the straight running of ducts, suitable offsets shall be provided or alternatively changes in the section of the particular duct made, all in accordance with good engineering practice.

It is required that tenderers make themselves conversant with all the drawings of the particular building in order to determine the number of such offsets or changes in section and the positions in which they will be required.

Due allowance shall be made in the tender price for such offsets and changes required.

A complete set of drawings of the building may be inspected at the office of the Representative of the Department.

Ducts, hangers, supports, diffusers and grilles wherever required shall be painted with two coats of approved epoxy paint over epoxy primer.

# 6.5. Testing and Commissioning

After the ducting installation is completed, all duct system shall be tested and commissioned for air leakage, structural arrangement and joint air tightness as per CIBSE Code A. The contractor shall test all the ducting, joints and others very carefully in the presence of Engineer-in-charge or his representative. Any test without Engineer-in-charge's approval will be treated as null and void.

The entire air exhaust system shall be balanced to the air quantities as designed & the final balance of air quantities shall be recorded, submitted to the Engineer-in-charge for approval. Air balancing operation shall be supervised by qualified competent representative of the contractor who shall be present at the job site continuously for such work.

The volume of air captured at every hood shall be determined by the use of revolving vane anemometer and shall be used along with the stop watch to determine average velocity over the grille face. The louver setting of the grilles and deflection shall be fixed as to provide most uniform, draft-less distribution over the entire area served. Anemometer calibration correction factor and grille flow rate factor shall be taken into account while computing air delivery.

# 7. AIR OUTLETS AND DAMPERS

# 7.1. Grilles

Supply and return air grilles shall be provided as indicated on the drawings.

Each grille shall be selected in accordance with the manufacturer's recommendations to be capable of passing the specified air quantity without creating excessive resistance, noise or local draughts.

Grilles shall be manufactured of stamped, extruded or rolled aluminium or steel sections, finished as specified and mounted in a neat frame.

Supply air grilles shall be provided with double deflection aerofoil vanes adjustable from the front of the grille. Vanes shall be spaced at not more than 20mm centres.

Exhaust and return air grilles in the same installation shall be similar in general appearance and construction to the supply air grilles but with a single set of fixed vanes.

Supply air grilles shall be provided with opposed blade volume control dampers adjustable from the front of the grille.

Return air grilles shall be provided with opposed blade dampers for volume control only where called for on the drawings. Dampers shall be adjustable from the front of the grille.

Grilles shall in all cases be selected with free air passage areas not less than that indicated on the drawings.

#### 7.2. Weather Louvres

Weather louvres shall be manufactured of extruded aluminium sections or ferrous metal hot dip galvanised after manufacture, as specified or show on the drawing.

Weather louvres shall be constructed with drip edges to blades and rigid frame to enable building in.

Weather louvres shall be finished in natural anodised aluminium, powder coated or painted is specified.

Weather louvres shall be watertight even with nominal air velocity up to 3,0m/s.

Weather louvres shall be fitted with 12mm opening size galvanised expanded metal or wire mesh screen.

Top and bottom blades shall be fitted flush with the frame and smooth without grooves, channels or recess where dirt or water can collect.

# 7.3. <u>Diffusers</u>

Diffusers shall be round or rectangular with faceplates matching the ceiling grid as specified, manufactured from pressed or spun steel or aluminium sheet metal.

Each diffuser shall be selected in accordance with the manufacturer's recommendations to be capable of passing the specified air quantity without creating excessive resistance, noise or local draughts.

Each diffuser shall be provided with an opposed blade volume control damper. Dampers shall be selected and installed so as not to disturb the supply air distribution pattern or induction ratio of the diffuser. Diffuser cores shall be removable for cleaning and access purposes.

#### 7.4. Variable Volume Outlets

Variable volume outlets with controls and reheaters shall be provided where indicated on the drawings. Only well-catalogued and proven products will be considered.

Minimum air volume shall be factory set and site checked for each outlet.

Outlets shall be selected and installed to ensure that no dumping or coning of supply air streams occur, particularly at low air flow rates.

Variable volume control shall be achieved with pneumatic or electric drives as specified. Low noise levels during operation is essential.

Reheaters shall be protected against overheat and shall be switched with an adequately rated and reliable microswitch.

Easy access to all parts possibly requiring servicing or setting shall be provided.

# 7.5. Dampers

Dampers for positive volume control purposes shall be manual, pneumatic or electric actuator driven as specified and provided where indicated on the drawings.

