



agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

TENDER DOCUMENT

CONTRACT NO.: DALRRD-RD-FS 002 (2022/2023)

A Tender for Category 5GB or higher CIDB Registered Contractors

**THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF
THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL
MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE
PROVINCE**

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>	<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Electrical Cables :		Steel Construction Materials:	
• Low Voltage	90%	• Frames	100%
		• Roof and Cladding	100%
Valves Products and Actuators:			
• Taps, Cocks	70%		

Name of Tenderer: _____

Name of duly authorised person: _____

Address : _____

Tel. Number : _____

Cell number : _____

Fax number : _____

E-mail : _____

Receipt number : _____

TENDER AMOUNT : _____

ISSUED BY:

Director: Finance and Supply Chain Management
Department of Rural Development and Land Reform
Private Bag X 4376
Bloemfontein
9300

Tel: (051) 400 4200
Fax: (051) 430 2392

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

Contract No.: DALRRD-RD-FS 002 (2022/2023)

THE TENDER

FOR THE

**THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE
REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM
UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA
DISTRICT IN THE FREE STATE PROVINCE**

ADVERT DATE: 23rd SEPTEMBER 2022

CLOSING DATE: 21st OCTOBER 2022

CLOSING TIME: 11:00 am

ISSUED BY:

Director: Finance and Supply Chain Management
Department of Rural Development and Land Reform
Private Bag X 4376
Bloemfontein
9300

Tel: (051) 400 4200
Fax: (051) 430 2392

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CHECKLIST WHEN SUBMITTING BID PROPOSAL/DOCUMENT

Contract No.: DALRRD-RD-FS 002 (2022/2023)

THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE

A TENDER FOR CATEGORY 5GB OR HIGHER REGISTERED CONTRACTORS

ENSURE THAT PRIOR TO SUBMITTING THE TENDER TO THE DEPARTMENT THE FOLLOWING INFORMATION IS COMPLETED AND ATTACHED

Please indicate YES or NO ✓ Place a Tick in the appropriate column	YES	NO
Indicate / Attach CRS printout from CIDB (in case of JV, ENSURE THAT THE LEAD PARTNER'S AS WELL AS JV PARTNERS CRS NUMBERS ARE INDICATED ON THE FORM (printouts may be submitted as well)		
Signed Letter of authority on Company Letterhead is attached		
CSD Supplier Number OR summary report and Tax compliance PIN numbers in case of Bidder only / Consortia / JV: Did bidder submit CSD Supplier Number and Valid Tax compliance PIN numbers of the Bidder / Consortia / JV Partners? OR A valid Tax Clearance Certificate : In the case of Bidder/ Consortia/JV: Did bidder submit a valid tax clearance certificate		
Certified B-BBEE Certificate IN Cases of Joint Ventures must submit CONSOLIDATED CERTIFIED CERTIFICATE OR ORIGINAL/CERTIFIED SWORN AFFIDAVIT		
B-BBEE Certificate: In the case of Bidder/ Consortia/JV:		
CSD Supplier Number and Valid Tax compliance PIN numbers if Bidder is Sub-Contracting: Did bidder submit CSD Supplier Number and Tax compliance PIN numbers for the subcontracting companies? OR A valid Tax Clearance Certificate: If Bidder is Sub-Contracting Did bidder submit a valid tax clearance certificate for the subcontracting companies		
Submit B-BBEE Certificate for Sub-contracting companies/Certified Copy/Original.		
Attendance of a compulsory meeting		
Did you Tamper with the document		
Used correction fluid		
Are mistakes made on the prices/form of offer inclusive of vat crossed out in ink and altered on each and every price		
Is the form of offer fully completed and signed by the authorized signatory		
Local content (SBD 6.2) form is completed and all annexures are completed (if applicable)		
Are all addenda issued completed and returned (if applicable)		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

DOCUMENT LAYOUT

SECTION	HEADING	COLOUR
PART 1: THE TENDER		
PART T1	TENDERING PROCEDURES SECTION T1.1: TENDER NOTICE AND INVITATION TO TENDER SECTION T1.2: TENDER DATA	WHITE PINK
PART T2	RETURNABLE DOCUMENTS SECTION T2.1: LIST OF RETURNABLE DOCUMENTS SECTION T2.2: RETURNABLE SCHEDULES	YELLOW YELLOW
PART 2: THE CONTRACT		
PART C1:	AGREEMENT AND CONTRACT DATA SECTION C1.1: FORM OF OFFER AND ACCEPTANCE SECTION C1.2: CONTRACT DATA SECTION C1.3: CONSTRUCTION GUARANTEE (PRO-FORMA) SECTION C1.4: OCCUPATIONAL HEALTH AND SAFETY AGREEMENT BETWEEN EMPLOYER AND CONTRACTOR	YELLOW YELLOW WHITE WHITE
PART C2:	PRICING DATA SECTION C2.1: PRICING INSTRUCTIONS SECTION C2.2: BILLS OF QUANTITIES	YELLOW YELLOW
PART C3:	SCOPE OF WORKS SECTION C3.1: DESCRIPTION OF WORKS SECTION C3.2: ENGINEERING SECTION C3.3: PROCUREMENT SECTION C3.4: CONSTRUCTION SPECIFICATION	BLUE BLUE BLUE BLUE
PART C4:	SITE INFORMATION SECTION C4.1: SITE LOCALITY PLAN SECTION C4.2: PROJECT LOCALITY PLAN SECTION C4.3: ACCESS TO SITE	WHITE WHITE
PART C5:	ANNEXURES SECTION C5.1: PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION SECTION C5.2: ENVIRONMENTAL MANAGEMENT PLAN SECTION C5.3: PHOTOS	WHITE WHITE WHITE

 Contractor

 Witness 1

 Witness 2

 Employer

 Witness 1

 Witness 2

THE TENDER

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART T1: TENDERING PROCEDURES

For a proposed
contract between

**Department of Agriculture, Land Reform and
Rural Development
(the Employer)**

and

(the Contractor)

for **THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE
THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY
HALL IN BETHLEHEM UNDER DIHLABENG LOCAL
MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN
THE FREE STATE PROVINCE**

Documentation prepared by:

**DEPARTMENT OF AGRICULTURE, LAND REFORM
AND RURAL DEVELOPMENT**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Part T1.1: TENDER NOTICE AND INVITATION TO TENDER

FOR:

THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE

CONTRACT NO.: DALRRD-RD-FS 002 (2022/2023)

INVITATION AND SCOPE OF WORK:

THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE

CONDITIONS:

Bidders shall be registered with the Construction Industry Development Board (CIDB) and should have a minimum CIDB Contractor grading of **5GB** or higher.

Preferential Procurement Policy Framework Act (PPPFA), Act no. 5 of 2000 and its associated Regulations of 2017. The **80/20** Preference Point system will be applied where a maximum of Eighty (80) tender adjudication points will be awarded for price and Twenty (20) points will be awarded for preference.

The stipulated minimum threshold(s) for local production and content for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>	<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Electrical Cables:		Steel Construction Materials:	
• Low Voltage	90%	• Frames	100%
		• Roof and Cladding	100%
Valves Products and Actuators:			
• Taps, Cocks	70%		

Bid documents shall be made available on the **27 September 2022** from one of the offices listed below during the following hours: Monday to Friday 08h30 to 12h45 and 13h30 to 16h00. No documents will be available or issued at the Briefing Session and should, therefore, be collected timeously beforehand.

Department of Rural Development and Land Reform:

Mr. T. Makitle/Mr T. Khateane
136 Charlotte Maxeke Street
SA Eagle Building
Bloemfontein
9300

Tel: (051) 400 4200

A non-refundable bid fee of **R 200, 00** (Two hundred rands) per set of documents, is payable by cash only.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

A Compulsory Tender Briefing/ Site Inspection meeting will be conducted on site at Boiketlong community hall, Bethlehem at 11:00 hrs on 05 October 2022. ALL tenderers are to meet at the hall:

Boiketlong Hall
C/O Tsoella & Manye Street
Vuka Location
Bethlehem
9300

Closing date and time for the receipt of completed bid documents are **21 October 2022 at 11h00**.

Tenders must remain valid for a period of **90** Calendar Days and **120** Calendar Days for tenders closing in October, November and December; after the closing date for the submission of tenders, during which period a tender may not be amended or withdrawn and may be accepted at any time by the Department. The original and completed bid document shall be placed in a sealed envelope clearly marked:

THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE

SUBMITTING OF TENDERS – PLEASE NOTE: Tenders can only be submitted in the Tender Box in BLOEMFONTEIN.

Tenders will be received on the closing date and time shown above. All tenders must be enclosed in sealed envelopes bearing the applicable tender heading and contract number, as well as the closing time and due date, and must be addressed to the **DIRECTOR: FINANCE AND SUPPLY CHAIN MANAGEMENT, DEPARTMENT OF RURAL DEVELOPMENT AND LAND REFORM**, and must be submitted in the tender box situated at :

Department of Rural Development and Land Reform
136 Charlotte Maxeke Street
SA Eagle Building
Bloemfontein
9300

No telephonic or any other form of communication relating to this bid will be permitted with any other staff by bidders other than with the named individuals stated below.

<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> Contractor	<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> Witness 1	<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> Witness 2	<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> Employer	<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> Witness 1	<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> Witness 2
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All enquiries regarding this bid must be directed to:

ENQUIRIES – TECHNICAL RELATED:

Ms. Maryke Mayer (Pr Qs)
Durapi Consulting
37 Homestead Road
Rivonia
Sandton

Tel: (011) 312 8629 / 85 99
Cell: 076 543 0196
Email: marykem@durapi.co.za

OR

Ms Maipato Nkomo (Client)

Tel: 051 400 4200
Fax: 051 430 2392
Cell: 079 893 7381
E-mail: maipato.nkomo@dalrrd.gov.za

ENQUIRIES – SUPPLY CHAIN MANAGEMENT RELATED:

Mr Teboho Makitle
Tel: 051 400 4200
Fax: 086 536 6113
Email: Teboho.Makitle@dalrrd.gov.za

OR

Mr Theotse Khateane
Tel: 051 400 4200
Fax: 086 536 6113
Email: Theotse.Khateane@dalrrd.gov.za

Bids will be opened in public. No late submissions will be considered. Telegraphic, telexed, facsimiled or e-mail submissions will not be accepted. Failure to meet the **mandatory requirements** required in this Bid will result in the submissions being deemed null and void and shall be considered non-responsive.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

BID BOX INFO

Contract No.: DALRRD-RD-FS 002 (2022/2023)

CLOSING DATE: 21 OCTOBER 2022

YOU ARE HEREBY INVITED TO BID TO THE GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA
(DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT)

BIDS RECEIVED AFTER THE CLOSING TIME AND DATE ARE LATE AND WILL AS A RULE NOT BE
ACCEPTED FOR CONSIDERATION.

SUBMIT ALL BIDS ON THE OFFICIAL FORMS - DO NOT RETYPE

Bid documents **must** be deposited in the box
which is identified as the bid box of the:

Department of Agriculture, Land Reform & Rural Development

136 CHARLOTTE MAXEKE STREET

SA EAGLE BUILDING

BLOEMFONTEIN

9300

THE BID BOX OF THE OFFICE OF THE DEPARTMENT OF RURAL DEVELOPMENT AND LAND
REFORM IS OPEN 24 HOURS A DAY, 7 DAYS A WEEK. THE BID BOX WILL BE CLOSED ON THE
CLOSING TIME OF BIDS WHICH IS 11H00.

BIDDERS SHOULD ENSURE THAT BIDS ARE DELIVERED TIMEOUSLY TO THE CORRECT ADDRESS

SUBMIT EACH BID IN A SEPARATE SEALED ENVELOPE

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Part T1.2: TENDER DATA

SECTION T1.2.1: CONDITIONS OF TENDER

This edition incorporates the amendments made in Board Notice 136 of 2015 in Government Gazette 38960 of 10 July 2015 and erratum notices issued thereafter.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

SECTION T1.2.2: TENDER DATA

The clause numbers in the Tender Data refer to the corresponding clause numbers in the Conditions of Tender.

The additional Conditions of Tender are:

Item		Data
F.1	GENERAL	ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER
F.1.1	Actions	The Employer is the "Department of Rural Development and Land Reform". The term "bid" in the context of this standard is synonymous with term "tender".
F.1.2	Tender Documents	This document is bound of the Tendering Procedures, Returnable Documents, Agreements and Contract Data, Pricing Data, Scope of Works and Site Information
F.1.3	Interpretation	Add the following new clause: "1.3.3" The tender documents have been drafted in English. The contract arising from the invitation of tender shall be interpreted and construed in English.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.1.4	Communication and Employer's Agent:	
	The Employer's Agent is:	<p>DALRRD</p> <p>Contact : Ms M Nkomo</p> <p>Address : 136 S A Eagle building Charlotte Maxeke Street Bloemfontein 9301</p> <p>Tel No. : (051) 400 4200 Cell : 079 893 7381</p> <p>E-mail : maipato.nkomo@dalrrd.gov.za</p>
F.2	TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.2.1	Eligibility:	<p>Only those Tenderers who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 5GB or Higher Class of construction work, are eligible to submit tenders.</p> <p>Joint ventures are eligible to submit tenders provided that they comply with all three of the following conditions:</p> <ol style="list-style-type: none"> 1. Every member of a joint venture is registered with the CIDB. 2. The lead partner has a contractor grading designation of not lower than one level below the required grading designation of 5GB of construction work. 3. The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor designation determined in accordance with the sum tendered for a 5GB class of construction work, is eligible to submit tenders.
F.2.2	Cost of Tendering:	<p>Add the following to the clause:</p> <p>"Accept that the Employer will not compensate the tenderer for any costs incurred in attending interviews in the office of the Employer or the Employer's Agent."</p>
F.2.5	Reference documents:	<p>The Joint Building Contracts Committee (JBCC) Principal Building Agreement (March 2021) make several references to the Contract Data for details that apply specifically to this tender. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the JBCC Principal Building Agreement.</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.2.7	Clarification meeting:	The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list and paid for Bid Documents
F.2.8	Seek clarification:	“Request clarification of the tender documents, if necessary, by notifying the Employer’s Official or the Employer’s Agent indicated in the Tender Notice and Invitation to Tender in writing at least 7 (seven) calendar days before the closing time stated in the foregoing notice and clause 2.15.”
F.2	TENDERER’S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.2.9	Insurance:	Add the following to the clause: “Accept that the submission of a Tender shall be construed as an acknowledgement by the Employer that he/she is satisfied with the insurance cover that the Contractor will have to effect Contract Works Insurance to be limited to the Tender amount including VAT plus 20%, and Public Liability to be limited to R 5 000 000 under the contract. The contractor must ensure that any damage to the existing building (e.g. structural) be included in his Public Liability insurance. The Employer will not provide for any insurance as it will be provided for by the Contractor.
F.2.11	Alterations to documents:	Add the following to the clause: “In the event of mistakes having been made on the form of offer inclusive of VAT it must be crossed out in ink at each and every price alteration on the form of offer and be accompanied by an initial. Corrections in terms of price must not be made by means of a correction fluid such as Tipp-Ex or similar product. If correction fluid has been used on any specific item price, such item will not be considered. No correction fluid must be used in a Bill of Quantities where prices are calculated to arrive at a total amount. If correction fluid has been used the Tender as a whole will not be considered. Tampering with or taking apart the bound document is strictly prohibited. All additional documentation must be stapled into the tender document or attached in a separate file.” The Department will reject the bid if the above conditions are not adhered to.
F.2.13	Submitting a tender offer	
	F.2.13.1	Each Tenderer is required to return the complete set of documents as listed in the Tender Data with all the required information supplied and completed in all respects.
	F.2.13.2	Return all returnable documents to the employer after completing them in their entirety, by writing legibly in non-erasable ink. Failure to adhere to this the bid will be disqualified.
	F.2.13.3	Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.2	TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
	F.2.13.4	<p>Add the following to the clause: "Only duly authorised signatories must sign the original and all copies of the tender offer where required in terms of 2.13.3.</p> <p>In the case of a ONE-PERSON CONCERN submitting a tender, this shall be clearly stated on the company letter head.</p> <p>In case of a COMPANY submitting a tender, include a copy of a resolution by its board of directors authorising a director or other official of the company to sign the documents on behalf of the company.</p> <p>In the case of a CLOSED CORPORATION submitting a tender, include a copy of a resolution by its members authorising a member or other official of the corporation to sign the documents on each member's behalf.</p> <p>In the case of a PARTNERSHIP submitting a tender, all the partners shall sign the documents, unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case proof of such an authorisation shall be included in the Tender.</p> <p>In the case of a JOINT VENTURE submitting a tender, must include a resolution of each company of the Joint Venture together with a resolution by its members authorising a member of the Joint Venture to sign the documents on behalf of the Joint Venture."</p> <p>The Authorized person should sign all the documentation.</p> <p>Accept that failure to submit proof of Authorisation to sign the tender shall result in a Tender Offer being regarded as non-responsive</p>
	F.2.13.5	<p>The Employer's address for delivery of tender offers:</p> <p>Department of Agriculture, Land Reform and Rural Development</p> <p>Provincial Shared Service Centre 2nd Floor 136 Charlotte Maxeke Street Department of Rural Development Bloemfontein 9300</p>
	F.2.13.6	A two-envelope procedure will NOT be followed.
	F.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.2	TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.2.21	Information and Data to be completed in all respects:	<p>Add the following to the clause: "Accept that the Employer shall in the evaluation of tenders take due account of the Tenderer's past performance in executing for similar works of comparable magnitude, and the degree to which he possesses the necessary technical, financial and other resources to enable him to complete the Works successfully within the contract period. Satisfy the Employer and Principal Agent as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, by furnishing details in Section T2.2.</p> <p>Accept that the Employer is restricted in accordance with clause 4. (4) of the Construction Regulations, 2021, to only appoint a contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely.</p>
F.2.15	Closing time:	The closing date and time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	Tender offer validity:	<p>The tender offer validity period is 90 calendar days. For tenders closing in October, November and December the tender validity period is 120 calendar days.</p> <p>Add the following to the clause:</p> <p>"If the tender validity expires on a Saturday, Sunday or public holiday, the Tender Offer shall remain valid and open for acceptance until the closure of business on the following working day."</p>
F.2.17	Clarification of tender offer after submission	The Tenderer shall provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of arithmetical errors by the adjustment of certain rates or items prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.
F.2.18	Provide other material	The Tenderer shall provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.
F.2.19	Inspections, tests and analysis:	The Tenderer must provide access during working hours to his premises for inspections on request.
F.2.20	Submit securities, bonds and policies:	If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.2	TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.2.23	Certificates:	<p>The following certificates/ information may be provided with the tender offer:</p> <ul style="list-style-type: none"> a) Copy of Certificate of Incorporation (if tenderer is a Company), e.g. CM1, CM29, or CM44 b) Copy of Founding Statement (if tenderer is a Closed Corporation), e.g. CK1, or CK2 c) Copy of Partnership Agreement (if tenderer is a Partnership) d) Copy of Identity Document (if tenderer is a One-man concern) e) Copy of Deed of Trust (If a trust is involved). <p>In cases where the tenderer has failed to submit any of the documents above with the tender, the Department reserves the right to, at any time after the closure of the tender, but before the award of the tender, request the tenderer to provide the outstanding documents within 5 (five) calendar days from the date of notification.</p>
ADD THE FOLLOWING NEW CLAUSES:		
"2.24	Canvassing and obtaining of additional information by tenderers:	<p>Accept that no Tenderer shall make any attempt either directly or indirectly to canvass any of the Employers officials or the Employer's agent in respect of his tender, after the opening of the tenders, but prior to the Employer arriving at a decision thereon.</p> <p>No Tenderer shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders."</p>
"2.26	Awards to close family members of persons in the service of the state	<p>In order to adjudicate fairness or eligibility, the questionnaire for the declaration of interests in the tender of persons in service of state in Section T2.2.5 – Form E must be completed."</p>