Damper blades, links and damper frames shall be of rigid construction galvanised steel generally as per SANS 1238, and of the opposed blade type.

Manually adjusted dampers shall be provided with adjusting levers in accessible positions with provision for positive locking in any position from fully open to fully closed.

Dampers shall be of the link or gear type as specified.

Dampers creating unacceptable vibrations and noise levels will be rejected and will need to be replaced at the Contractor's expense.

# 8. INSULATION

# 8.1. General

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.

# 8.2. Ductwork

All air ducts carrying heated or cooled air shall be thermally insulated.

Ductwork shall be internally or externally insulated as specified. Internal insulation shall be offered unless circular ducts are indicated on the drawings. These shall be externally insulated in all instances.

Internal duct insulation shall consist of not less than 25mm thick neoprene or flexible fabric faced fibreglass which shall be secured to the duct by means of suitable adhesive in addition to metal fasteners, generally in accordance with SANS 1238, as amended.

External insulation shall generally be in accordance with SANS 10173, as amended.

Fibreglass density shall be a minimum of 245 kg/m3 for internal insulation and external insulation in unexposed areas. For external insulation in exposed areas such as plantrooms, service trenches and service ducts, the minimum density shall be 50 kg/m3.

Thermal conductivity in both instances shall not exceed 0,04 W/m"K.

In unexposed areas such as roof spaces, etc., external insulation shall be protected with a neoprene or aluminium foil cover. These shall be strapped at intervals not exceeding 500mm with nylon straps and buckle clips or similar approved method.

All air conditioning ductwork externally insulated shall be provided with a continuous vapour barrier, sealed with adhesive aluminium tape or equal.

The vapour barrier shall comply with the flammability requirements for sealing membranes as per SANS 1238.

Particular care shall be taken with insulation at ductwork joints to ensure maximum possible insulation of duct surfaces, special reference shall be made to SANS 1238, section 6 and SANS 10173 section 5.4.2.1.

External insulation in exposed areas shall comprise 40mm thick fibreglass to cover all flanges, joints, etc. It shall be externally clad with a galvanised sheetmetal skin over a vapour barrier and painted to specification.

Horizontal surfaces and joints in the sheet metal cladding shall be such that they shed water.

Alternatively, the outer metal skin may be substituted with 25mm mesh wire netting, stapled to the insulation and then covered with a 10mm layer of hard setting plaster trowelled to a smooth even finish. The plaster shall be coated with one coat liquid, followed by a reinforced fibreglass scrim, fixed with a suitable adhesive, and a second coat of liquid polymer. The duct shall then be painted as specified.

Flexible ducting shall be proprietary made complete with insulation at least 40mm thick fibreglass equivalent and an acceptable fire retardant outer layer.

Where flexible-ducting joins on to sheet metal ducting the joints shall be sealed with foil backed adhesive tape.

#### 9. NOISE AND VIBRATION CONTROL

# 9.1. General

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, structure-borne or ductwork-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
Cinemas	NC 35
Hospital wards and operating theatres	NC 35
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
Swimming baths and sports arenas	NC 50
Kitchens	NC 50
Factories (light engineering)	NC 65
Factories (heavy engineering)	NC 75

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.

## 10. MAINTENANCE AND SERVICING

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

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. For this purpose, the Contractor shall prepare a detailed inspection and service report in the form of a check list 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.

#### 11. SCHEDULES OF PARTICULARS

All schedules which accompany this tender notice, form an integral part of it and shall be duly completed in every detail: FAILING which, the tender in question may be rendered ineligible for consideration. Under no circumstances will statements such as:

- · See attached pamphlets
- · Refer to catalogue
- Data to follow
- As given by the supplier
- Be acceptable to the Department

Equipment offered and listed on the schedule shall be capable of performing the specified duties and complying with the Specification requirements in all respects: SHOULD it transpire that such equipment, even when offered by make, model and/or type, is unsuitable or incapable of meeting, or performing in accordance with, the Contractor or Sub-contractor shall nevertheless be responsible for any additional costs incurred in providing the required or suitable equipment.

Whenever a specific make, model or type of equipment has been prescribed in the specification and the tender offers alternative, or equal make or type of equipment in his tender, the Department will in acceptance of such a tender inform the prospective contractor in writing as to the make, and/or type of equipment accepted. HOWEVER, it should be noted that the use of works "OR EQUAL" by the tender is to be discouraged and could lead to the disgualification of the tender.