 Contractor

 Witness 1

 Witness 2

 Employer

 Witness 1

 Witness 2

F.2 TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER		
"2.28	TAX COMPLIANCE	<p>Bidders must ensure compliance with their tax obligations.</p> <p>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.</p> <p>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.</p> <p>Bidders may also submit a printed TCS together with the bid.</p> <p>In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate proof of TCS / PIN / CSD number.</p> <p>Where no TCS is available but the bidder is registered on the central supplier database (CSD), a CSD number must be provided.</p>
"F.2.29	CSD –National Treasury Central Supplier Database (CSD) Registration	<p>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). B-BBEE certificate or sworn affidavit for B-BBEE must be submitted to bidding institution.</p> <p>Where a bidder is not registered on the CSD, mandatory information namely: (business registration/ directorship/ membership/identity numbers; Tax compliance status should be submitted with the bid documentation. B-BBEE certificate or sworn affidavit for B-BBEE must be submitted to bidding institution.</p>
"F.2.30	Local Labour	It is a requirement of this contract that work be executed in such a manner so as to maximise the use of local labour intensive construction methods."
F.3 THE EMPLOYER'S UNDERTAKINGS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER		
F.3.1	Respond to requests from the Tenderer:	<p>Replace the contents of the clause with the following:</p> <p>"Respond to a request for clarification received up to seven (5) calendar days before the tender closing time stated in the tender data and notify all Tenderers who drew procurement documents"</p>
F.3.2	Issue Addenda:	If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until five (5) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.3	THE EMPLOYER'S UNDERTAKINGS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.3.3	Return late tender offers	Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.
F.3.4	Opening of tender submissions:	<p>The closing date and time for receipt of tenders is: 21 October 2022 at 11h00.</p> <p>Tenders will be received on the closing date and time shown, must be enclosed in a sealed envelope bearing the applicable tender heading and contract number, as well as the closing time and due date, and must be addressed to the:</p> <p>CHIEF DIRECTOR: SUPPLY CHAIN AND FACILITIES MANAGEMENT SERVICES: DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT</p> <p>Tenders must be submitted in the tender box situated in Bloemfontein:</p> <p>Department of Agriculture Rural Development and Land Reform 136 Charlotte Maxeke Street SA Eagle Building Bloemfontein 9300</p> <p>Only tenders submitted to this tender box will be opened/ considered.</p> <p>Valid tender submissions shall be opened in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.</p>
F.3.9.2		<p>The employer must correct the arithmetical errors in the following manner:</p> <p>a) Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in figures shall govern.</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

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F.3.11	<p>Evaluation of Tenders:</p> <p>The tender evaluation method to evaluate all responsive tender offers will be Method 2.</p> <p>Tenderers will be evaluated as per the Preferential Procurement Regulation 8(1) which prescribes that only locally produced goods, service or works locally manufactured goods with a stipulated minimum threshold(as indicated in SBD 6.2) for local production and content will be considered.</p> <p>LOCAL CONTENT AND MINIMUM THRESHOLD:</p> <table><tr><th><u>Description of services, works or goods</u></th><th><u>Stipulated minimum threshold</u></th><th><u>Description of services, works or goods</u></th><th><u>Stipulated minimum threshold</u></th></tr><tr><td>Electrical Cables :</td><td></td><td>Steel Construction Materials:</td><td></td></tr><tr><td><ul style="list-style-type: none">Low Voltage</td><td>90%</td><td><ul style="list-style-type: none">Frames</td><td>100%</td></tr><tr><td></td><td></td><td><ul style="list-style-type: none">Roof and Cladding</td><td>100%</td></tr><tr><td>Valves Products and Actuators :</td><td></td><td></td><td></td></tr><tr><td><ul style="list-style-type: none">Taps, Cocks</td><td>70%</td><td></td><td></td></tr></table> <p>Apply the 80/20 Preference Point system where a maximum of Eighty 80) tender adjudication point be awarded for price. Twenty (20) points will be awarded for preference in terms of the Preferential Procurement Policy Framework Act (Act 5 of 2000) and Preferential Procurement Regulation, 2017. See section T2.2.8, Form H for the Preference model.</p> <p>The financial offer will be scored in terms of formula 2, option 1 of the Standard Conditions of Tender (Section T1.3 of the document).</p> <p>Bidders must submit original and valid B-BBEE Status Level Verification Certificate or certified copies thereof, issued by accredited Verification Agencies by SANAS or Registered Auditor approved by Independent Regulatory Board of Auditor (IRBA) OR certified Sworn B-BBEE Affidavit signed by the Commissioner of Oaths. The exempted Micro Enterprise must submit a letter from the Accounting Officer who is appointed in terms of Close Corporation Act. Bidders who do not submit B-BBEE Status Level Verification Certificate or are non-compliant to be B-BBEE do not qualify for preference points for B-BBEE.</p> <p>Tenders will be evaluated under the following 4 steps by the supply chain managements for appointment.</p> <p>Step 1: Admin Compliance</p> <p>Step 2: Compliance with local content</p> <p>Step 3: Functionality</p> <p>Step 4: Price and Preference</p>	<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>	<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>	Electrical Cables :		Steel Construction Materials:		<ul style="list-style-type: none">Low Voltage	90%	<ul style="list-style-type: none">Frames	100%			<ul style="list-style-type: none">Roof and Cladding	100%	Valves Products and Actuators :				<ul style="list-style-type: none">Taps, Cocks	70%		
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		The CRITERIA to be applied in evaluating the proposal is set out in the table below: Very Poor-0; Poor-1; Average-2; Good-3; Very Good-4; Excellent-5				
		QUALITY CRITERIA				
		NO.	CRITERIA	WEIGHT	INDICATE VALUE	TOTAL
		1	WORK CARRIED OUT BY THE TENDERER Successful completion of building projects in the last five (5) years from a minimum value of R 4 500 000.00. <i>Attach appointment letters and completion certificates. (No score will be awarded if certificates are not attached)</i> Note: Returnable Document = FORM J	35		
		2	PROPOSED KEY PERSONNEL – SITE AGENT Site Agent with minimum NQF 6 Qualification in Building Environment Qualification: CV and certified copies of qualifications must be attached. <i>Certified copies not older than 3 months (No score will be awarded if CV and certified copies are not attached)</i> Note: Returnable Document = FORM L	25		
		3	PROPOSED KEY PERSONNEL: FOREMAN Foreman: <i>CV must be attached. (No score will be awarded if CV is not attached)</i> Note: Returnable Document = FORM L	25		
		4	PRELIMINARY CONSTRUCTION PROGRAMME Submission of the following comprehensive construction programme indicating all work flow items. Note: Returnable Document = FORM O	15		
		Total		100		
F.3.11.7		Scoring financial offers: The formula to determine points for price is: $W_c = W_3 \times P_m / P$ where: W_c = the number of tender evaluation points awarded for the financial offer; W_3 = the number of tender evaluation points for financial offer and equals: 1) 90 where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R 50 000 000; or 2) 80 where the financial value inclusive of VAT of one or more responsive tender offers equals or is less than R 50 000 000; P_m = the lowest acceptable tender offer; P = the tender offer under consideration. 80/20 Split is applicable to this tender				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.3.11.8 (continued)	<p>Scoring for preferences: Up to 100 minus W3 tender evaluation points will be awarded to the tenderer who submits a valid original or certified copy of its B-BBEE Status Level Verification Certificate which is in compliance with the requirements of instructions and guidelines issued by the National Treasury and is in accordance with notices published by the Department of Trade and Industry in the Government Gazette.</p> <p>Only a B-BBEE Status Level Verification Certificate issued by a registered auditor, accounting officer as contemplated in S60 (4) of the Close Corporation Act, 60 of 1984, or an accredited verification agent will be accepted.</p> <p>NB: Bidders must submit original and valid B-BBEE or an affidavit status level verification certificate or certified copies thereof, issued by accredited Verification Agencies by SANAS or Registered Auditor approved by Independence Regulatory Board of Auditors (IRBA), together with their bids, to substantiate their B-BBEE claims. The Exempted Micro Enterprise must submit a letter from the Accounting officer who is appointed in terms of Close Corporation Act. Bidders who do not submit B-BBEE Status level Verification Certificate or are non-compliant contributors to be B-BBEEE do not qualify for preference</p> <p>A consortium or joint venture will qualify for points for its B-BBEE status level only if such consortium or joint venture submits a consolidated B-BBEE status certificate that covers the consortium or joint venture as a combined unit as if it were a single enterprise. Tenderers anticipating tendering in consortium or joint venture must allow sufficient time for obtaining such status level verification.</p> <p>Preference points will be allocated according to the following *table:</p> <table><tr><th>B-BBEE Status Level of Contributor</th><th>Number of points (90/10 system)</th><th>Number of points (80/20 system)</th></tr><tr><td>1</td><td>10</td><td>20</td></tr><tr><td>2</td><td>9</td><td>18</td></tr><tr><td>3</td><td>6</td><td>16</td></tr><tr><td>4</td><td>5</td><td>12</td></tr><tr><td>5</td><td>4</td><td>8</td></tr><tr><td>6</td><td>3</td><td>6</td></tr><tr><td>7</td><td>2</td><td>4</td></tr><tr><td>8</td><td>1</td><td>2</td></tr><tr><td>Non-compliant contributor</td><td>0</td><td>0</td></tr></table>	B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)	1	10	20	2	9	18	3	6	16	4	5	12	5	4	8	6	3	6	7	2	4	8	1	2	Non-compliant contributor	0	0
B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)																													
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4	5	12																													
5	4	8																													
6	3	6																													
7	2	4																													
8	1	2																													
Non-compliant contributor	0	0																													
	<p>* PPPFA Regulations 2011 – Reg. 5(2) and Reg.6 (2).</p>																														

The proposal will be evaluated individually on score sheets, by a representative evaluation panel according to the evaluation criteria indicated above. All service providers who scored less than **60** out of **100** points for functionality will not be considered further.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

QUALITY CRITERIA																
NO.	CRITERIA	WEIG HT	INDICATE VALUE	TOTAL												
1	<p>SUCCESSFUL COMPLETION OF BUILDING PROJECTS IN THE LAST FIVE (5) YEARS FROM A MINIMUM VALUE OF R 4 500 000.00. ATTACH APPOINTMENT LETTERS AND COMPLETION CERTIFICATES. (NO SCORE WILL BE AWARDED IF COMPLETION CERTIFICATES ARE NOT ATTACHED)</p> <p>Tenderers are required to demonstrate relevant past experience and competency. Tenderers are required to submit full details of, and reliable contactable references for, relevant project which were successfully completed. Building projects relevant must be of similar scope, nature and size, completed within the last five (5) years.</p> <p>Successful completion of similar projects in the last 5 years.</p> <table><tr><td>Very Poor (score 0)</td><td>The tenderer has failed to address the question and has not provided any proof of completing a building project.</td></tr><tr><td>Poor (score 1)</td><td>One (1) relevant building project executed successfully by the contractor in the past 5 years</td></tr><tr><td>Average (score 2)</td><td>Two (2) relevant building projects successfully executed by the contractor in the past 5 years</td></tr><tr><td>Good (score 3)</td><td>Three (3) relevant building projects successfully executed by the contractor in the past 5 years</td></tr><tr><td>Very Good (score 4)</td><td>Four (4) relevant building project successfully executed by the contractor in the past 5 years</td></tr><tr><td>Excellent (score 5 and more)</td><td>Five (5) or More relevant building projects successfully executed by the contractor in the past 5 years</td></tr></table> <p>Note: Returnable Document = FORM J</p>	Very Poor (score 0)	The tenderer has failed to address the question and has not provided any proof of completing a building project.	Poor (score 1)	One (1) relevant building project executed successfully by the contractor in the past 5 years	Average (score 2)	Two (2) relevant building projects successfully executed by the contractor in the past 5 years	Good (score 3)	Three (3) relevant building projects successfully executed by the contractor in the past 5 years	Very Good (score 4)	Four (4) relevant building project successfully executed by the contractor in the past 5 years	Excellent (score 5 and more)	Five (5) or More relevant building projects successfully executed by the contractor in the past 5 years	35		
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2	<p>EXPERIENCE OF SITE AGENT</p> <p>This Sub Criteria covers the general average experience of the proposed Site Agent (total duration of professional activity at Site Agent level).</p> <p>The candidate must have a minimum of NQF level 6 in Building Environment Qualification. Tenderers are required to submit curriculum vitae for the key personnel proposed to be employed on the project. This curriculum vitae is to include specific details of these individuals including past experience and competence in delivering key similar relevant building project. This evaluation is based on the following weighting: (CV and a certified copy of qualifications must be attached- Certified copies not older than 6 months)</p> <p>NB: No score will be awarded to bidder who has not attached CV and certified copies).</p> <table><tr><td>Very Poor (score 0)</td><td>No CV Submitted. No minimum qualification Less than 1 year experience post qualification in the position</td></tr><tr><td>Poor (score 1)</td><td>Minimum qualifications with more than 1 to 2 years' experience post qualification in construction</td></tr><tr><td>Average (score 2)</td><td>Minimum qualifications with more than 2 to 4 years' experience post qualification in construction</td></tr><tr><td>Good (score 3)</td><td>Minimum qualifications with more than 4 to 6 years' experience post qualification in construction</td></tr><tr><td>Very Good (score 4)</td><td>Minimum qualifications with more than 6 to 8 years' experience post qualification in construction</td></tr><tr><td>Excellent (score 5)</td><td>Minimum qualifications with more than 9 years' experience post qualification in construction</td></tr></table>	Very Poor (score 0)	No CV Submitted. No minimum qualification Less than 1 year experience post qualification in the position	Poor (score 1)	Minimum qualifications with more than 1 to 2 years' experience post qualification in construction	Average (score 2)	Minimum qualifications with more than 2 to 4 years' experience post qualification in construction	Good (score 3)	Minimum qualifications with more than 4 to 6 years' experience post qualification in construction	Very Good (score 4)	Minimum qualifications with more than 6 to 8 years' experience post qualification in construction	Excellent (score 5)	Minimum qualifications with more than 9 years' experience post qualification in construction	25		
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

3	<p>EXPERIENCE OF FOREMAN</p> <p>This Sub Criteria covers the general average experience of the proposed Foreman (total duration of professional activity at Site Agent or Foreman level).</p> <p>Tenderers are required to submit curriculum vitae for the Site Agent or Foreman proposed to be employed on the project. These curriculum vitae are to include specific details of these individuals including past experience and competence in delivering key similar relevant building project. This evaluation is based on the following weighting: (CV must be attached)</p> <p>NB : No score will be awarded to bidder who has not attached a CV</p> <table border="1"> <tr> <td>Very Poor (score 0)</td> <td>No CV Submitted</td> </tr> <tr> <td>Poor (score 1)</td> <td>More than 2 to 5 year experience as a Foreman</td> </tr> <tr> <td>Average (score 2)</td> <td>More than 5 to 8 years' experience as a Foreman</td> </tr> <tr> <td>Good (score 3)</td> <td>More than 8 to 11 years' experience as a Foreman</td> </tr> <tr> <td>Very Good (score 4)</td> <td>More than 11 to 21 years' experience as a Foreman</td> </tr> <tr> <td>Excellent (score 5)</td> <td>21 years and above as a Foreman</td> </tr> </table> <p>Note: Returnable Document = FORM L</p>	Very Poor (score 0)	No CV Submitted	Poor (score 1)	More than 2 to 5 year experience as a Foreman	Average (score 2)	More than 5 to 8 years' experience as a Foreman	Good (score 3)	More than 8 to 11 years' experience as a Foreman	Very Good (score 4)	More than 11 to 21 years' experience as a Foreman	Excellent (score 5)	21 years and above as a Foreman	25		
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Excellent (score 5)	21 years and above as a Foreman															

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

4	<p>CONSTRUCTION PROGRAMME</p> <p>Submission of the following comprehensive construction programme indicating all work flow items in relation to reaching listed project deliverables on time.</p> <table border="1"> <tr> <td>Very Poor (score 0)</td> <td>No programme attached.</td> </tr> <tr> <td>Poor (score 1)</td> <td>The programme is poorly compiled and there are major inconsistencies with timing of project deliverables.</td> </tr> <tr> <td>Average (score 2)</td> <td>The programme omits important tasks or the timing of the activities and correlation among them are inconsistent with project deliverables. There is a lack of clarity and logic in the sequence.</td> </tr> <tr> <td>Good (score 3)</td> <td>All key activities are included in the programme, but are not detailed. There are minor inconsistencies between timing and project deliverables.</td> </tr> <tr> <td>Very Good (score 4)</td> <td>All key activities are included and well detailed in the programme. There are no inconsistencies between timing and project deliverables.</td> </tr> <tr> <td>Excellent (score 5)</td> <td>The programme fits the project deliverables well; all important activities are indicated in the programme and their timing and sequencing is appropriate and consistent with project objectives and requirements. There is an excellent degree of detail with links that facilitates understanding of the proposed programme.</td> </tr> </table> <p>Note: Returnable Document = FORM O</p>	Very Poor (score 0)	No programme attached.	Poor (score 1)	The programme is poorly compiled and there are major inconsistencies with timing of project deliverables.	Average (score 2)	The programme omits important tasks or the timing of the activities and correlation among them are inconsistent with project deliverables. There is a lack of clarity and logic in the sequence.	Good (score 3)	All key activities are included in the programme, but are not detailed. There are minor inconsistencies between timing and project deliverables.	Very Good (score 4)	All key activities are included and well detailed in the programme. There are no inconsistencies between timing and project deliverables.	Excellent (score 5)	The programme fits the project deliverables well; all important activities are indicated in the programme and their timing and sequencing is appropriate and consistent with project objectives and requirements. There is an excellent degree of detail with links that facilitates understanding of the proposed programme.	15	
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.3.13	Acceptance of tender offer:	<p>Tender offers will only be accepted if:</p> <ol style="list-style-type: none"> The Tenderer submits a duly signed and dated relevant resolution signed by all their members or their board of directors, as the case may be, on their company letterhead. In the case of a sole proprietor or a single member in a company, it must be clearly indicated on a document bearing the company's letterhead. In the case of a joint venture submitting a tender, must include a resolution of each company of the Joint Venture signed by all the members/ directors of the Joint Venture authorising a member or an official of the Joint Venture to sign the documents on behalf of the Joint Venture OR a resolution bearing the letterheads (logos) of each company of the Joint Venture and signed by all the members/ directors of the Joint Venture authorizing a member or an official of the Joint Venture to sign the documents on behalf of the Joint Venture shall be included in the tender. The signature of the authorized person should also appear on the resolution letter(s). (FORM PA-15.1 – 15.3) A resolution, PA-15.1 (for a single Service Provider tendering herein) or PA-15.2 plus special resolution, PA-15.3 (for multiple Service Providers tendering in consortium or joint venture herein) (forms PA-15.1 to 3 are bound in hereafter). Bidders must ensure compliance with their tax obligations. 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. 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. Bidders may also submit a printed TCS together with the bid. In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate proof of TCS / PIN / CSD number. Where no TCS is available but the bidder is registered on the central supplier database (CSD), a CSD number must be provided. Bidders may also submit a printed TCS together with the bid The Tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation. Proof of Registration in respect of each partner, where a tenderer satisfied the CIDB contractor grading designation requirements through the formation of a joint venture. The Lead partner must have a contractor grading designation of not lower than one level below the required grading designation; The Bidder did not tamper, dismantle or remove any documents from the tender document. The Tenderer has acknowledged and signed the record of addenda page, and submitted the addendum or addenda, in the event that the addendum or addenda has been issued. The Tenderer has attended the compulsory tender clarification meeting as stipulated. The Tenderer has completed the form of offer and is signed by the duly authorized person. The Tenderer submits a letter of intent from the bank or a FSCA/NCR or FAIS registered financial institution with whom he/she has made the necessary arrangements, to the effect that the said institution will be prepared to provide the required performance guarantee. In the event of a JV the letter of intent for the JV or for the lead partner must be submitted.
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

		<p>i) The Tenderer is registered and in good standing with respect to Compensation for Occupational Injuries and Diseases Act (COIDA) for Building Construction, with Department of Labour or with a licensed compensation insurer. The Tenderer must submit the letter of good standing for Building Construction projects. In the event of the Tenderer being a joint venture/consortium, each company must submit the letter of good standing for building construction projects. A Tenderer who presently do not have any labour in their employ must submit a Tender Letter obtainable from the Department of Labour.</p> <p>NB: Any bidder that does not comply with any of the above-mentioned stipulations, number 1 to 9 above, will be regarded as non-responsive and will therefore not be considered for further evaluations.</p>
F.3.17	Provide copies of the contract	One signed copy of the contract shall be provided by the Employer to the successful Tenderer.
F.4	ADDITIONAL CONDITIONS OF TENDER	
The additional conditions of Tender are:		
F.4.1	<p>Compliance with Occupational Health and Safety Act 1993</p> <p>Tenderers are to note the requirements of the Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations 2021 issued in terms of Section 43 of the Act. The Tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith.</p> <p>In this regard the Contractor shall submit, a detailed Health and Safety Plan in respect of the Works in order to demonstrate the necessary competencies and resources to perform the construction work all in accordance with the Act and Regulations. Such Health and Safety Plan shall cover inter-alia the following details:</p> <ul style="list-style-type: none">(1) Management Structure, Site Supervision and Responsible Persons including a succession plan.(2) Contractor's induction training programme for Employees, Sub-contractors and Visitors to the Site.(3) Health and safety precautions and procedures to be adhered to in order to ensure compliance with the Act, Regulations and Safety Specifications.(4) Regular monitoring procedures to be performed.(5) Regular liaison, consultation and review meetings with all parties.(6) Site security, welfare facilities and first aid.(7) Site rules and fire and emergency procedures.	
	<p>Tenderers are to note that the Contractor is required to ensure that all Sub-contractors or others engaged in the performance of the Contract also comply with the above requirements.</p> <p>The Contractor shall prepare and maintain a Health and Safety File in respect of the project, which shall be available for inspection on Site at all times and handed over to the Employer on Final Completion of the project.</p> <p>The Contractor is required to submit to the Employer the Occupational Health and Safety Agreement (included in Part C1.4 of the Contract Document) and a letter of good standing from the Compensation Commissioner, or a licensed compensation insurer, within 21 days after the Commencement Date of the Contract.</p>	

Contractor

Witness 1

Witness 2

Employer

Witness 1

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F.4.2	<p>Community Liaison Officer</p> <p>It is a requirement of the Contract that a Community Liaison Officer (CLO) be appointed by the Contractor. The primary functions of the CLO shall be to assist the Contractor with the selection and recruitment of targeted labour, to represent the local community in matters concerning the use of targeted labour (and/or enterprises) on the works, and to assist with and facilitate communication between the Contractor, the Principal Agent and the local communities.</p> <p>The method of identifying suitable candidates for the position of CLO, as well as requirements in respect of the employment of the selected candidate, are described in Part C3.3.2: Scope of Work.</p>
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CIDB STANDARD CONDITIONS OF TENDER

SECTION T1.2.3: CIDB STANDARD CONDITIONS OF TENDER

As published in Annex F of the CIDB Standard for Uniformity in Construction Procurement in Board Notice 136 Government Gazette No 38960 of 10 July 2015.

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F.1 GENERAL

F.1.1. Actions

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

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

Note:

- 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.
- 2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

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

F.1.2 Tender Documents

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

F.1.3 Interpretation

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

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

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

- a) **conflict of interest** means any situation in which:
 - i) Someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially.
 - ii) An individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit.
 - iii) Incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b) **Comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis.

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- c) **Corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the Employer or his staff or agents in the tender process.
- d) **Fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the Employer, including collusive practices intended to establish prices at artificial levels.
- e) **Organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body.
- f) **Quality (functionality)** means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a tenderer.

F.1.4 Communication and Employer's agent

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

F.1.5 Cancellation and Re-Invitation of Tenders

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

- a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- b) funds are no longer available to cover the total envisaged expenditure; or
- c) no acceptable tenders are received.

F.1.5.2 The decision to cancel a tender must be published in the cidb website and in the government Tender Bulletin for the media in which the original tender invitation was advertised.

F.1.6 Procurement procedures

F.1.6.1 General

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

F.1.6.2 Competitive negotiation procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the Employer shall announce only the names of the tenderers who make a submission.

The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the Employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position

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provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

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

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

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

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

F.1.6.3.2 Option 2

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

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

F.2 TENDERER'S OBLIGATIONS

F.2.1 Eligibility

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

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

F.2.2 Cost of tendering

F2.2.1 Accept that, unless otherwise stated in the tender data, the Employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

F2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

F.2.3 Check documents

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

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F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

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

F.2.8 Seek clarification

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

F.2.9 Insurance

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

F.2.10 Pricing the tender offer

F.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 21 days before the closing time stated in the tender data.

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

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

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

F.2.11 Alterations to documents

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

F.2.12 Alternative tender offers

F.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is

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also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

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

F.2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

F.2.13 Submitting a tender offer

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

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

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

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

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

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

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

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

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

F.2.21 Information and data to be completed in all respects

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

F.2.15 Closing time

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

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

F.2.16 Tender offer validity

- F.2.16.1** Hold the tender offer(s) valid for acceptance by the Employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.
- F.2.16.2** If requested by the Employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.
- F.2.16.3** Accept that a tender submission that has been submitted to the Employer may only be withdrawn or substituted by giving the Employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.
- F.2.16.4** Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as "SUBSTITUTE".

F.2.17 Clarification of tender offer after submission

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

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

F.2.18 Provide other material

- F.2.18.1** Provide, on request by the Employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair risk assessment.

Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the Employer's request, the Employer may regard the tender offer as non-responsive.

- F.2.18.2** Dispose of samples of materials provided for evaluation by the Employer, where required.

F.2.19 Inspections, tests and analysis

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

F.2.20 Submit securities, bonds, policies, etc.

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

F.2.21 Check final draft

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

F.2.22 Return of other tender documents

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

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F.2.23 Certificates

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

F.3 THE EMPLOYER'S UNDERTAKINGS

F.3.1 Respond to requests from the tenderer

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

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

- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

F.3.2 Issue Addenda

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

F.3.3 Return late tender offers

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

F.3.4 Opening of tender submissions

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

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, preferences claimed and time for completion for the main tender offer only.

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

F.3.5 Two-envelope system

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

F.3.5.2 Evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who

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score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

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

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

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

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

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

F.3.9 Arithmetical errors, omissions and discrepancies

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

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the Pricing Data or bills of quantities; or
- c) arithmetic errors in:
 - i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - ii) the summation of the prices.

F.3.9.2 The employer must correct the arithmetical errors in the following manner:

- a) Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

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- b) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected.
- c) Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- d) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices. Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

F.3.10 Clarification of a tender offer

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

F.3.11 Evaluation of tender offers

F.3.11.1 General

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

F.3.11.2 Method 1: Price and Preference

In the case of price and preference:

- 1) Score tender evaluation points for price
- 2) Score points for BBBEE contribution
- 3) Add the points scored for price and BBBEE.

F.3.11.3 Method 2: Functionality, Price and Preference

In case of a functionality, price and preference:

- 1) Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data
- 2) Tender must be regarded as acceptable if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.
- 3) Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in paragraphs 4 and 5 below.

The 80/20 preference point system for acquisition of services, works or goods up to Rand value of R50 million

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

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

where

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Ps = Points scored for comparative price of tender or offer under consideration;
Pt = Comparative price of tender or offer under consideration; and
Pmin = Comparative price of lowest acceptable tender or offer.

(4)(a)(ii) An employer of state may apply the formula in paragraph (i) for price quotations with a value less than R30 000, if and when appropriate:

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

B-BBEE status level of contributor	Number of points
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-complaint contributor	0

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

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

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

The 90/ 10 preference points system for acquisition of services, works or goods with a Rand value above R 50 million

90/10

$$Ps = 90 \left[1 - \frac{Pt - Pmin}{Pmin} \right]$$

(5)(a) The following formula must be used to calculate the points for price in respect of tenders with a Rand value above R 50 000 000 (all applicable taxes included):

Where Ps = Points scored for comparative price of tender or offer under consideration;
 Pt = Comparative price of tender or offer under consideration; and
 Pmin = Comparative price of lowest acceptable tender or offer.

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

B-BBEE status level of contributor	Number of points
1	10
2	9
3	8
4	5
5	4

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

6	3
7	2
8	1
Non-complaint contributor	0

(5)(c) A maximum of 10 points may be allocated in accordance with subparagraph (5)(b).

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

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

F.3.11.6 Decimal places

Score price, preference and functionality, as relevant, to two decimal places.

F.3.11.7 Scoring Financial Offers

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

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

Where: N_{FO} is the number of tender evaluation points awarded for price. W_1 is the maximum possible number of tender evaluation points awarded for price as stated in the Tender Data.

A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

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

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

F.3.11.8 Scoring preferences

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

Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality (Functionality)

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

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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

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

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

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

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

F.3.12 Insurance provided by the Employer

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

F.3.13 Acceptance of tender offer

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

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the Employer's procurement,
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of and of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

F.3.21 Prepare contract documents

F.3.21.1 If necessary, revise documents that shall form part of the contract and that were issued by the Employer as part of the tender documents to take account of:

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents, and
- c) other revisions agreed between the Employer and the successful tenderer.

F.3.21.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.15 Complete adjudicator's contract

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.3.16 Notice to unsuccessful tenderers

- F.3.16.1** Notify the successful tenderer of the Employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.
- F.3.16.2** After the successful tenderer has been notified of the Employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

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

F.3.18 Provide written reasons for actions taken

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

F3.19 Transparency in the procurement process

F3.19.1 The cidb prescripts require that tenders must be advertised and be registered on the cidb i.Tender system.

F3.19.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

F3.19.3 The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.

F3.19.4 The client must publish the information on a quarterly basis which contains the following information:

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

F3.19.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

F3.19.6 Consultative Forum must be an independent structure from the bid committees.

F3.19.7 The information must be published on the employer's website.

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

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PART T2: RETURNABLE DOCUMENTS

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART T2.1: LIST OF RETURNABLE DOCUMENTS

THE TENDERER MUST SUBMIT THE FOLLOWING DOCUMENTS WITH THIS TENDER. IF THE DOCUMENTS ARE NOT INCLUDED IN THE DOCUMENT, THE DEPARTMENT WILL NOT CONSIDER THIS TENDER.