# **ENGINEERNG SERVICES CHIEF DIRECTORATE**

Version: 2.9

Date Amended: 12<sup>th</sup> April 2023 Applicable date: 12<sup>th</sup> April 2023

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DISCIPLINE	Tick (x)
ARCHITECTURAL SERVICES (AR)	
LANDSCAPE ARCHITECTURAL SERVICES (LA)	
ELECTRICAL ENGINEERING SERVICES (EE)	
MECHANICAL ENGINEERING SERVICES (ME)	Х
CIVIL ENGINEERING SERVICES (CE)	
STRUCTURAL ENGINEERING SERVICES (SE)	
QUANTITY SURVEYING SERVICES (QS)	

PROJECT DETAILS					
CLIENT DEPARTMENT	Department of Justice and Constitutional Development				
PROJECT NUMBER:	055472				
PROJECT NAME	TONGA MAGISTRATE COURT: REPAIRS AND UPGRADE OF ROOFTOP PACKAGED UNITS AND DUCTING				

REPORT STAGE							
	Status Quo Report	Preliminary Design Report	Detail Design Report				
	SQR	PDR	DDR				
Tick [x]			X				

Region	CGO	СТ	MMB	BLM	PTA	JHB	PLK	DBN	KIM	NEL	UMT	PE
										х		

# **APPROVALS**

**Technical Approval** 

Technical Approval							
	Designation	Name	Signature	Date			
Author	Project Engineer	Unathi Tyolo	Typho	15/03/2024			
QS (If Applicable)			un anni - Lin a				
Reviewed	Chief Mechanical Engineer	Kabelo Chabalala (Pr Eng)					
Technical Approval	Chief Mechanical Engineer	Kabelo Chabalala (Pr Eng)	Oh-	15/03/2024			

**Administrative Approval** 

	Designation	Name	Signature	Date
Design Office Approval	Director	Michael Tladi (Pr Eng)	M	18/03/2024
Supported	Project Manager	Mmaphetoa Kadiaka	· Barranaga-	
Accepted	Client Representative			

Client Comments			
<del>20</del>		 	 
2			
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#### 1. INTRODUCTION

This report is developed on the basis of previous detailed design report which was approved in 2021 however, the project has not undergone implementation stage. The purpose of this report is to verify whether the scope of works which was initially identified is still applicable and practical following site inspection conducted on 01 February 2024 by the Mechanical team, and also to design some components of the system to ensure a fully functional system and compatibility with the previously approved design for implementation purposes. The report entails design detail, equipment selection, plant control and drawings of the proposed upgrade of HVAC installations.

#### 2. KEY PERSONNEL

Table 1: Project Key Personnel

Position	Name
Project Mechanical Engineer	Unathi Tyolo
Chief Mechanical Engineer	Kabelo Chabalala (Pr Eng)
Project Manager	Mmaphetoa Kadiaka

#### 3. STANDARDS AND REGULATIONS

All installations shall be executed and tested in accordance to, but not limited to, the following Acts and Regulations:

- 3.1. The Occupational Health and Safety Act 1993 (Act 85 0f 1993) as amended.
- The National Building Regulations and Building Standards Act 1977 (Act 103 of 1997) as amended.
- 3.3. SANS 1238 Air-Conditioning Ductwork.
- 3.4. SANS 193 Fire Dampers.
- 3.5. SANS 10173 The installation, testing and balancing of air-conditioning duct work.
- 3.6. SANS 10400: O Lighting and ventilation.
- 3.7. SANS 1424 Filters for use in air conditioning and general ventilation.
- 3.8. SANS 10400: XA Energy usage in buildings.
- 3.9. SANS 204 Energy efficiency in buildings.
- 3.10. SANS 1125 Room air conditioning and heat pumps.
- 3.11. SANS 10103 the measurement of rating of environmental noise with respect to annoyance and to speech communication.

# 4. DOCUMENTATION

# 4.1. Documents Included

Table 2: Documents Included

Tick (x)	
Х	Cost Estimates
X	Professional Fees Savings
X	Project Plan
Х	BoQ
Х	Drawings
Х	Supplementary Specifications

# 5. LOCATION

The Tonga Magistrate Court is located in Nkomazi, in the Mpumalanga Province 100km south-east of Nelspruit.

Table 3: Site Location

Building Name	Latitude	Longitude	Location
Tonga Magistrate Court	-25,688	31,783	Nkomazi

Figure 1 shows the site layout indicating the positions of the two (2) court rooms.

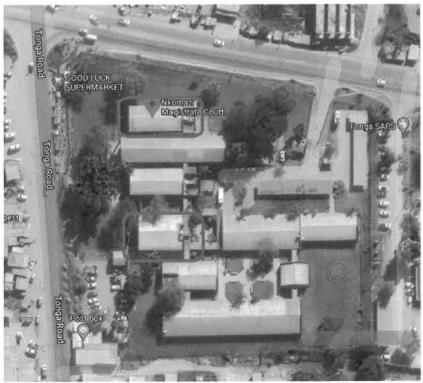


Figure 1: Site Layout

Table 4: Schedule of Areas

Block Name	Description	Floor Area(m²)	Height (m)
Court A	Court Sessions	216	4.3
Court B	Court Sessions	216	4.3

#### 6. BACKGROUND

The Department of Public Works and Infrastructure (DPWI) mechanical team conducted a site visit at Tonga Magistrate Court on 20 January 2020 to assess the condition on site. Finding two air-conditioning rooftop packaged units that each are dedicated to its own court room (A and B). After further analysis, a Detailed Design Report was produced by the team, covering the scope of work required to replace the current system that is faulty and not operational. The project did not go through to the implementation stage, for reasons which are not known by the mechanical team.

Early January 2024, the project manager indicated that they want to go out on tender with the project, to which the DPWI Mechanical team decided to return to site again on 01 February 2024 to verify the scope of works required against what was originally identified in 2020 in order to ensure the project will address all client needs with respect to the definition of this project and finalise the completeness of the design, confirming what is on site and how the design will be implemented.

#### 7. HEALTH AND SAFETY REPORT

General Health and Safety specification will form part of submission to the Project Manager.

# 8. FINDINGS

# 8.1. Photographic Evidence

Table 5: Courtroom A

	COURTROOM A							
Item	Good	Fair	Роог	Picture & Comment				
Α			×	ROOFTOP PACKAGE UNIT  Model Power Refrigerant Refrigerant Refrigerant Resulting Cap Refrigerant Resulting Resulting Resulting Cap Refrigerant Refrigerant Resulting Cap Resulting Cap Refrigerant Resulting Cap Result				
В			X	Figure 3: Rooftop Packaged  The existing Rooftop Packaged Unit (43.7 kW) is currently not functional.				

С		X	Figure 4: Inside Unit  Tempered electrical wires that lead to damage, inside the HVAC Packaged unit.
* D	X		Figure 5: Electric Panel  The electrical panel is in moderate condition with most wires good and intact. However, further evaluation is recommended to identify any potential safety hazards or issues requiring attention.

E	X	Figure 6: Return Air without fresh  Return air from extractors, without any exhaust air and fresh air intake.  Existing installation is not compliant to ventilation regulations and standards. Operating a ventilation system without fresh air supply poses significant health and safety risks.
F	X	Figure 7: Duct  Poor sealing on the duct system. Ducting air leaks leads to reduced air conditioning efficiency in the space and energy waste.

, G	X	Figure 8: Access  There is no secure lock for the door, this security deficiency creates vulnerability, poses a significant risk of unauthorized access and potential vandalism to the rooftop unit.
Н	X	Figure 9: Ceiling  The poor condition of the ceiling, exhibits damp areas and holes, indicating potential water damage and roof leaks.

	Figure 10: Diffusers  The existing diffusers are supposed to distribute conditioned air throughout the room, ensuring proper mixing of room air with conditioned air.
Regulatory Non- Compliance:	<ul> <li>SANS 10400: O – Lighting and ventilation.</li> <li>SANS 10400: XA – Energy usage in buildings.</li> <li>SANS 204 – Energy efficiency in buildings.</li> <li>SANS 1125 – Room air conditioning and heat pumps.</li> <li>SANS 1238 – Air-Conditioning Ductwork.</li> </ul>

	COURTROOM B							
Item	Good	Fair	Poor	Picture & Comment				
Α			X	ROOFTOP PACKAGE UNIT  Model Stall 25 - 468  Nom Charles Cap				
				Name Plate containing specifications of the HVAC system.				
В			X	Figure 12: Rooftop Packed  Return air from extractors, without any exhaust air and fresh air intake.  Existing installation is not compliant to ventilation regulations and standards. Operating a ventilation system without fresh air supply poses significant health and safety risks.				

С	X	Figure 13: Inside Unit Wires  Tempered electrical wires that lead to damage, inside the HVAC Packaged unit.
D	X	Figure 14: Electric Panel  Electric panel in fair condition however wiring is in severe condition where most wires are cut and disconnected, indicating significant damage and posing a serious safety hazard.