Clause referred to in Standard Conditions of Tender	Document
F.2.1	<p>Tenderers must provide their CRS Numbers of the registered Contractor as well JV Partner*. CRS numbers of Tenderers or JV partners needs to be filled in below:</p> <p><u>Tenderer/Leading JV Partner</u></p> <p>CRS Number : _____</p> <p>Name of Company: _____</p> <p><u>JV Partner</u></p> <p>CRS Number : _____</p> <p>Name of Company: _____</p> <p><u>JV Partner</u></p> <p>CRS Number : _____</p> <p>Name of Company: _____</p> <p>*NB: Recent printout from CIDB website indicating the CRS number will also be accepted.</p> <p>All contractors, even tendering in JV, must be registered with CIDB. The lead partner has a contractor grading designation of not lower than one level below the required grading designation of 5GB of construction work.</p>
F.2.7	Attendance of the Compulsory Tender Clarification meeting as stipulated.
F.2.10	Form of offer must be completed and signed by duly authorized person.
F.2.11	<p>Tampering with or taking apart the bound document is strictly prohibited. All additional documentation must be stapled into the tender document or attached in a separate file."</p> <p>Corrections in terms of price must not be made by means of a correction fluid such as Tipp-Ex or similar product.</p> <p>"In the event of mistakes having been made on tender document it must be crossed out in ink and be accompanied by an initial at each and every price alteration".</p>
F.2.13.4	Tender offers will only be accepted if:

 Contractor

 Witness 1

 Witness 2

 Employer

 Witness 1

 Witness 2

	<p>a) The Tenderer submits a duly signed and dated relevant resolution signed by all their members or their board of directors, as the case may be, on their company letterhead. In the case of a sole proprietor or a single member in a company, it must be clearly indicated on a document bearing the company's letterhead. In the case of a joint venture submitting a tender, must include a resolution of each company of the Joint Venture signed by all the members/ directors of the Joint Venture authorising a member or an official of the Joint Venture to sign the documents on behalf of the Joint Venture OR a resolution bearing the letterheads (logos) of each company of the Joint Venture and signed by all the members/ directors of the Joint Venture authorizing a member or an official of the Joint Venture to sign the documents on behalf of the Joint Venture shall be included in the tender. The signature of the authorized person should also appear on the resolution letter(s). (FORM PA-15.1 – 15.3) A resolution, PA-15.1 (for a single Service Provider tendering herein) or PA-15.2 plus special resolution, PA-15.3 (for multiple Service Providers tendering in consortium or joint venture herein) (forms PA-15.1 to 3 are bound in hereafter).</p>
F.2.28	
	The Bidder did not tamper, dismantle or remove any documents from the tender document
	The Tenderer must acknowledge and sign the record of addenda page, and submitted the addendum or addenda, in the event that the addendum or addenda has been issued
	The Tenderer submits a letter of intent from the bank or a FSCA/NCR or FAIS registered financial institution with whom he/she has made the necessary arrangements, to the effect that the said institution will be prepared to provide the required performance guarantee. In the event of a JV the letter of intent for the JV or for the lead partner must be submitted.
	The Tenderer is registered and in good standing with respect to Compensation for Occupational Injuries and Diseases Act (COIDA) for Building Construction, with Department of Labour or with a licensed compensation insurer. The Tenderer must submit the letter of good standing for Building Construction projects. In the event of the Tenderer being a joint venture/consortium, each company must submit the letter of good standing for building construction projects. A Tenderer who presently do not have any labour in their employ must submit a Tender Letter obtainable from the Department of Labour.
	<i>NB: Any bidder that does not comply with any of the above-mentioned stipulations, number 1 to 9 above, will be regarded as non-responsive and will therefore not be considered for further evaluations.</i>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

THE TENDERER IS ENCOURAGED TO REGISTER AND SUBMIT THE FOLLOWING NATIONAL TREASURY CENTRAL SUPPLIER DATABASE (CSD) DETAILS WITH THIS TENDER.

Document	
<p>Tenderers shall provide their CSD Supplier Number (Master Registration Number) and Tax Compliance PIN Number in the space provided below:</p> <p>NB: In cases where a bidder intends to form a Joint Venture, the CSD Supplier Number (Master Registration Number) and Tax Compliance PIN shall also be provided in the space provided below, i.e. the lead partner and Joint Venture partner/s.</p> <p>If any sub-contractors are proposed their CSD Supplier Number (Master Registration Number) and Tax Compliance PIN numbers shall be provided in Form A.</p> <p>If the documents are not included in the document, the tender will be regarded as being NON-RESPONSIVE.</p>	
<p><u>Tenderer/Leading JV Partner</u></p> <p>Name of Company: _____</p> <p>CSD Supplier Number: (Master Registration Number) _____</p> <p>Tax Compliance PIN number: _____</p>	
<p><u>JV Partner 1</u></p> <p>Name of Company: _____</p> <p>CSD Supplier Number: (Master Registration Number) _____</p> <p>Tax Compliance PIN number: _____</p>	
<p><u>JV Partner 2</u></p> <p>Name of Company: _____</p> <p>CSD Supplier Number: (Master Registration Number) _____</p> <p>Tax Compliance PIN number: _____</p>	
<p><u>JV Partner 3</u></p> <p>Name of Company: _____</p> <p>CSD Supplier Number: (Master Registration Number) _____</p> <p>Tax Compliance PIN number: _____</p>	
<p>*NB: All contractors, even tendering in JV, must be registered with National Treasury Central Supplier Database</p>	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.1	FORM A: SCHEDULE OF PROPOSED SUBCONTRACTORS
SECTION T2.2.2:	FORM B: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017 (SBD 6.1)
SECTION T2.2.3:	FORM C: RECORD OF ADDENDA TO TENDER DOCUMENTS
SECTION T2.2.4:	FORM D: AUTHORITY OF SIGNATORY
SECTION T2.2.5:	FORM E: STATUS OF CONCERN SUBMITTING TENDER
SECTION T2.2.6:	FORM F: DECLARATION OF INTEREST (SBD 4)
SECTION T2.2.7:	FORM G: DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (SBD 8)
SECTION T2.2.8:	FORM H: CERTIFICATE OF INDEPENDENT BID DETERMINATION (SBD 9)
SECTION T2.2.9:	FORM I: SCHEDULE OF PLANT AND EQUIPMENT
SECTION T2.2.10:	FORM J: SCHEDULE OF WORK CARRIED OUT BY THE TENDERER
SECTION T2.2.11:	FORM K: CERTIFICATE OF TENDERER'S VISIT TO THE SITE
SECTION T2.2.12:	FORM L: KEY-PERSONNEL/ SUPERVISORY AND MANAGEMENT STAFF
SECTION T2.2.13:	FORM M: COMPLIANCE WITH OHSA (ACT 85 OF 1993)
SECTION T2.2.21:	FORM N: CSD SUPPLIER NO AND TAX COMPLIANCE PIN
SECTION T2.2.15:	FORM O: PRELIMINARY PROGRAMME
SECTION T2.2.16:	FORM P: ESTIMATED MONTHLY EXPENDITURE
SECTION T2.2.17:	FORM Q: ALTERATIONS BY TENDERER
SECTION T2.2.18:	FORM R: FINANCIAL REFERENCES
SECTION T2.2.20:	FORM T: COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT (COIDA)
SECTION T2.2.21:	FORM U: LETTER OF INTENT FOR PERFORMANCE GUARANTEES
SECTION T2.2.22:	FORM V: DECLARATION CERTIFICATE FOR LOCAL LABOUR PARTICIPATION
SECTION T2.2.23:	FORM W: COMPULSORY ENTERPRISE QUESTIONNAIRE
SECTION T2.2.24:	FORM X: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (SBD 6.2)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART T2.2. RETURNABLE SCHEDULES

SECTION T2.2.1 FORM A: SCHEDULE OF PROPOSED SUBCONTRACTORS

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

If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us. The contractor is to obtain approval if he/she intends to change the submitted list of Subcontractors.

In Bids where subcontractors are involved each party must submit a separate proof of TCS / PIN / CSD number together with the bid. Where no TCS is available but the subcontractor is registered on the Central Supplier Database (CSD), a CSD number must be provided. (Refer to Clause F2.28)

Alternatively, where a subcontractor is not yet registered on the National Treasury CSD, submission of a Valid Tax Clearance Certificate together with the bid is compulsory. (Refer to Clause F2.28)

1. Will any portion of the contract be sub-contracted? Yes ☐ / No ☐
2. If yes, indicate:
 - (i) The name of the proposed sub-contractor, the nature and extent of the work to be sub-contracted and the previous experience with the sub-contractor in the table below.

	Name and address of the proposed Sub-contractor	Nature and extent of work	Previous experience with Sub-contractor
1.			
2.			
3.			
4.			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us. The contractor is to obtain approval if he/she intends to change the submitted list of Subcontractors.

In Bids where subcontractors are involved each party must submit a separate proof of TCS / PIN / CSD number together with the bid. Where no TCS is available but the subcontractor is registered on the Central Supplier Database (CSD), a CSD number must be provided. (Refer to Clause F2.28)
Alternatively, where a subcontractor is not yet registered on the National Treasury CSD, submission of a Valid Tax Clearance Certificate together with the bid is compulsory. (Refer to Clause F2.28)

1. Will any portion of the contract be sub-contracted? Yes ☐ / No ☐
2. If yes, indicate:
 - (i) The name of the proposed sub-contractor, the nature and extent of the work to be sub-contracted and the previous experience with the sub-contractor in the table below.

	Name and address of the proposed Sub-contractor	Nature and extent of work	Previous experience with Sub-contractor
1.			
2.			
3.			
4.			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- 3 What percentage of the contract will be sub-contracted, the B-BBEE status level of the sub-contractors and whether they are an EME/QSE, must be stated in the table below and specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations, 2017:

Name of proposed Sub Contractor	% of the work that will be sub-contracted	B-BBEE status level of the sub-contractor	Designated Group: An EME or QSE which is at last 51% owned by:																	
			Black people		Black people who are youth		Black people who are women		Black people with disabilities		Black people living in rural or under-developed areas or townships		Cooperative owned by black people		Black people who are military veterans		Any EME		Any QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	

Signature of person authorised to sign the tender:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.2: FORM B: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017 (SBD 6.1)

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

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- 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

- a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable; or
- b) Either the 80/20 or 90/10 preference point system will be applicable to this tender (*delete whichever is not applicable for this tender*).

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contributor.

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

	POINTS
PRICE	
B-BBEE STATUS LEVEL OF CONTRIBUTOR	
Total points for Price and B-BBEE must not exceed	100

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
 - 1) B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

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

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

80/20

or

90/10

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

Where

P_s = Points scored for price of bid under consideration

P_t = Price of bid under consideration

P_{\min} = Price of lowest acceptable bid

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	21

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5. BID DECLARATION

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

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

- 6.1 B-BBEE Status Level of Contributor: . =(maximum of 10 or 20 points)
(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7. SUB-CONTRACTING

- 7.1 Refer to Form A

8. DECLARATION WITH REGARD TO COMPANY/FIRM

- 8.1 Name of company/firm:.....

- 8.2 VAT registration number:.....

- 8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
☐ One person business/sole propriety
☐ Close corporation
☐ Company
☐ (Pty) Limited

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

8.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
☐ Supplier
☐ Professional service provider

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

☐ Other service providers, e.g. transporter, etc.
[TICK APPLICABLE BOX]

8.7 Total number of years the company/firm has been in business:.....

8.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference 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 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury 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.

WITNESSES

1.

2.

.....
SIGNATURE(S) OF BIDDERS(S)

DATE:

ADDRESS

.....

.....
Contractor

.....
Witness 1

.....
Witness 2

.....
Employer

.....
Witness 1

.....
Witness 2

SECTION T2.2.3: FORM C: RECORD OF ADDENDA TO TENDER DOCUMENTS

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

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

Attach additional pages if more space is required.

Signature of person authorised to sign the tender:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.4: FORM D: AUTHORITY OF SIGNATORY

Signatories for companies, closed corporations and partnerships must establish their authority **BY ATTACHING TO THIS FORM, ON THEIR ORGANISATIONS'S LETTERHEAD STATIONERY**, a copy of the relevant resolution by their Board of Directors, Members or Partners, duly signed and dated.

An **EXAMPLE** is shown below for a COMPANY:

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

<small>(legally correct full name and registration number, if applicable, of the Enterprise)</small>			
Held at _____ (place)			
on _____ (date)			
RESOLVED that:			
1	The Enterprise submits a Tender to the Department of Rural Development and Land Reform in respect of the following project:		

<small>(project description as per Tender Document)</small>			
Tender Number: _____ (Tender Number as per Tender Document)			
2	*Mr/Mrs/Ms: _____		
in *his/her Capacity as: _____ (Position in the Enterprise)			
and who will sign as follows: _____			
be, and is hereby, authorised to sign 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 Enterprise mentioned above.			
	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
Note: 1. * Delete which is not applicable. 2. NB: This resolution must be signed by all the Directors / Members / Partners of the Tendering Enterprise. 3. Should the number of Directors / Members / Partners exceed the space available above, additional names, capacity and signatures must be supplied on a separate page.			

Signature of person authorised to sign the tender:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PA-15.1: RESOLUTION OF BOARD OF DIRECTORS –**RESOLUTION** of a meeting of the Board of *Directors / Members / Partners of:*(legally correct full name and registration number, if applicable, of the Enterprise)*

Held at _____ (place)

on _____ (date)

RESOLVED that:

- 1 The Enterprise submits a Tender to the Department of Agriculture, Land Reform and Rural Development in respect of the following project:

(project description as per Tender Document)

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

- 2 *Mr/Mrs/Ms: _____

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

and who will sign as follows: _____

be, and is hereby, authorised to sign 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 Enterprise mentioned above.

	Name	Capacity	Signature
1	-		
2	-		
3	-		
4	-		
5	-		
6	-		
7	-		

Note:

- * Delete which is not applicable.
- NB.** This resolution must be signed by all the Directors / Members / Partners of the Tendering Enterprise.
- Should the number of Directors / Members / Partners exceed the space available above, additional names capacity and signatures must be supplied on a separate page.

ENTERPRISE STAMP

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

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

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

Held at _____ (place)

on _____ (date)

RESOLVED that:

1. The Enterprise submit 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 Agriculture, Land Reform and Rural Development in respect of the following project:

(Project description as per Tender Document)

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

- 1 *Mr/Mrs/Ms: _____

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

and who will sign as follows:

be, and is hereby, authorized 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.

- 2 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 into with the Department in respect of the project described under item 1 above.

- 3 The Enterprise choose as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:

Physical address: _____

(code)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Postal Address: _____

_____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

	-	Name	Capacity	Signature
1	-			
2	-			
3	-			
4	-			
5	-			
6	-			
7	-			
8	-			
9	-			
10	-			
11	-			
12	-			
13	-			
21	-			
15	-			

Note:

1. * Delete which is not applicable.
2. **NB.** This resolution must be signed by all the Directors / Members / Partners of the Tendering Enterprise.
3. Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

ENTERPRISE STAMP

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 _____

7 _____

8 _____

Held at _____ (place)

on _____ (date)

RESOLVED that:

- A. The above-mentioned Enterprises submit a tender in Consortium/Joint Venture to the Department of Agriculture, Land Reform and Rural Development in respect of the following project:

(Project description as per Tender Document)

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.5: FORM E: STATUS OF CONCERN SUBMITTING TENDER

1. GENERAL

State whether the tenderer is a company, a closed corporation, a partnership or a one-man concern.
(Make an X in the appropriate space below)

Company ☐ Closed Corporation ☐ Partnership ☐

One-man concern ☐ Joint Venture ☐

2. INFORMATION TO BE PROVIDED

(Block letters)

2.1 If the tenderer is a Company:

- (a) Affix a certified copy of the Certificate of Incorporation to this page.
- (b) List the Directors.

2.2 If the tenderer is a Closed Corporation:

- (a) Affix a certified copy of the Founding Statement to this page.
- (b) List the Members.

2.3 If the tenderer is a Partnership:

List the partners.

2.4 If the tenderer is a One-man concern:

Provide the full name and ID number of the person.

2.5 If the tenderer is a Joint Venture:

- (a) Affix a certified copy of the Founding Statement of each partner of the JV to this page.
- (b) Affix JV agreement.

3. REGISTERED FOR VAT PURPOSES IN TERMS OF THE VALUE-ADDED TAX ACT, (Act Nr. 89 of 1991) (Make an X in the appropriate space below)

Yes ☐ / No ☐ Registration nr.:

Signature of person authorised to sign the tender:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.6: FORM F: DECLARATION OF INTEREST (SBD 4)

1. Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-
 - the bidder is employed by the state; and/or
 - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.
2. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
 - 2.1 Full Name of bidder or his or her representative:
 - 2.2 Identity Number:
 - 2.3 Position occupied in the Company (director, trustee, shareholder²):
 - 2.4 Company Registration Number:
 - 2.5 Tax Reference Number:
 - 2.6 VAT Registration Number:
 - 2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.
 - 2.7 Are you or any person connected with the bidder Yes ☐ / No ☐
Presently employed by the state?
 - 2.7.1 If so, furnish the following particulars:

Name of person / director / trustee / shareholder/ member:

Name of state institution at which you or the person connected to the bidder is employed:

¹ "State" means –

- (a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- (b) any municipality or municipal entity;
- (c) provincial legislature;
- (d) national Assembly or the national Council of provinces; or
- (e) Parliament.

² "Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Position occupied in the state institution:

Any other particulars:

.....

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? Yes ☐ / No ☐

2.7.2.1 If yes, did you attached proof of such authority to the bid document? Yes ☐ / No ☐

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.

2.7.2.2 If no, furnish reasons for non-submission of such proof:

.....

.....

.....

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? Yes ☐ / No ☐

2.8.1 If so, furnish particulars:

.....

.....

.....

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid? Yes ☐ / No ☐

2.9.1 If so, furnish particulars:

.....

.....

.....

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid? Yes ☐ / No ☐

2.10.1 If so, furnish particulars:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

.....

2.11 Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are bidding for this contract? Yes ☐ / No ☐

2.11.1 If so, furnish particulars:

.....

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

Full Name	Identity Number	Personal Tax Reference Number	State Employee Number / Persal Number

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

4. Declaration

I, the undersigned (Name
certify that the information furnished in paragraphs 2 and 3 above is correct.