E	X	Figure 15: Return air without fresh air  Return air from courtroom, without any exhaust air and fresh air intake.  Operating a ventilation system without both exhaust and fresh air intake poses significant health and safety risks which violates building codes and safety regulations.
F	X	Figure 16: Duct works  The ductwork shows poor workmanship and bad sealing, leading to possible inefficiencies and degraded performance.

G		X	Figure 17: Staircase  The cat-ladder for access to the outdoor unit is worn out and unstable, therefore poses a risk of injury.
Н		X	Figure 18: Ceiling  The poor condition of the ceiling, exhibiting damp areas and holes, indicating that there is water damage and structural concerns of durability.

I	X	Figure 19: Diffusers  These diffusers are supposed to distribute conditioned air throughout the room, ensuring proper mixing of room air with conditioned air.
F	Regulatory Nor Compliance:	<ul> <li>SANS 10400: O – Lighting and ventilation.</li> <li>SANS 10400: XA – Energy usage in buildings.</li> <li>SANS 204 – Energy efficiency in buildings.</li> <li>SANS 1125 – Room air conditioning and heat pumps.</li> <li>SANS 1238 – Air-Conditioning Ductwork.</li> </ul>

#### 9. DESIGN CRITERIA

This section details the information used to develop the designs, such as duct sizing, louvers selection, air terminals specifications, and associated components to complete HVAC system. The design is done in conjunction with the requirements for ventilation as set out in SANS 10400 Part O and ASHRAE HVAC Systems and Equipment.

# 9.1. Design Parameters

Table 7 below shows weather data which Tonga Magistrate Court is exposed to. This information is instrumental in ensuring equipment sizing and material selection suitable for this environment and its climatic conditions.

Table 7: Weather Data

Weather parameter	Value
High temp	28°C
Low temp	9°C
Average relative humidity range	43%
Maximum wind speed	14km/h
Pressure	1atm

Table 8 presents the internal heat gains expected in a fully occupied court room, lights switched on and all other heat releasing equipment being used, such as Laptops, Monitors, etc.

Table 8: Internal Heat Gains

Area	Court Room A	Court Room B
Occupancy Density	104 people	104 people
Equipment	50W/m <sup>2</sup>	50W/m <sup>2</sup>
Lighting	12W/m <sup>2</sup>	12W/m <sup>2</sup>

Table 9 present the climatic condition requirements for noise levels, fresh air supply, and normal operating requirements to create comfortable and compliant working conditions in the court rooms.

Table 9: Indoor Climatic Conditions Requirements

Area	Court Room A	Court Room B
Temperature	20±2°C	20±2°C
Indoor RH %	Uncontrolled	Uncontrolled
Min Fresh Air Supply	10l/s/person or 6ACH	10l/s/person or 6ACH
	(ASHRAE)	(ASHRAE)
Noise Criteria	35 NC	35 NC
<b>Emergency Power Supply</b>	No	No

# 9.2. Space Volume Calculations and Fresh Air Requirements

In order to be able to calculate the heat load for the spaces to be air conditioned, one of the important parameters is the volume of the space. The volume is calculated using the floor area and height of the spaces. Air Changes per Hour are calculated using the minimum requirements as set out in ASHRAE Chapter 8 = ACH 6.

$$Q\left(\frac{l}{s}\right) = Volume \times ACH \div 3.6 = 1548\left(\frac{l}{s}\right)$$

The selected unit will produce  $\delta$  = 3 300  $(l/_S)$ .

FA component = 
$$\frac{Q}{\delta}$$
 = 46.91 %

Table 10: Fresh Air Requirements

Space	Area [m²]	Height [m]	6 ACH [I/s]	Selected Unit (δ) [I/s]	No. of People	10l/s/pers on [l/s]	Supply Design Flow [I/s]
Court A	216	4,3	1 548	3 300	104	1040	2580
Court B	216	4,3	1 548	3 300	104	1040	2580

The table above presents the minimum fresh air flow rates required and produced for the two spaces. The fresh air requirements will be met by supplying fresh air into the court room using the rooftop packaged units.

#### 9.3. Building Thermal Design

For achieving accurate heat loads, not only internal heat gains are required, but also possible heat gains from the sun through the walls, roof and windows. In terms of the building orientation, the two court rooms are exposed to the west. This is crucial as it assist in determining the possible heat gains from the sun. The typical thermal properties below are used for design purposes.

Table 11: Wall Construction

Description	Thickness	Resistance
Inside surface resistance		0.12064m <sup>2</sup> K/W
Common brick	204mm	0.27954m <sup>2</sup> K/W
Outside resistance		0.05864m <sup>2</sup> K/W
Total		0.46m <sup>2</sup> K/W
Overall U-Value		2.179m <sup>2</sup> K/W

Table 12: Roof Construction

Description	Thickness	Resistance
Inside surface resistance		0.12064m <sup>2</sup> K/W
13mm gypsum board	12.7mm	0.07890m <sup>2</sup> K/VV
Air space	500mm	0.16026m <sup>2</sup> K/W
RSI – 1.9 batt insulation	88.9mm	1.97560m <sup>2</sup> K/W
Steel deck	0.853mm	0.00002m <sup>2</sup> K/W
Outside resistance		0.05864m <sup>2</sup> K/VV
Total		2.39m <sup>2</sup> K/W
Overall U-Value		0.418m <sup>2</sup> K/W

Table 13: Windows Construction

Description	Overall U-Value	Overall Shade Coefficient
Standard Window	3.237W/m <sup>2</sup> K	0.887

#### 9.4. Equipment Selection

After considering all the design input data, a Heat Load calculator software (HAP) was used to determine the heat loads for each of the two space. The findings are tabulated below:

Table 14: Heat Loads Results

Room	HAP Heat Load	Ventilation
Court A	Cooling Capacity: 41.6kW	Fresh Air Supply From AC Unit
Court B	Cooling Capacity: 41.8kW	Fresh Air Supply From AC Unit

ASHRAE recommends a default design margin of 1.15, hence the required rooftop cooling capacity, taking into consideration the prescribed 15% design margin, is calculated to be 47.84kW. The safety factor is applied to ensure the units can handle varying weather conditions and reduce the impact of extreme weather conditions. Based on the calculated total cooling capacity, several catalogues were used to browse and select unit size which is available in the market hence a 53kW unit was selected for each court room, which is closest to the cooling capacity of 47.84 kW.

#### 10. SPECIFICATION

#### 10.1. General

Each unit is complete with fan/s, direct expansion cooling coil, compressor unit, condenser, expansion valve, refrigerant tubing and accessories, air filters, return air grille and/or mixing plenum control panel and control thermostat. Units are totally outdoor type. Condensers are air-cooled.

Indoor air terminals shall be suitable for the attachment of ductwork complete with opposed blade damper to control air flow rate for air balancing purposes.

Packaged units are suitable for ducted supply and return air with a proper mixing plenum with fresh air intake, dampers and filter arrangement to be as indicated on the drawings.

Supplementary specifications attached for further details.

# 11. DUCT SIZING AND AIR TERMINALS

#### 11.1. Duct Sizing

The packaged units supply conditioned air into the court rooms using duct network. The sizing of ducts is done using a 'Ductulator'. This is done by initially creating a duct layout, then noting all the most suitable air velocities, match them with the air flow rate. Lastly a decision is made weather to

choose round or rectangular ducting according to dimensions and design specification requirements.

The table below shows all the rectangular duct sections for the court rooms, the dimensions, velocities as well as air volumes for the duct network designed.

Table 15: Duct Design: Supply Air

	Air	Air	90°	Duct	Duct Di	mensions
Duct section	volume velocity		Bend I	length	Square	
	(l/s)	(m/s)	(No of)	(m)	W (mm)	H (mm)
1	3 300	8	2	4	700	610
2	3 300	6		3	800	710
3	2 475	5,5		6	700	660
4	1 650	5		6	650	625
5	825	4,5		6	550	340
7	412,5	4		2,25	350	300

Table 16: Duct Design: Return Air (Check ductulator for velocities)

Duct section	Air volume	Air velocity	90° Bend	Duct length	Duct Din Squ	nensions lare
	(I/s) (m/s)	(No of)	(m)	W (mm)	H (mm)	
1	1 752	7,5	2	9	600	400
2	1 752	6		6	650	440
3	876	5		15	650	280

#### 11.2. Diffusers

Supply fresh air delivery square diffusers in both court rooms to meet the following design details:

Table 17: Diffuser Selection

Size	Flow L/s	Throw (m)	NC Level	Neck Total Pressure	Quantity per courtroom
600x600	434	2.4-6.1	25	72	8

#### 11.3. Return and Fresh Air Grilles

Extraction grills that return conditioned air in both court rooms to meet the following design details.