I accept that the state may reject the bid or act against me in terms of paragraph 23 of the general conditions of contract should this declaration prove to be false.

.....
Signature

.....
Date

.....
Name of Bidder

.....
Position of Bidder

--

Contractor

--

Witness 1

--

Witness 2

--

Employer

--

Witness 1

--

Witness 2

SECTION T2.2.7: FORM G: DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (SBD 8)

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

Item	Question	Yes	No
4.1	Is the bidder any of its directors listed on the National Treasury's database as a company or persons prohibited from doing business with the public sector? (Companies for persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <i>audi alteram partem</i> rule was applied).	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? (To access this Register enter the National Treasury's website, www.treasury.gov.za , click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012)3265445)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

 Contractor

 Witness 1

 Witness 2

 Employer

 Witness 1

 Witness 2

Item	Question	Yes	No
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and the Department entity or any other organ of state terminated during the past five years on account of failure to perform on or to comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Does the bidder or any of its directors owe any Municipal rates and taxes or Municipal charges to the Municipality / Municipal entity, or to any other Municipality / Municipal entity, that is in arrears for more than three months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.5.1	If so, furnish particulars:		

CERTIFICATION

I, the undersigned (full name)
certify that the information furnished on this declaration form to be true and correct.

I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

.....
Signature

.....
Date

.....
Name of Bidder

.....
Position of Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.8: FORM H: CERTIFICATE OF INDEPENDENT BID DETERMINATION (SBD 9)

1. This Standard Bidding Document (SBD) must form part of all bids¹ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *per se* prohibition meaning that it cannot be justified under any grounds.
3. Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
 - a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
 - b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
4. This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

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

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

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

.....
(Bid Number and Description)

in response to the invitation for the bid made by:

.....
(Name of Institution)

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

I certify, on behalf ofthat:
(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder.
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or

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

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....
Signature

.....
Date

.....
Name of Bidder

.....
Position of Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.9: FORM I: SCHEDULE OF PLANT AND EQUIPMENT

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

- (a) Details of major equipment that is owned by and immediately available for this contract.
Proof of ownership must be attached.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

- (b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is acceptable.
Proof of lease agreement must be attached or a letter of intent from a hiring company.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Signature of person authorised to sign the tender:

Date:

<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.10: FORM J: SCHEDULE OF WORK CARRIED OUT BY THE TENDERER

The tenderer shall list in the spaces provided below the successfully completed projects of similar scope, nature and size in the past 5 years. This information shall be deemed to be material to the award of this tender.

Employer (Name, Tel No, Fax No)	Consulting Engineer (Name, Tel No, Fax No)	Nature Of Work	Value Of Work	Year Completed
Completed				

Signature of person authorised to sign the tender:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.11: FORM K: CERTIFICATE OF TENDERER'S VISIT TO THE SITE

This is to certify that I,

Representative of (Tenderer)

Of (address)

.....

.....

Telephone No:

Fax No:

Visited and carefully examined the Site on the day of 20.....

In the company of (Engineer's representative)

Signature (Tenderer's Representative)

Signature (Engineer's Representative)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.12: FORM L: KEY-PERSONNEL/ SUPERVISORY AND MANAGEMENT STAFF

The Tenderer shall, submit the name of all supervisory staff that will be employed to supervise Contract. **Please attach CV'**. The Tenderer shall also include an organogram of the project team and the company structure.
NB: No points will be awarded if the bidder has not attached CV and Qualifications)

1. Position	Site Agent
Name	
Indicate Years of Experience as a Site Agent	
Duties and List of duties as a Site Agent	
Currently Employed by Tenderer (Y/N)	
Signature	
2. Position	Foreman
Name	
Indicate Years of Experience as a Foreman	
Duties and List of duties as a Foreman	
Currently Employed by Tenderer (Y/N)	
Signature	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.13: FORM M: COMPLIANCE WITH OHSA (ACT 85 OF 1993)

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

1. Is the Contractor familiar with the OHSA (ACT 85 of 1993) and its Regulations? Yes ☐ / No ☐
2. Who will prepare the Contractor's Health and Safety Plan? (Section T2.2.18 – Form R) (Provide a copy of the person/s curriculum vitae/s or company profile). Yes ☐ / No ☐

3. Does the Contractor have a health and safety policy? (if yes, provide a copy). How is this policy communicated to all employees? Yes ☐ / No ☐

4. Does the Contractor keep records of safety aspects of each construction site? If yes, what records are kept? Yes ☐ / No ☐

5. Does the Contractor conduct monthly safety meetings? If yes, who is the chairperson of the meeting, and who attend these meetings? Yes ☐ / No ☐

6. Does the Contractor have a safety officer in his employment, responsible for the overall safety of his company? Yes ☐ / No ☐
If yes, please explain his duties and provide a copy of his CV.

7. Does the Contractor have trained first aid employees? If yes, indicate, who. Yes ☐ / No ☐

8. Does the Contractor have a safety induction training programme in place? (If yes, provide a copy) Yes ☐ / No ☐

Signature of person authorised to sign the tender:

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.21: FORM N: CSD SUPPLIER NO AND TAX COMPLIANCE PIN

Bidders registered on the **National Treasury Central Supplier Database (CSD)** are required to submit their unique **Personal Identification Number (PIN)** issued by SARS in the space provided below as stipulated in Clause F2.28.

Bidders may also submit a **printed TCS** together with the bid.

In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party **must** submit a separate proof of **TCS / PIN / CSD** number.

Where no TCS is available but the bidder is registered on the Central Supplier Database (CSD), a **CSD number** must be provided

Alternatively the tenderer must submit a valid tax clearance certificate together with the Bid, including Valid Tax Clearance Certificates for the Joint Venture partner/s and Subcontractors proposed.

The certificates may be stapled into the tender document without taking the tender document apart or may be attached in a separate file to the tender document.

If the documents are not included in the document, the tender will be regarded as being NON-RESPONSIVE.

Tenderer/Leading JV Partner

Name of Company:

CSD Supplier Number: (Master
Registration Number)

Tax Compliance PIN number:

JV Partner 1

Name of Company:

CSD Supplier Number: (Master
Registration Number)

Tax Compliance PIN number:

JV Partner 2

Name of Company:

CSD Supplier Number: (Master
Registration Number)

Tax Compliance PIN number:

***NB: All contractors, even tendering in JV, must be registered with National Treasury Central Supplier Database**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.15: FORM O: PRELIMINARY PROGRAMME

The Tenderer shall attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of the Tender.

Note: The programme must be based on the completion time as specified in the Contract Data. (No points will be awarded to the bidder if a detailed program is not attached)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.16: FORM P: ESTIMATED MONTHLY EXPENDITURE

The tenderer shall, in the table below, state the estimated cash flow on the contract based on his preliminary programme, his tendered unit rates and his submission of payment certificates to the Employer. Amounts for Contract Price Adjustment shall not be included.

[illegible]

From what sources will you fund the above amount (e.g. funds internally available, bank overdraft, loan, partner (his source), etc.)

.....

.....

.....

Signature of person authorised to sign the tender:

Date:

Contractor
 Witness 1
 Witness 2
 Employer
 Witness 1
 Witness 2

SECTION T2.2.17: FORM Q: ALTERATIONS BY TENDERER

Should the Tenderer desire to have any departures from, or modifications to the General Conditions of Contract, Specifications, Bill of Quantities or Drawings considered, or to qualify his tender in any way, he shall set out his proposals clearly hereunder or alternatively state them in a covering letter attached to his tender and referred to hereunder.

[illegible]

Signature of person authorised to sign the tender:

Date:

Contractor

Witness 1

Witness 2

Employer

11

Witness 1

Witness 2

SECTION T2.2.18: FORM R: FINANCIAL REFERENCES**Financial Statements**

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report for consideration by the Employer.

Details of Company's Bank

I/We hereby authorise the Employer/Engineer to approach all or any of the following banks for the purposes of obtaining a financial reference:

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO TENDERER'S HEAD OFFICE
Name of tenderer	
Name of account holder at Bank	
Name of bank	
Branch name	
Branch code	
Street address	
Postal address	
Name of manager	
Telephone number	
Fax number	
Account number	
Number of years above account has been with bank	
Credit facilities available (state amount)	

Tenderer's Tax Details

Tenderer's VAT vendor registration number:

Tenderer's SARS tax reference number:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.20: FORM T: COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT (COIDA)

Please attach Compensation for Occupational Injuries and Diseases Act (COIDA) to this page

Evidence of registration and proof of good standing for building and construction projects with a compensation insurer who is approved by the Department of Labour in terms of Section 80 of the Compensation for Occupational Injuries and Diseases Act (Act No 130 of 1993) (COIDA) **MUST be attached** to this returnable schedule.

Note to Tenderer:

In the event of the Tenderer being a joint venture/consortium, the Letter of good standing for building and construction projects of the individual members must also be provided.

SIGNED ON BEHALF OF THE TENDERER:

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Contractor

--

Witness 1

--

Witness 2

--

Employer

--

Witness 1

--

Witness 2

SECTION T2.2.21: FORM U: LETTER OF INTENT FOR PERFORMANCE GUARANTEES

The Tenderer must attach to this page an original letter from a Bank or a FSB, NCR or FAIS registered financial institution with whom he has made the necessary arrangements, to the effect that the said institution will be prepared to provide the required performance guarantee when asked to do so.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.22: FORM V: DECLARATION CERTIFICATE FOR LOCAL LABOUR PARTICIPATION

1. Definitions

1.1 Targeted Labour

Individuals, employed by the contractor in the performance of the contract, who are defined as the target group in the contract and who permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area

1.2 Target Group

For this project the contract does not specify the target group based on gender, age or disability. However, specifically excluded from the Target Group is the contractor's own staff unless such staff are also from the Target Area.

1.3 Target Area

For this project, the target area is defined as Bethlehem, In the Free State Province.

1.4 Labour Maximisation

Labour maximisation shall contribute a minimum of 10%.

2. Conditions associated with the granting of preferences

The tenderer, undertakes to:

- 1) engage one or more targeted labour in accordance with the provisions of the SANS 1921-4 as varied in section 3 hereunder;
- 2) accept the sanctions set out in Section 2 below, should such conditions be breached;
- 3) complete the Targeted Labour (CPG) calculation form contained in Section 5 below; and
- 4) complete the Supporting Contract Participation Goal Calculation contained in Section 6 below.

3. Variation to the targeted construction procurement specification SANS 1921-4

The variations to SANS 1921-4 are set out below. Should any requirements of the variations conflict with requirements of SANS 1921-4 the requirements of the variations shall prevail

Calculations shall be based as a % of targeted labour costs of the Tender Sum (excluding VAT) and not calculated in accordance with methods 1 or 2 in Annexure A of SANS 1921-4.

4. Sanctions

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

$$P = 0,50 \times \frac{(D-D_0)}{(100)} \times N_A$$

Where D = tendered Contract Participation Goal percentage.

D₀ = the Contract Participation Goal which the Employer's representative based on the credits passed, certifies as being achieved upon completion of the contract.

N_A = Net Amount (Actual contract expenditure, excluding VAT)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

P = Rand value of penalty payable

Tender Contract Participation Goal in respect of targeted labour

I/We hereby tender a Contract Participation Goal of% in compliance with the Employer's Socio-Economic Requirements.

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the firm or sole proprietor confirms that he/she understands the conditions under which such preferences are granted.

Signature:

Name:

Duly authorized to sign on behalf of:

Telephone:

Fax:

5. Supporting Targeted Labour (CPG) calculation

TYPE OF TARGETED LABOUR	TOTAL ESTIMATED WORKING HOURS	RATE	TOTAL ESTIMATED WAGE COST
Permanent labour*			
Temporary labour			
SMME labour			
		Total	

*Note: A tenderer may only claim permanent staff as eligible for preference points if said staff are also from the Target Area. Permanent staff are considered to be those who have been continuously employed by the tenderer for at least three months prior to the commencement of this project.

SIGNED ON BEHALF OF THE TENDERER:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SECTION T2.2.23: FORM W: COMPULSORY ENTERPRISE QUESTIONNAIRE**FORM X : Annex L**(normative)
Compulsory Enterprise questionnaire

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: cidb registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: The attached SBD4 must be completed for each tender and be attached as a tender requirement.

Section 7: The attached SBD 6 must be completed for each tender and be attached as a requirement.

Section 8: The attached SBD8 must be completed for each tender and be attached as a requirement.

Section 9: The attached SBD9 must be completed for each tender and be attached as a requirement.

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

i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;

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

Signed

Date

Name

Position

Enterprise Name

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>	<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Electrical Cables :		Steel Construction Materials:	
• Low Voltage	90%	• Frames	100%
•		• Roof and Cladding	100%
Valves Products and Actuators :			
Taps, Cocks	70%		

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

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

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

The relevant rates of exchange information is accessible on www.reservebank.co.za
Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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

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

IN RESPECT OF BID NO.

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

.....
NB

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

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

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

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

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

.....
Contractor

.....
Witness 1

.....
Witness 2

.....
Employer

.....
Witness 1

.....
Witness 2

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 21 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Example

Annex C

CASE STUDY ONE

SATS 1286.2011

Local Content Declaration - Summary Schedule

(C1) Tender No. GP 100010
 (C2) Tender description: Office Desks and Chairs
 (C3) Designated product(s) Office Furniture
 (C4) Tender Authority: Gauteng Purchasing Department
 (C5) Tendering Entity name: Rainbow Office Furniture
 (C6) Tender Exchange Rate:
 (C7) Specified local content % 85%

Note: VAT to be excluded from all calculations

USD R 9.00

EU R 12.00

GBP R 14.00

Calculation of local content

Tender item no's	List of items	Tender price - each (excl VAT)	Exempted imported value per unit	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)
				(C10-C11)	(Annexure D M31+P50+P60)	(C12-C13)	C14/C12
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)
GP 100011	Melamine Office Desks with Drawers	R 12 000	R 0	R 12 000	R 0	R 12 000	100%
					(Annexure D M34+P50+P60)		
GP 100012	Office desk with drawers on timber top with steel frame	R 15 000.00	R 1 650.00	R 13 350.00	R 1 232.00	R 12 118.00	91%
GP 100013	Side upholstered chair - Sleigh base with arms	R 10 450.00	R 2 170.00	R 8 280.00	R 2 617.00	R 5 663.00	68%
GP 100014	Highback upholstered chair with arms on 5 star base	R 12 200.00	R 2 720.00	R 9 480.00	R 2 537.00	R 6 943.00	73%

Tender summary

Tender Qty	Total tender value	Total exempted imported content	Total imported content
	(C10xC16)	Annex D D18	Annex D
(C16)	(C17)	(C18)	(C19)
100	R 1 200 000	R 0	R 123 200
50	R 750 000	R 82 500	R 116 850
100	R 1 045 000	R 217 000	R 261 700
50	R 610 000	R 231 000	R 31 950

Signature of tenderer from Annex B

Date:

(C20) Total tender value

R 3 605 000

(C21) Total Exempt imported content

R 530 500

(C22) Total Tender value net of exempt imported content (C20-C21)

R 3 074 500

(C23) Total Imported content

R 533 700

(C24) Total local content (C22-C23)

R 2 540 800

(C25) Average local content % of tender (C24/C22)

82.64%

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

Example

SATS 1286.2011

Annex D **RAINBOW CASE STUDY ONE**

Imported Content Declaration - Supporting Schedule to Annex C

(D1) Tender No.: GP 100010

(D2) Tender description: Office Desks and Chairs

(D3) Designated Products: Office Furniture

(D4) Tender Authority: Gauteng Purchasing Department

(D5) Tendering Entity name: Rainbow Office Furniture

(D6) Tender Exchange Rate: USD R 9.00

Note: VAT to be excluded from all calculations

EU R 12.00 GBP R 14.00

A. Exempted Imported content

Tender Item no's	Description of imported content	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Exchange Rate	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT
						(D13)=(D12)			(D13)+(D14)+(D15)
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D14)	(D15)	(D16)
GP 100012	Primary Steel	Accelor Mahab	Accelor - USA	\$100	R 9.00	R 900	R 200	R 550	R 1 650
GP 100013	Primary Steel	United Steel	United Steel USA	\$150	R 9.00	R 1 350	R 420	R 400	R 2 170
GP 100014	Primary Steel	Afrox Steel	Afrox UK	£150.00	R 12.00	R 1 800	R 350	R 520	R 2 720
GP100014	5 star base	Each	Base Specialist - Germany	€80.00	R 12.00	R 960	R 460	R 480	R 1 900
									(D17) Total exempt imported value
									R 530 500

This total must correspond with Annex C - C 21

B. Imported directly by the Tenderer

Tender Item no's	Description of imported content	Unit of measure	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT
						(D24)=(D25)			(D24)+(D27)+(D28)
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)
GP100013	Melamine	Each	MIM Melamine USA	\$25	R 9.00	R 225	R 120	R 250	R 595
GP100012	Timber Top	Each	Timber City - Germany	€75.00	R 12.00	R 900	R 300	R 500	R 1 700
GP100013	Sleigh base	Each	Timber York - USA	\$100	R 9.00	R 900	R 420	R 660	R 1 980
									R 3 980
									(D32) Total imported value by tenderer
									R 342 500