Table 18: Air Grill

Size	Flow L/s	NC Level	Quantity per courtroom	Location
900x1000	1 548	35	2	1x Fresh air intake grille to be mounted on the unit with equal effective areas as per the size indicated.
600x600	876	30	2	Return air grille inside court room as per drawing.
600x600	774	30	2	Transfer grilles inside court room as per drawing.
750x600	1 548	50	2	Weather Louvre as per drawing.

#### 11.4. Transfer Grilles

Since the space will be positively pressurized, excess air shall therefore escape through transfer grilles and penetrations in order to balance air in the space.

#### 12. BUILDING PERFORMANCE ANALYSIS

## 12.1. Energy Efficiency

- All ducting should at all times be sealed and insulated to avoid heat loss and air leaks.
- The packaged units are to be equipped with internal controls that would allow for different stages of cooling. The different stages of cooling are to be done depending on the heat loads patterns of the conditioned space.

#### 12.2. Material efficiency

Ducts with minimal damage will be repaired and sealed for maximum functionality.

In accordance to Immovable Asset Management in National and Provincial Government Guideline document, the following must be considered in our buildings;

#### 12.3. Suitability Index

Level			Rating
<b>S1</b>	The as	sset is fully suitable for its required function	
S2	The as	sset meets the minimum suitability criteria for its function	Х
S3	The as	sset does not meet the required suitability criteria	
Comments		The Rooftop Packaged Units are non-functional but the courtrooms.	suitable for

#### 12.4. Operating Performance Index

Level		Rating
OP1	The asset standards exceeds the level expense and operational requirements	ected for functional
OP2	Functional Performance meets the standard functional and operational requirements	ds expected for
OP3	Functional Performance does not meet the for functional and operational requirements	
Comn	nents The Rooftop Packaged	Unit is not operational.

#### 12.5. Functional Performance Index

Suitability Index	Operating Performance Index					
	Optimal -	1 Minimum	- 2 Ou	tside - 3		
Optimal - A	A1	A2	A3			
Minimum - B	B1	B2	B3	Х		
Outside - C	C1	C2	C3			

#### Select below the correct option;

- "A1" The asset is operating optimally and is fully suitable for its required function
- o "A2" The asset meets the minimum operating criteria and is fully suitable for its required function
- "A3" The asset does not meet the minimum operating requirements but is fully suitable for its required function
- "B1" The asset meets the optimal operating requirements but only meets the minimum suitability criteria for its required function
- o "B2" The asset meets the minimum operating and suitability criteria for its required function
- "B3" The asset does not meet the minimum operating criteria but meets the minimum suitability criteria for its required function
- o "C1" The asset is operating optimally but does not meet the minimum suitability criteria
- "C2" The asset meets the minimum operating criteria but does not meet the minimum suitability criteria
- "C3" The asset does not meet the minimum operating criteria and does not meet the minimum suitability criteria

#### 13. SCOPE OF WORKS SUPPLEMENTARY TO THE DDR

#### 13.1. System Removal and Disposal

Decommission and remove the existing rooftop packaged units.

#### 13.2. HVAC System Installation

- Install 2x new rooftop packaged air conditioning units for Courtroom A and B.
- Investigate, analyse, and repair or replace existing supply and return air ductwork as and when required.
- Install new ducting systems for both supply and return air in each court as and when required.
- Install air terminals (diffusers, return air grills, dampers and weather louver) throughout each court.

#### 13.3. Electrical Work

- Replace or repair all faulty electrical wiring and electrical panel associated with the HVAC system.
- Ensure electrical supply capacity meets the new units' requirements.
- Remove light fittings to make way for ceiling removal, then re-install light fittings and replace those damaged.
- Install circuit breakers, distribution and any other electrical components necessary to complete the installation and issuance of COC by the service provider.

#### 13.4. Ceiling Removal and installation

 Remove all existing ceiling panels and ceiling grids to make way for ducting installation, thereafter replace with similar ceiling grid and ceiling panels to the same as original floorto-ceiling height.

#### 13.5. Roof specialist

- Roof specialists required to assess the condition and structural integrity of roof trusses, as
  a result of signs of water ingress through roof leaks which may possibly affect the strength
  of roof trusses.
- Scope to include assessment and identification of possible roof leaks and repair where necessary.

# 14. COST ESTIMATES

Table 19: Cost Estimates

AMOUNT
R 171 278,18
R 824 581,80
R 888 200,00
R 1 884 059,98
R 282 609,00
R 2 166 668,98

Note: Detailed breakdown is in the attached Bill of Quantities.