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

Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT
						(D37)=(D38)			(D37)+(D40)+(D41)
(D39)	(D40)	(D41)	(D42)	(D43)	(D44)	(D45)	(D46)	(D47)	(D48)
Sheet steel	tonne	Accelor SA	Accelor Belgium	€75.00	R 12.00	R 900	R 150	R 50	R 1 100
Hinges	each	Ramsay SA	Hingus GB	£2.50	R 14.00	R 35	R 10	R 5	R 50
Other - nuts and bolts	each	Mec Steel	TTC - US	value too small to Remit					
									(D45) Total imported value by 3rd party
									R 1 720 000
									D45 Apportioned per unit
									R 528

D. Other foreign currency payments

Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange
(D46)	(D47)	(D48)	(D49)	(D50)
Royalty payment for use of patent	Rainbow Office Furniture	Oban USA	\$800	R 9.00
Annual licence fees - pre-created	Rainbow Office Furniture	MB - Germany	€1 000.00	R 12.00
(D52) Total of foreign currency payments declared by tenderer and/or 3rd party				
D52 Apportioned per unit				
(D53) Total of imported content & foreign currency payments - (D32), (D35) & (D52) above				
R 533 700				

This total must correspond with Annex C - C 21

Signature of tenderer from Annex B

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Example

SATS 1286.2011

Annex E - RAINBOW CASE STUDY ONE

Local Content Declaration - Supporting Schedule to Annex C

(E1)	Tender No.	GP 100010
(E2)	Tender description:	Office Desks and Chairs
(E3)	Designated products:	Office Furniture
(E4)	Tender Authority:	Gauteng Purchasing Department
(E5)	Tendering Entity name:	Rainbow Office Furniture

Note: VAT to be excluded from all calculations

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value
	(E6)	(E7)	(E8)
	Sheet Steel	Arcelor	R 300 000
	Fabric for seats	Galvenor Textiles	R 270 000
	Fabric for headlinings	Galvenor Textiles	R 32 000
	Welding consumables	ABR Supplies	R 12 000
	Hardware items (nuts, bolts, rivets, etc)	Various Local Suppliers	R 2 000
	Laser cutting services	Red Hot Cutting	R 47 500
	Other goods and services (small items)	Various	R 1 300
	(E9) Total local products (Goods, Services and Works)		R 664 800 26%
(E10)	Manpower costs (Tenderer's manpower cost)		R 1 150 000 45%
(E11)	Factory overheads (Rental, depreciation & amortisation, utility costs, consumables etc.)		R 486 000 19%
(E12)	Administration overheads and mark-up (Marketing, insurance, financing, interest etc.)		R 240 000 9%
	(E13) Total local content		R 2 540 800 100%
	This total must correspond with Annex C - C24		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Electrical Cables – Annex C

Low Voltage (90%)

Refer to item in the Electrical BOQ: Bill 2 Item (C2, 3, 4, 6) (D2, 3, 4, 6) (E2, 3, 4, 6)

SATS 1286.2011

Annex C

Local Content Declaration – Summary Schedule

- (C1) Tender No.
 (C2) Tender Description:
 (C3) Designated product(s)
 (C4) Tender Authority:
 (C5) Tendering Entity name:
 (C6) Tender Exchange Rate:
 (C7) Specified local content %

Pula

EU

GBP

Note: VAT to be excluded from all calculations

Calculation of local content							
Tender item no's	List of items	Tender price- each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C21)	(C15)

Tender summary			
Tender Qty	Total tender value	Total exempted imported content	Total imported content
(C16)	(C17)	(C18)	(C19)

Signature of tenderer from Annex B

Date:

(C20) Total tender value

R 0

(C21) Total Exempt imported content

R 0

(C22) Total Tender value net of exempt imported content

R 0

(C23) Total imported content

R 0

(C24) Total local content (C22-C23)

R 0

(C25) Avg. local content % of tender

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Electrical Cables – Annex C

Low Voltage (90%)

Refer to item in the Electrical BOQ: Bill 2 Item (C2, 3, 4, 6) (D2, 3, 4, 6) (E2, 3, 4, 6)

SATS 1286.2011

Annex C

Local Content Declaration – Summary Schedule

- (C1) Tender No.
 (C2) Tender Description:
 (C3) Designated product(s)
 (C4) Tender Authority:
 (C5) Tendering Entity name:
 (C6) Tender Exchange Rate:
 (C7) Specified local content %

Pula

EU

GBP

Note: VAT to be excluded from all calculations

Calculation of local content								Tender summary			
Tender item no's	List of items	Tender price- each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)	Tender Qty	Total tender value	Total exempted imported content	Total imported content
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C21)	(C15)	(C16)	(C17)	(C18)	(C19)
								(C20) Total tender value			
								R 0			
								(C21) Total Exempt imported content			
								R 0			
								(C22) Total Tender value net of exempt imported content			
								R 0			
								(C23) Total imported content			
								R 0			
								(C24) Total local content (C22-C23)			
								R 0			
								(C25) Avg. local content % of tender			

Signature of tenderer from Annex B

Date:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Electrical Cables – Annex D

Low Voltage (90%)

Refer to item in the Electrical BOQ: Bill 2 Item (C2, 3, 4, 6) (D2, 3, 4, 6) (E2, 3, 4, 6)

Annex D

Imported Content Declaration – Supporting Schedule to Annex C

(D1) Tender No. _____
 (D1) Tender Description: _____
 (D1) Designated product(s) _____
 (D1) Tender Authority: _____
 (D1) Tendering Entity name: _____
 (D1) Tender Exchange Rate: _____

 Pula EU GBP

Note: VAT to be excluded from
all calculations

A. Exempted imported content

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Local Supplier	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Exchange Rate	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted Imported value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D21)	(D15)	(D16)	(D17)	(D18)
(D19) Total exempt imported value										R 0	

This total must correspond with
Annex C – C21

B. Imported directly by the tenderer

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Unit of measure	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Rate Of Exchange	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total Imported Value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
(D32) Total Imported value by tenderer										R 0	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

				Calculation of imported content						Summary	
Description of Imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Rate Of Exchange	Local value of Imports	Freight costs to port of entry	All locally Incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total Imported Value
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)	(D43)	(D44)
(D45) Total Imported value by 3 rd party											R 0

D. Other foreign currency payments

			Calculation of foreign currency payments			
Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange	Summary of payments	Local value of payments
(D46)	(D47)	(D48)	(D49)	(D50)		(D51)
(D52) Total of foreign currency payments declared by tenderer and/or 3 rd party						
(D53) Total of Imported content & foreign currency payments D32), (D45) & (D52) above						R 0

This total must correspond with Annex C C-23

Signature of tenderer from Annex B

Date: _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Electrical Cables – Annex D

SATS 1286.2011

Low Voltage (90%)

Refer to item in the Electrical BOQ: Bill 2 Item (C2, 3, 4, 6) (D2, 3, 4, 6) (E2, 3, 4, 6)

Annex D

Imported Content Declaration – Supporting Schedule to Annex C

(D1) Tender No. _____
 (D1) Tender Description: _____
 (D1) Designated product(s) _____
 (D1) Tender Authority: _____
 (D1) Tendering Entity name: _____
 (D1) Tender Exchange Rate: _____

Pula EU GBP

Note: VAT to be excluded from
all calculations

A. Exempted imported content

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Local Supplier	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Exchange Rate	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted Imported value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D21)	(D15)	(D16)	(D17)	(D18)
(D19) Total exempt imported value										R 0	

This total must correspond with
Annex C – C21

B. Imported directly by the tenderer

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Unit of measure	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Rate Of Exchange	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total Imported Value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
(D32) Total Imported value by tenderer										R 0	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

Description of Imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Rate Of Exchange	Local value of Imports	Freight costs to port of entry	All locally Incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total Imported Value
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)	(D43)	(D44)

Calculation of imported content

(D45) Total Imported value by 3rd party

R 0

D. Other foreign currency payments

Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange
(D46)	(D47)	(D48)	(D49)	(D50)

Calculation of foreign currency payments

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

(D53) Total of Imported content & foreign currency payments D32), (D45) & (D52) above

R 0

Summary of payments

Local value of payments

(D51)

This total must correspond with Annex C C-23

Signature of tenderer from Annex B

Date: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Electrical Cables – Annex E

Low Voltage (90%)

Refer to item in the BOQ: Bill 2 Item (C2, 3, 4, 6) (D2, 3, 4, 6) (E2, 3, 4, 6)

Annex E

Local Content Declaration – Supporting Schedule to Annex C

(E1)	Tender No.		<u>Note:</u> VAT to be excluded for all calculations
(E2)	Tender Description:		
(E3)	Designated Products)		
(E4)	Tender Authority:		
(E5)	Tendering Entity name:		

Local Products (Goods, Services and Works)	Description of items purchased (E6)	Local suppliers (E7)	Value (E8)
(E9) Total local products (Goods, Services and Works)			R 0

(E10)	Manpower costs	(Tenderer's manpower cost)	R 0
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R 0
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc)	R 0
(E13) Total local content			R 0

This total must correspond with Annex C – C24

Signature of tenderer from Annex B

Date: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Electrical Cables – Annex E

Low Voltage (90%)

Refer to item in the BOQ: Bill 2 Item (C2, 3, 4, 6) (D2, 3, 4, 6) (E2, 3, 4, 6)

Annex E

Local Content Declaration – Supporting Schedule to Annex C

(E1)	Tender No.		<u>Note:</u> VAT to be excluded for all calculations
(E2)	Tender Description:		
(E3)	Designated Products)		
(E4)	Tender Authority:		
(E5)	Tendering Entity name:		

Local Products (Goods, Services and Works)	Description of items purchased (E6)	Local suppliers (E7)	Value (E8)
(E9) Total local products (Goods, Services and Works)			R 0

(E10)	Manpower costs	(Tenderer's manpower cost)	R 0
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R 0
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc)	R 0
(E13) Total local content			R 0

This total must correspond with Annex C – C24

Signature of tenderer from Annex B

Date: _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Valves Products and Actuators – Annex C

Taps, Cocks (70%)

Refer to item in the BOQ: Bill 12 Item (11-17)

SATS 1286.2011

Annex C

Local Content Declaration – Summary Schedule

Note: VAT to be excluded from all calculations

(C1)	Tender No.
(C2)	Tender Description:
(C3)	Designated product(s)
(C4)	Tender Authority:
(C5)	Tendering Entity name:
(C6)	Tender Exchange Rate:
(C7)	Specified local content %

Pula		EU		GBP	
------	--	----	--	-----	--

		Calculation of local content						Tender summary			
Tender item no's	List of items	Tender price- each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)	Tender Qty	Total tender value	Total exempted imported content	Total imported content
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C21)	(C15)	(C16)	(C17)	(C18)	(C19)
							(C20) Total tender value	R 0			
							(C21) Total Exempt imported content	R 0			
							(C22) Total Tender value net of exempt imported content	R 0			
							(C23) Total imported content		R 0		
							(C24) Total local content (C22-C23)		R 0		
							(C25) Avg. local content % of tender				

Signature of tenderer from Annex B

Date:

Contractor
 Witness 1
 Witness 2
 Employer
 Witness 1
 Witness 2

Valves Products and Actuators – Annex D

\Taps, Cocks (70%)

Refer to item in the BOQ: Bill 12 Item (11-17)

Annex D

Imported Content Declaration – Supporting Schedule to Annex C

(D1) Tender No. _____
 (D1) Tender Description: _____
 (D1) Designated product(s) _____
 (D1) Tender Authority: _____
 (D1) Tendering Entity name: _____
 (D1) Tender Exchange Rate: _____

Pula _____ EU _____ GBP _____

Note: VAT to be excluded from all calculations

A. Exempted imported content

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Local Supplier	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Exchange Rate	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted Imported value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D21)	(D15)	(D16)	(D17)	(D18)
(D19) Total exempt imported value										R 0	

This total must correspond with Annex C – C21

B. Imported directly by the tenderer

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Unit of measure	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Rate Of Exchange	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total Imported Value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
(D32) Total Imported value by tenderer										R 0	

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

				Calculation of imported content						Summary	
--	--	--	--	---------------------------------	--	--	--	--	--	---------	--

_____ Contractor
 _____ Witness 1
 _____ Witness 2
 _____ Employer
 _____ Witness 1
 _____ Witness 2

[illegible]

(D45) Total Imported value by 3rd party

R 0

D. Other foreign currency payments

Calculation of foreign currency payments

Type of payment	Local supplier making the payment	Overseas beneficiary	payments	
			Foreign currency value paid	Tender Rate of Exchange
(D46)	(D47)	(D48)	(D49)	(D50)

Summary of payments

Local value of payments

(D51)

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

(D53) Total of Imported content & foreign currency payments D32), (D45) & (D52) above

R 0

**This total must correspond
with Annex C C-23**

Signature of tenderer from Annex B

Date:

Contractor

Page 10 of 10

Witness 1

11

Witness 2

Employer

11

Witness 1

Witness 2

Valves Products and Actuators – Annex E

Taps, Cocks (70%)

SATS 1286.2011

Refer to item in the BOQ: Bill 12 Item (11-17)

Annex E

Local Content Declaration – Supporting Schedule to Annex C

(E1)	Tender No.		<u>Note:</u> VAT to be excluded for all calculations
(E2)	Tender Description:		
(E3)	Designated Products)		
(E4)	Tender Authority:		
(E5)	Tendering Entity name:		

Local Products (Goods, Services and Works)	Description of items purchased (E6)	Local suppliers (E7)	Value (E8)
(E9) Total local products (Goods, Services and Works)			R 0

(E10)	Manpower costs	(Tenderer's manpower cost)	R 0
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R 0
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc)	R 0

(E13) Total local content R 0

This total must correspond with Annex C – C24

Signature of tenderer from Annex B

Date: _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Steel Construction Materials – Annex C

Frames

Refer to item in the BOQ: Bill 9 items (1-13)

SATS 1286.2011

Annex C

Local Content Declaration – Summary Schedule

(C1) Tender No.

(C2) Tender Description:

(C3) Designated product(s)

(C4) Tender Authority:

(C5) Tendering Entity name:

(C6) Tender Exchange Rate:

(C7) Specified local content %

Pula

EU

GBP

Note: VAT to be excluded from all calculations

Calculation of local content							
Tender item no's	List of items	Tender price- each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C21)	(C15)

Tender summary			
Tender Qty	Total tender value	Total exempted imported content	Total imported content
(C16)	(C17)	(C18)	(C19)

Signature of tenderer from Annex B

Date:

(C20) Total tender value

(C21) Total Exempt imported content

(C22) Total Tender value net of exempt imported content

(C23) Total imported content

(C24) Total local content (C22-C23)

(C25) Avg. local content % of tender

R 0

R 0

R 0

R 0

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Steel Construction Materials – Annex C

Frames 100%

Refer to item in the BOQ: Bill 9 items (1-13)

SATS 1286.2011

Annex C

Local Content Declaration – Summary Schedule

(C1)	Tender No.
(C2)	Tender Description:
(C3)	Designated product(s)
(C4)	Tender Authority:
(C5)	Tendering Entity name:
(C6)	Tender Exchange Rate:
(C7)	Specified local content %

Note: VAT to be excluded from all calculations

		Calculation of local content						Tender summary			
Tender item no's	List of items	Tender price- each (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)	Tender Qty	Total tender value	Total exempted imported content	Total imported content
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C21)	(C15)	(C16)	(C17)	(C18)	(C19)
(C20) Total tender value								R 0			
(C21) Total Exempt imported content								R 0			
(C22) Total Tender value net of exempt imported content								R 0			
(C23) Total imported content								R 0			
(C24) Total local content (C22-C23)								R 0			
(C25) Avg. local content % of tender											
<div> <div>Signature of tenderer from Annex B</div> <div>Date:</div> </div>											

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Steel Construction Materials – Annex D

Frames 100%

SATS 1286.2011

Refer to item in the BOQ: Bill 9 items (1-13)

Annex D

Imported Content Declaration – Supporting Schedule to Annex C

(D1) Tender No. _____
 (D1) Tender Description: _____
 (D1) Designated product(s) _____
 (D1) Tender Authority: _____
 (D1) Tendering Entity name: _____
 (D1) Tender Exchange Rate: _____

 Pula EU GBP

Note: VAT to be excluded from
all calculations

A. Exempted imported content

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Local Supplier	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Exchange Rate	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted Imported value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D21)	(D15)	(D16)	(D17)	(D18)
(D19) Total exempt imported value										R 0	

This total must correspond with
Annex C – C21

B. Imported directly by the tenderer

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Unit of measure	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Rate Of Exchange	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total Imported Value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
(D32) Total Imported value by tenderer										R 0	

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

				Calculation of imported content						Summary	
Description of Imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency	Tender Rate Of	Local value of	Freight costs to	All locally Incurred	Total landed	Tender Qty	Total Imported Value

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

[illegible]

(D45) Total Imported value by 3 rd party	R 0
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D. Other foreign currency payments

D. Other foreign currency payments			Calculation of foreign currency payments	
Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange
(D46)	(D47)	(D48)	(D49)	(D50)

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

(D53) Total of Imported content & foreign currency payments D32), (D45) & (D52) above

**This total must correspond
with Annex C C-23**

Signature of tenderer from Annex B

Date: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Steel Construction Materials – Annex D