# 15. PROFESSIONAL FEE SAVINGS

Table 20: Professional Fees Savings

Professional Fees Calculation				
Mechanical Cost of Works				
	Project Value	Amount		
Estimated Cost of Works		R 2 166 668,98		
Fee Range for Project Category G	10%			
Discounted Fee	0%			
Total (Professional Fee)	Total (Professional Fee)			



# WCS NO. 055472

# 16. PROJECT PLAN

<ul> <li>Tonga Magistrate Court</li> </ul>	Site Inspection	Status Quo Report	Preliminary Design	Detailed Design and Documentation	DDR Adjustments and Confirmation	Tendering, Appointment Handover	Construction & Commisioning	Practical Completion Certificate
13	S	10	70	0,		endering, Appointment of Contractor and Site 82 days landover		
1355 days	shep	10 days	20 days	195 days	35 days	2 days	220 days	2 days
Mon 20/01/20 Fri 25/03/28	Mon 20/01/20	Mon 20/01/27	Mon 20/02/10	Mon 20/03/09	Thu 24/01/25	Thu 24/03/14	Mon 24/07/08	Mon 25/05/12
Fri 25/03/28	Fri 20/01/24	Fri 20/02/07	Fri 20/03/06	Fri 23/12/29	Wed 24/03/13	Fri 24/07/05	Fri 25/05/09	Tue 25/05/13

Figure 20: Project Plan

# 17. PROJECT RISK PLAN

To counter for these delays, well inspected Back-up 20240006 Contractor generators should be made available.	1 P All mechanical installations must be concluded in due 2024/005 Project managers time or according to the given time frame. Project manager must provide the relevant sequence if there is multiple contactors on the project.	Project manager should liaise with the client to make 2024/03/06 Project Managers them aware if no additional work that is not covered in the the Programment Instruction will be carried out in the current project.	Hechanical Engineer will consult with the Structural Chgang Mechanical and Engineer should the need arise regarding structural Structural Engineers integrity concerns.	Contractor should liaise with the supplier regarding the 2024(306 Contractor date of purchase then make a commitment or make early purchases
-	2	-		
i o counter for tress detays, well inspected back-up generators should be made available.	All mechanical installations must be concluded in di time or according to the given time frame. Project manager must provide the relevant sequence if there multiple contactors on the project.	Project manager should liaise with the client to make them aware if no additional work that is not covered if the Procurement Instruction will be carried out in the current project.	Mechanical Engineer will consult with the Structural Engineer should the need arise regarding structural integrity concerns.	Contractor should liaise with the supplier regarding t date of purchase then make a commitment or make e. purchases
<sub>C</sub>				
_	y	g		
None	None	Name	Morre	None
2	Di N	2		*
ហេ	4	2	mg.	co.
67	e	5	ເກ	2
Loadshedding in the area.	Mechanical work clashing Nan-compliance with public finance and raising conflict management act (PFMA) between confractors.	Increase project cost and Client requesting addition of other may affect project time mechanical systems or units to be installed	No structural engineers on site for work suppervison.	Supplier having other priorities
Delay on mechanical work. May affect project time frame.	Mechanical work clashing and raising conflict between confractors.	Increase project cost and may affect project time frame	installations of Some insellations can exchanical compromise the integrity, installations strength and aesthetic of the buildingstructures by them being too heavy or alterations being done on the existing structures or walls to accommodate the installations.	Delay on equipment. May affect project time delivery
Electric power cuts	Mutiple projects with different contractors on site	Added unplanned work	installations	Delay on equipment I
E	22	82	æ	88



#### 18. RECOMMENDATIONS

From the investigations conducted, it is clear that the current condition of the air conditioning system at the courts is poor. The following items need to be addressed to ensure that the air conditioning system complies with the standards, safety requirements and address client's needs.

- a) Diagnosis and all necessary repairs as per the diagnosis report.
- b) Replace access doors to plant areas in order to have authorised access only.
- c) Assessment of the electrical supply to ensure sufficient power is provided to the units.
- d) The departmental professionals must be provided with test results of the entire systems during commissioning, including pressure tests and confirmations of air flow rates at all air terminals.
- e) The above work needs to be completed by a competent HVAC contractor.
- f) A maintenance plan needs to be implemented for pro-longed lifespan and optimal performance of the HVAC system.

#### 19. CONCLUSION

The current condition of the packaged units at the Tonga Magistrate Court are not in a fair state and they have to be completely replaced. The units will require proper maintenance after the remedial work is completed.

All queries on this report may be directed to the author.