Roof and Cladding 100%
SATS 1286.2011

Refer to item in the BOQ: Bill 5 items (1-2)

Annex D

Imported Content Declaration – Supporting Schedule to Annex C

(D1) Tender No. _____
(D1) Tender Description: _____
(D1) Designated product(s) _____
(D1) Tender Authority: _____
(D1) Tendering Entity name: _____
(D1) Tender Exchange Rate: _____

Note: VAT to be excluded from all calculations

Pula _____ EU _____ GBP _____

A. Exempted imported content

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Local Supplier	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Exchange Rate	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted Imported value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D21)	(D15)	(D16)	(D17)	(D18)
(D19) Total exempt imported value										R 0	

This total must correspond with Annex C – C21

B. Imported directly by the tenderer

				Calculation of imported content						Summary	
Tender Item No's	Description of Imported content	Unit of measure	Overseas Supplier	Foreign currency values as per Commercial Invoice	Tender Rate Of Exchange	Local value of Imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total Imported Value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
(D32) Total Imported value by tenderer										R 0	

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

				Calculation of imported content						Summary	
--	--	--	--	---------------------------------	--	--	--	--	--	---------	--

Contractor
 Witness 1
 Witness 2
 Employer
 Witness 1
 Witness 2

[illegible]

(D45) Total Imported value by 3rd party

R 0

D. Other foreign currency payments

Calculation of foreign currency payments

Type of payment	Local supplier making the payment	Overseas beneficiary	payments	
			Foreign currency value paid	Tender Rate of Exchange
(D46)	(D47)	(D48)	(D49)	(D50)

Summary of payments

Local value of payments

(D51)

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

(D53) Total of Imported content & foreign currency payments D32), (D45) & (D52) above

R 0

**This total must correspond
with Annex C C-23**

Signature of tenderer from Annex B

Date: _____

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Contractor

Witness 1

Witness 2

Page 10 of 10

Employer

Page 10 of 10

Witness 1

Witness 2

Steel Construction Materials – Annex E

Roof and Cladding 100%

Refer to item in the BOQ: Bill 5 items (1-2)

Annex E

Local Content Declaration – Supporting Schedule to Annex C			
(E1)	Tender No.		Note: VAT to be excluded for all calculations
(E2)	Tender Description:		
(E3)	Designated Products)		
(E4)	Tender Authority:		
(E5)	Tendering Entity name:		

Local Products (Goods, Services and Works)	Description of items purchased (E6)	Local suppliers (E7)	Value (E8)
(E9) Total local products (Goods, Services and Works)			R 0

(E10) **Manpower costs** (Tenderer's manpower cost) R 0

(E11) **Factory overheads** (Rental, depreciation & amortisation, utility costs, consumables etc.) R 0

(E12) **Administration overheads and mark-up** (Marketing, insurance, financing, interest etc) R 0

(E13) Total local content R 0

This total must correspond with Annex C – C24

Signature of tenderer from Annex B _____

_____ Date: _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Steel Construction Materials – Annex E

Roof and Cladding 100%

Refer to item in the BOQ: Bill 5 items (1-2)

Annex E

Local Content Declaration – Supporting Schedule to Annex C			
(E1)	Tender No.		Note: VAT to be excluded for all calculations
(E2)	Tender Description:		
(E3)	Designated Products)		
(E4)	Tender Authority:		
(E5)	Tendering Entity name:		

Local Products (Goods, Services and Works)	Description of items purchased (E6)	Local suppliers (E7)	Value (E8)
(E9) Total local products (Goods, Services and Works)			R 0

(E10) **Manpower costs** (Tenderer's manpower cost) R 0

(E11) **Factory overheads** (Rental, depreciation & amortisation, utility costs, consumables etc.) R 0

(E12) **Administration overheads and mark-up** (Marketing, insurance, financing, interest etc) R 0

(E13) Total local content R 0

This total must correspond with Annex C – C24

Signature of tenderer from Annex B _____

_____ Date: _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

DEPARTMENT OF AGRICULTURE, RURAL DEVELOPMENT AND LAND REFORM

Contract No.: DRDLR-RD-FS 002 (2022/2023)

**THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE
REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN
BETHLEHEM, DIHLABENG LOCAL MUNICIPALITY UNDER THABO
MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE**

PORTION 2: THE CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

AGREEMENTS AND CONTRACT DATA

INDEX

Section	Description	Page No
C1.1	FORM OF OFFER AND ACCEPTANCE.....	
C1.2	CONTRACT DATA.....	
C1.3	FORM OF GUARANTEE.....	
C1.4	OCCUPATIONAL HEALTH AND SAFETY AGREEMENT.....	

ContractorWitness 1Witness 2EmployerWitness 1Witness 2

DEPARTMENT OF RURAL DEVELOPMENT AND LAND REFORM

Contract No: DRDLR-RID-FS 002 (2022/2023)

**THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE
REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN
BETHLEHEM, DIHLABENG LOCAL MUNICIPALITY UNDER THABO
MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE**

C1.1 FORM OF OFFER AND ACCEPTANCE

<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C1.1 FORM OF OFFER AND ACCEPTANCE

FORM OF OFFER AND ACCEPTANCE (AGREEMENT)

OFFER

THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE

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

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

By the representative of the Bidder, deemed to be duly authorised, signing this apart of this Form of Offer and Acceptance, the Bidder offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS

Rand (in words);

Rand (in figures) *(Should there be a discrepancy between the amount in words and the amount in figures then the amount in figures shall govern.)*

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

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

FOR THE TENDERER:

Signature(s)

Name(s)

Capacity

(Name and address of organisation)

Name and Signature
of Witness

Date _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ACCEPTANCE**THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE**

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Bidder'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 Bidder's Offer shall form an agreement, between the Employer and the Bidder 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

Section 1.1 (which includes this Agreement)

Section 1.2 (which includes this Agreement)

Section 2 Form of Bid

and drawings and documents or parts thereof, which may be incorporated by reference into Section 1 to Section 7 above.

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

The Bidder 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 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 of the acceptance of the Tenderer's Offer. Unless the Bidder (now Contractor) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

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

FOR THE EMPLOYER:

Signature(s) _____

Name(s) _____

Capacity _____

136 Charlotte Maxeke Street, Bloemfontein

Name and Signature
of Witness

Date _____

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the bid documents issued by the Employer prior to the bid closing date is limited to those permitted in terms of the Conditions of Bid.
2. A Bidder's covering letter shall not be included in the final contract document. Should any matter in such, letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of, offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the bid documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
4. Any change or addition to the bid documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1 **Subject** _____

Details _____

2 **Subject** _____

Details _____

3 **Subject** _____

Details _____

4 **Subject** _____

Details _____

5 **Subject** _____

Details _____

6 **Subject** _____

Details _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Bidder agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Bidder 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 bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

FOR THE TENDERER:

Signature(s)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Name(s)

Capacity

(Name and address of organisation)

Name and Signature
of Witness

Date

FOR THE EMPLOYER:

Signature(s)

Name(s)

Capacity

(Name and address of organisation)

Name and Signature
of Witness

Date

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

DEPARTMENT OF AGRICULTURE, RURAL DEVELOPMENT AND LAND REFORM

Contract No: DRDLR-RD-FS 002 (2022/2023)

**THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE
REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN
BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN
THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE**

C1.2 CONTRACT DATA

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C1.2.1 THE JOINT BUILDING CONTRACTS COMMITTEE

The Conditions of Contract are **THE JOINT BUILDING CONTRACTS COMMITTEE Edition 6.1 2021** published by The Joint Building Contracts Committee.

Copies of these documents may be obtained from the **Association of South African Quantity Surveyors** (011-315 4210), the **Master Builders Association** (011-205 9000), the **South African Association of Consulting Engineers** (011-463 2022) or the **South African Institute of Architects** (011-486 0684).

C1.2.2 CHANGES TO THE JBCC PRINCIPAL AGREEMENT

The tenderer attention is drawn to the Bill 1 of the Bills of Quantities. **The amendments contained herein or in the single referenced Annexure (as per the signed Contract Data) constitute the only amendments to the standard JBCC Agreement that will apply. No other amendments shall be of any force or effect.**

All Errata issued by the JBCC is listed in the Bills of Quantities and not listed below.

Clause 1.0: Definitions

Clause	Data
1.1	The definition of agreement is replaced with the following definition : " AGREEMENT : The JBCC Principal Building Agreement, the completed PBA contract data, the priced documents and any other documents reduced to writing and signed by the parties " NAME OF EMPLOYER : Department of Rural Development and Land Reform.
1.3	Add the following new clause: "1.3" The tender documents have been drafted in English. The contract arising from the invitation of tender shall be interpreted and construed in English.

Clause 2.0: Law, Regulations and Notice

	Law of the country applicable to the project: South Africa
--	---

Clause 3.0: Offer and Acceptance

	No change from Principal Building Agreement
--	---

Clause 4.0: Assignment and Cession

	No change from Principal Building Agreement
--	---

Clause 5.0: Contract Documents

Clause	Data
5.1	Add the following to the clause: The original signed set of contract documents is to be held by the Employer .
5.3	Clause 5.3 is deemed to be deleted
5.5	Clause 5.3 is deemed to be deleted
5.6	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

	<p>Clause 5.6 is deemed to be deleted. The provisions of this Bill No. 1 (Preliminaries) shall take precedence over any other documents which constitute this agreement [5.6]</p> <p><u>Contract documents</u></p> <p>The original signed set of contract documents is to be held by the Employer.</p> <p><u>Priced document</u></p> <p>A Priced bills of quantities (BoQ) will apply</p>
--	---

Clause 6.0: Employer's Agent

	<i>No change from Principal Building Agreement</i>
--	--

Clause 7.0: Design Responsibility

	<i>No change from Principal Building Agreement</i>
--	--

Clause 8.0: Works Risk

	<i>No change from Principal Building Agreement</i>
--	--

Clause 9.0: Indemnities

	<i>No change from Principal Building Agreement</i>
--	--

Clause 10.0: Insurances

Clause	Data
10.1.2	<p>Add the following to the clause:</p> <p>The Contractor will affect Contract Works Insurance to be limited to, the Tender amount including VAT plus 20%, and Public Liability to be limited to R5 000 000 under the contract. The contractor must ensure that any damage to the existing building (e.g. structural) be included in his Public Liability insurance.</p> <p>The Employer will not provide for any insurance as it will be provided for by the Contractor.</p>

Clause 11.0: Security

	<i>No change from Principal Building Agreement</i>
--	--

Clause 12.0: Duties of the Parties

	<i>No change from Principal Building Agreement Also see section B12 under C1.2.2</i>
--	--

Clause 13.0: Setting Out

	<i>No change from Principal Building Agreement</i>
--	--

Clause 21.0: Nominated Subcontractors

	<i>No change from Principal Building Agreement</i>
--	--

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause 15.0: Selected Subcontractors

	No change from Principal Building Agreement
--	---

Clause 16.0: Direct Contractors

	No change from Principal Building Agreement
--	---

Clause 17.0: Contract Instructions

	Instructions issued on site are to be recorded in a site instruction book which is to be supplied and maintained on site by the contractor
--	---

Clause 18.0: Interim Completion

	No change from Principal Building Agreement
--	---

Clause 19.0: Practical Completion

	Practical completion will be within 5 months from Appointment
--	--

Clause 20.0: Sectional Completion

	No change from Principal Building Agreement
--	---

Clause 21.0: Defects Liability Period and Final Completion

	The defects liability period and final completion shall be 12 Months from Practical Completion
--	--

Clause 22.0: Latent Defects Liability Period

	No change from Principal Building Agreement
--	---

Clause 23.0: Revision of the Date for Practical Completion

Clause	Data
	The removal or substitution of any materials and goods which do not conform to the specification or the contract drawings shall not constitute grounds for the extension of the construction period nor for the adjustment of the contract value [17.1.8, 23.1 & 2]

Clause 24.0: Penalty for Late or No-Completion

Clause	Data
	Add the following to the clause: It is therefore the contractor's responsibility to ensure that Practical Completion is achieved by the due date, failing which the penalty for failing to complete the works is: the lesser of R 5 000 or 1/20 of 1% of the offered total of prices excluding VAT per calendar day. such time that works are completed in full.

Clause 25.0: Payment

Clause	Data
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--

Contractor

--

Witness 1

--

Witness 2

--

Employer

--

Witness 1

--

Witness 2

25.3.2	Materials and goods brought onto the site prematurely shall not be authorised for payment. Materials and goods stored off site shall not be authorised for payment
25.7	<p>Replace clause 25.7 with the following:</p> <p>The Employer shall pay the Contractor the amount certified within 30 (thirty) calendar days from the date of receipt of the Contractor's original VAT Invoice in support of payment certificate at the Physical address of the Employer.</p> <p>Where prices are submitted by the contractor or subcontractor during the progress of the works in respect of contract instructions or in regard to a claim under the terms of this agreement and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the certificate of final completion, it shall be in writing</p>

Clause 26.0: Adjustment of the Contractor Value and Final Account

Clause	Data
32.16	<p>Add the following Any Contract Variations with a financial implication must be approved by the Department in line with the Departmental Approved Supply Chain Management Delegation of Authority.</p> <p>Contingencies: Contingencies are under the sole control of the Department and upon approval by Deputy Director General Rural Infrastructure Development.</p>

Clause 27.0: Recovery of Expense and/or Loss

	No change from Principal Building Agreement
--	---

Clause 28.0: Suspension by the Contractor

	No change from Principal Building Agreement
--	---

Clause 29.0: Termination

	No change from Principal Building Agreement
--	---

Clause 30.0: Dispute Resolution

	No change from Principal Building Agreement
--	---

AGREEMENT

The second sentence of the introduction where the parties sign the agreement, namely "Any provision in this agreement..... acceptance by such subcontractor at any time." is deemed to be deleted

The required information of the parties and the amount of the contract sum shall be inserted in the agreement for signature of the agreement by the parties

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT DATA

Payment of preliminaries

Where Option B is applicable and the initial **construction period** is extended the monthly charge shall be recalculated on the same basis as was initially applied but taking into account the revised **construction period** and the amounts already paid to the **contractor** [CD26.0]

Adjustment of preliminaries

Where the adjustment of **preliminaries** is in terms of Option A, the **construction period** and the initial **construction period** shall be calculated in **working days** [CD 26.0]

Where the adjustment of **preliminaries** is in terms of Option A and sectional completion is required, the **contractor** shall provide the **principal agent** with the division of the categorised amounts into **sections**. Should the **contractor** fail to provide such information within the period stipulated, the categorised amounts shall be prorated to the value of each **section** [CD 26.0]

Where the adjustment of **preliminaries** is required in terms of Option B and sectional completion is required, the **contractor** shall provide the **principal agent** with details of the resources required for each **section** and those that are common to **sections**. Should the **contractor** fail to provide such information within the period stipulated, Option A shall apply [CD 26.0]

C1.2.1 TENDER INFORMATION

CLAUSE	DATA PROVIDED BY THE EMPLOYER
A1	<p><u>Project name</u></p> <p>THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE</p>

Contractor

Witness 1

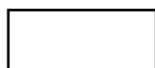
Witness 2

Employer

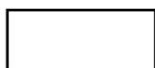
Witness 1

Witness 2

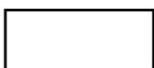
A2	<p><u>Works description</u></p> <p>The Project entails the refurbishment of the existing structures, located in BETHLEHEM. The project includes, but is not necessarily limited to the following trades:</p> <ul style="list-style-type: none"> • Partial replacement of roof structures and complete replacement of roof sheeting; • Install gutters, fascia and barge boards; • New ceilings; • Painting of walls internally and externally; • Tiling of ablution walls; • Repair of wall defects; • Repair of floor defects; • Tiling of floors; • Servicing of windows and install shatterproof glass panes; • Re-wiring of entire building with lights and electrical connection points; • Installation of HVAC Equipment (Aircon or evaporative units); • Repair of ablutions (Toilets, hand wash basins); • Carpentry works; • Installation of new water supply line from the nearest municipal supply line (250m); • Installation of new sewer supply line to the nearest municipal supply line (250m); • Storm water infrastructure, access and parking; • Repairs to the security fence; • Replacement of fire hose reels; • Installation of a new electrical supply cable with a kiosk; • Landscaping; • Repair of structural defects; • Fire detection alarm system; • Access control and security infrastructure; • Bulk services beyond 50m from the site boundary; • ESKOM Transformer points; • Equipment and furniture of the buildings; • High tech lighting, sound equipment and curtains for the stage; • Kitchen equipment in the community hall; • High level light masts.
A3	<p><u>Site Description</u></p> <p>Erf No/Township: Bethlehem, Free State</p> <p>Local authority: Thabo Mofutsanyana District in Dihlabeng Local Municipality</p> <p>Street address: 28°13'02.0"S 28°19'18.1"E</p>



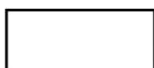
Contractor



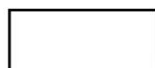
Witness 1



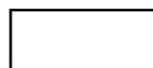
Witness 2



Employer



Witness 1



Witness 2

A4	<p><u>Employer:</u> DEPARTMENT OF AGRICULTURE, RURAL DEVELOPMENT AND LAND REFORM</p> <p>Postal address: Private Bag X4376 BLOEMFONTEIN 9300</p> <p>Physical address: 136 Charlotte Maxeke St, SA Eagle Building Bloemfontein, 9301</p> <p>Telephone no: (051) 400 4200 Facsimile no: (051) 430 2392 E-mail: maipato.sakhele2@dalrrd.gov.za</p>
A5	<p><u>Project Manager:</u> MS Maipato Nkomo</p> <p>Postal address: Private Bag X4376 BLOEMFONTEIN 9300</p> <p>Tel: 051 400 4200 Fax: 051 430 2392 Cell: 079 893 7381 E-mail: maipato.sakhele2@dalrrd.gov.za</p>
A6	<p><u>Principal Agent:</u> Ms. Maryke Mayer (Pr Qs)</p> <p>Durapi Consulting 37 Homestead Road Rivonia Sandton</p> <p>Tel: (011) 312 8629 / 85 99 Cell: 076 543 0196 Email: marykem@durapi.co.za</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C1.2.2 Applicable Contract Data

CLAUSE	DATA PROVIDED BY THE EMPLOYER
B2	<p><u>Law, regulations and notices</u></p> <p>Law of the country applicable to the project: South Africa</p>
B5	<p><u>Contract documents</u></p> <p>The original signed set of contract documents is to be held by the Employer.</p> <p><u>Priced document</u></p> <p>A Priced bills of quantities (BoQ) will apply</p>
B10	<p><u>Insurances</u></p> <p>The Contractor will affect Contract Works Insurance to be limited to, the Tender amount including VAT plus 20%, and Public Liability to be limited to R5 000 000 under the contract. The contractor must ensure that any damage to the existing building (e.g. structural) be included in his Public Liability insurance.</p> <p>The Employer will not provide for any insurance as it will be provided for by the Contractor.</p>
B11	<p><u>Security</u></p> <p>The contractor shall provide a Guarantee for Construction to the employer.</p>
B12	<p><u>Duties of the parties = employer = site</u></p> <p>9.2.7 Alterations & additions to existing premises – Yes</p> <p>12.1.2 Premises occupied - yes/no identify area – Yes, external to the building to be refurbished</p> <p>12.1.3 Relevant natural features to be retained / relocated / removed – to be retained</p> <p>12.1.6 Statutory and/or other notices to be complied with by the contractor before possession of site can be given</p> <p>(a) Approved Health and Safety Plan (b) Approved Environmental Plan (c) Guarantee / Securities (d) Insurances (e) Approved programme</p> <p>12.1.7 Possession of the site - intended date</p> <p>Within 120 days from close of tenders provided that the Contractor has complied with the following</p> <p>12.2.9 In addition to the clause will be expanded to include:</p> <p>“The contractor’s programme will adhere to the following minimum requirements:</p> <ul style="list-style-type: none"> the commencement date, the due completion date and the planned completion date; the sequence, timing and resources for carrying out the works;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

	<ul style="list-style-type: none"> the dates for site access, possession, approvals, instructions, inspections, tests, and all required information; the events that influence the carrying out of the works, including the float and the contractor's time risk allowances; other programming information set out in the scope of works; a detailed cash flow; and include an update indicating the actual progress against the planned progress at least once a month."
19/20/24	<u>Practical completion / penalty for late completion</u> The penalty for failing to complete the works is: the lesser of R2 000 or 1/20 of 1% of the offered total of prices excluding VAT per calendar day. such time that works are completed in full.
B19	<u>Practical completion</u> These items will fill be finalised with the successful tenderer.
B25	<u>Payment</u> Currency: ZAR
25.3.4/ 26.9.5	Contract price adjustment provisions: Will not be apply

C1.2.3 TENDER CLOSING

Please refer to the tender conditions.

C1.2.4 TENDER'S SELECTION

CLAUSE	DATA PROVIDED BY THE TENDERER
E11	<u>Securities</u>
11.1.2	Guarantee for construction – yes/no <input type="checkbox"/>
11.1.3	Guarantee for Construction (fixed) – yes/no <input type="checkbox"/>
E26	<u>Payment / Adjustment of Preliminaries</u> Payment of preliminaries Alternative A <input type="checkbox"/> or Alternative B <input type="checkbox"/> Adjustment of preliminaries [26.9.4] Alternative A <input type="checkbox"/> or Alternative B <input type="checkbox"/> Note 4 on page 10 of the contract data Note 4 on page 10 of the contract data which relates to any benefit or right in favour of any subcontractor shall be deemed to be deleted

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

DEPARTMENT OF AGRICULTURE, RURAL DEVELOPMENT AND LAND REFORM

Contract No: DRDLR-RD-FS 002 (2022/2023)

THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE
BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL
MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE

C1.3 FORM OF GUARANTEE

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C1.3 Construction Guarantee (Pro-Forma)

GUARANTOR DETAILS AND DEFINITIONS

Guarantor means
Physical address
.....
Guarantor's signatory 1 Capacity
Guarantor's signatory 1 Capacity
Employer means **DEPARTMENT OF RURAL DEVELOPMENT AND LAND REFORM**

Contractor means
Agent means
(Compiler to insert name of agent)
Works means
(Compiler to provide reference number and title of contract)
Site means
(Compiler to enter site as described in the Contract Data)
Agreement means the General Conditions of Contract for Construction Works 2010
Contract Sum i.e. the total of prices in the Form of Offer and Acceptance inclusive of VAT
Amount in figures R
Amount in words (Rand)
Guaranteed Sum means the maximum aggregate amount of R
Amount in words (Rand)

1 The Guarantor's liability shall be limited to the amount of the Guaranteed Sum as follows:

GUARANTOR'S LIABILITY	PERIOD OF LIABILITY
Maximum Guaranteed Sum (not exceeding 10 % of the contract sum) in the amount of: (Rands) (R)	From and including the date of issue of this Construction Guarantee and up to and including the date of the only practical completion certificate or the last practical completion certificate where there are sections, upon which this Construction Guarantee shall expire.

2 The Guarantor hereby acknowledges that:

<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- 2.1 Any reference in this Guarantee to the Agreement is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
- 2.2 Its obligation under this Guarantee is restricted to the payment of money.
- 3 Subject to the Guarantor's maximum liability referred to in clauses 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in sub-clauses 3.1 to 3.3:
- 3.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Principal Agent in an interim or final payment certificate has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of sub-clause 3.2
- 3.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) calendar days has elapsed since the first written demand in terms of sub-clause 4.1 and that the sum certified has still not been paid therefore the Employer calls up this Guarantee and demands payment of the sum certified from the Guarantor.
- 3.3 A copy of the said payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified in clause 3.
- 4 Subject to the Guarantor's maximum liability referred to in clause 1, the Guarantor undertakes to pay the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Guarantee stating that:
- 4.1 The Agreement has been cancelled due to the Contractor's default and that the Guarantee is called up in terms of clause 4. The demand shall enclose a copy of the notice of cancellation; or
- 4.2 A provisional sequestration or liquidation court order has been granted against the Contractor and that the Guarantee is called up in terms of clause 4. The demand shall enclose a copy of the court order.
- 5 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of clauses 3 and 4 shall not exceed the Guarantor's maximum liability in terms of clause 1.
- 6 Where the Guarantor is a registered insurer and has made payment in terms of clause 4, the Employer shall upon the date of issue of the final payment certificate submit an expense account to the Guarantor showing how all monies received in terms of the Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
- 7 Payment by the Guarantor in terms of clause 3 or 4 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
- 8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer deems fit and the Guarantor shall not have the right to claim his release from this Guarantee on account of any conduct alleged to be prejudicial to the Guarantor
- 9 The Guarantor chooses the physical address as stated above for all purposes in connection herewith.
- 10 This Guarantee is neither negotiable nor transferable and shall expire in terms of clause 1, or payment in full of the Guaranteed Sum or on the Guarantee expiry date, whichever is the earlier, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired
- 11 This Guarantee, with the required demand notices in terms of clauses 3 or 4, shall be regarded as a liquid document for the purpose of obtaining a court order.
- 12 Where this Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Signed at Date

Guarantor's
Signatory 1 Guarantor's
Signatory 2

Witness 1 Witness 2

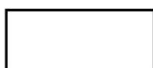
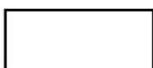
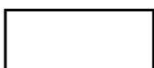
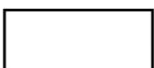
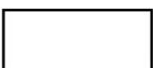
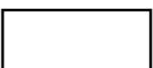
Guarantor's seal or stamp



LIST OF INSTITUTIONS FROM WHICH CONTRACT SURETIES CAN BE ACCEPTED:

1. ABSA Bank
2. Credit Agricole Indosuez (South Africa Branch)
3. Development Bank of South Africa
4. FirstRand Bank
5. ING Bank N.V. (South Africa Branch)
6. Investec Bank
7. Landbank
8. National Housing Finance Co.
9. Nedcor Bank
10. South African Reserve Bank
11. Standard Bank
12. AIG South Africa
13. Credit Guarantee Insurance Co
21. Emerald Insurance Company
15. Federated Employers Mutual Assurance Co
16. Global Insurance Company
17. Guardrisk Insurance Company
18. Hannover Re:
19. Home Loan Guarantee Company
20. Lion of Africa Insurance Company
21. Metropolitan Life
22. Metropolitan Odyssey Ltd
23. MUA Insurance
24. Mutual & Federal Insurance Company
25. Rand Mutual Assurance Company
26. Regent Insurance Company
27. SA Eagle Insurance Company
28. Lombard Insurance

NB: The above list is not exhaustive and surety will be accepted from other accredited financial institutions.

					
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

DEPARTMENT OF AGRICULTURE, RURAL DEVELOPMENT AND LAND REFORM

Contract No: DRDLR-RD-FS 002 (2022/2023)

THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE
BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY
WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE

**C1.4 OCCUPATIONAL HEALTH AND SAFETY
AGREEMENT**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

This agreement is mandatory for all contractors appointed by the Department of Rural Development and Land Reform.

This agreement is between:

THE CONTRACTOR:

Herein represented by

In his capacity as Being duly authorized hereto hereinafter referred to as "contractor".

Compensation Commissioner Number:

(Attach a copy of the Registration Certificate to this agreement)

Company : Name:

Registration Number:

CEO : Name:

ID Number:

Physical Address:

.....

And the

DEPARTMENT OF RURAL DEVELOPMENT AND LAND REFORM (Hereinafter referred to as "the Department")

1. DEFINITIONS

- | | | |
|-----|--|---|
| 1.1 | CONTRACTOR | Means the "Contractor" as defined in the "Principal Contract" Annexed hereto in his capacity as mandatory. |
| 1.2 | MANDATORY | Includes an agent, contractor or subcontractor for work to be done or service rendered, but without derogating from his status in his own right as an employer of people or user of equipment, machinery, tools or materials. |
| 1.3 | THE PRINCIPAL CONTRACT | Means the contract annexed hereto as annexure "A". |
| 1.4 | DEPARTMENT | Means the Department of Rural Development and Land Reform. |
| 1.5 | RISK CONTROL OFFICER | A person appointed in writing by Department. |
| 1.6 | Any definitions contained in any Statute hereinafter mentioned shall have the meaning allocated to it by the specific statute. | |

2. OBJECTIVE

- 2.1 Whereas Department and the Contractor have entered into a contract for service (work) as fully indicated in the "Principle Contract" and whereas the "Contractor" agreed to indemnify Department against the risks stated hereunder whether foreseeable or not, and, whereas it is agreed between the parties that it

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

is of cardinal importance to safeguard both Department and the Contractor's obligation in terms of relevant legislation as well as to extend the obligation as a company and/or legal person and/or person as an entity concerned with health, safety and the environment.

- 2.2 These rules are applicable to all contractors performing work for Department within the jurisdictional area of the Department and on any premises which are owned, rented or developed by the Department.
- 2.3 The Department acts through those officials or persons who are generally or specifically charged with the responsibility, in terms of legislation, as well as any other official or person who is generally or specifically charged with the control and supervision of the project.

IT IS HEREBY AGREED AS FOLLOWS:

3. INDEMNITIES

- 3.1 The "Contractor" hereby indemnifies the "Department" against any loss in respect of all claims, proceedings, damages, costs and expenses arising out of any claim or proceeding pertaining to the non-compliance by the "Contractor" of any statutory requirements and/or requirements regarding the following Acts in particular pertaining to the provisions of:
- 3.1.1 The Occupational Health and Safety Act 85 of 1993 (as amended), including the Construction Regulations, 2003 as promulgated on 18 July 2003, in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), in Government Gazette No. 25207 and Regulation Gazette No. 7721. See Annexure B.
 - 3.1.2 The Health Act 63 of 1977.
 - 3.1.3 Road Traffic Act 29 of 1989 (as amended).
 - 3.1.4 Environment Conservation Act 73 of 1989.
 - 3.1.5 The National Water Act 36 of 1998.
 - 3.1.6 The Criminal Procedure Act 51 of 1977.
 - 3.1.7 The Explosives Act 26 of 1956.
 - 3.1.8 The Arms and Ammunition Act 75 of 1969.
 - 3.1.9 Compensation for Occupational Injuries and Diseases Act 130 of 1993.
 - 3.1.10 The Labour Relations Act 66 of 1995.
 - 3.1.11 The Unemployment Insurance Act 30 of 1966 (as amended).
 - 3.1.12 The Basic Conditions of Employment Act 75 of 1997 (as amended).
 - 3.1.13 Standards Act 29 of 1993.
 - 3.1.21 any statutory provisions in any act and/or any law or bylaw of any local government and/or any published official standard incorporated into any statute or bylaw relating to the completion of the work set out in the "Principal Contract".
 - 3.1.15 Any other health and safety standard prescribed by the "Department".
- 3.2 The "Contractor" shall ensure that he familiarizes himself with the requirements of the above legislation and that he, his employees and any subcontractor will comply with all the statutory provisions contained in them.
- 3.3 The "Contractor" shall indemnify the "Department" in respect of any physical loss or damage to any plant, equipment or other property belonging to the "Contractor" or for which he is responsible and he hereby indemnifies the "Department" against any loss in respect of all claims, proceedings, damages, costs and expenses consequent upon the loss of or damage to any plant, equipment or other property belonging to, or which is the responsibility of, any subcontractor, agent or employee of the subcontractor.
- 3.4 The "Contractor" shall and hereby indemnifies the "Department" against any liability, loss, claim or proceedings whatsoever, whether arising in common law or by statute, consequent on personal injuries to or the loss of health or death of any person whatsoever arising out of or in the course of or caused by the execution of the "Principal Contract".
- 3.5 The "Contractor" shall and hereby indemnifies the "Department" against any liability, loss, claim or proceedings consequent on loss of or damage to any movable or immovable property arising out of or in the course of or caused by the execution of the "Principal Contract" and due to any act or omission of the "Contractor", his agents, servants or subcontractors.

4. PERFORMANCE SAFE WORKING PRACTICE

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- 4.1 The "Department" requires a high standard of safe work performance from all employees and expects that the standard be maintained by the "Contractor" within the "Department's" jurisdictional area or on its premises.
- 4.2 Irrespective of human considerations, the maintaining of these health and safety rules shall be the execution of the prescribed legal requirements. These rules are not to hinder the "Contractor" in rendering services or indemnify the "Contractor" from any legal responsibility to ensure healthy and safe work circumstances.
- 4.3 The "Department" shall assist the "Contractor" in any practical considerations to accommodate the healthy and safe execution of work and therefore require co-operation in the execution of these safety rules.

5. LOCK OUT PROCEDURE

- 5.1 When power or air driven machines or equipment, electrical apparatus or pipe lines are examined, repaired, adjusted, cleaned, lubricated or serviced in any other way than normal servicing, then all isolating switches, -levers, valves or appliances must be put in the "off" or "closed" position and locked.
- 5.2 Should more than one team work on a machine, then each person in control of a team, must put a separate lock on the switch, lever, valve or appliance.

6. CRANES, VEHICLES AND HOISTING

- 6.1 For each crane or hoisting equipment used, the "Contractor" must submit a valid and recent test certificate or other form of the last examination of the machine or equipment, to the "Department".
- 6.2 Only trained personnel with written permission and where determined by Law, with a valid driver's license, may be allowed to operate any electrical diesel or petrol driver overhead crane, hydraulic or electrical hoisting equipment, self driven forklift, tractor or any other crane or vehicle. No employee of the "Contractor" may perform any overhead work or work on an overhead crane or hoisting equipment or work near cranes or crane rail, before:
 - i) An agreement was concluded with the "Department".
 - ii) Approval has been obtained from the "Department" to perform the work.
 - iii) All applicable danger – and warning symbolic signs are put into position, or exemption, if applied for, is in operation.
- 6.3 The "Contractor" shall be wholly responsible for any loss or damage to cranes, hoisting equipment, plant, machines or equipment brought onto the work site by the "Contractor"

7 MACHINE VALANCES, PROTECTION AN FENDING

- 7.1 No machine valances, protection or fencing may be removed from machines, manholes, etc without the written permission of "Department" if applicable exemption procedures were not appropriated.

8 SCAFFOLD, LADDERS, TOOLS AND EQUIPMENT

- 8.1 No equipment or appliance belonging to "Department" may be used without written permission from "Department".
- 8.2 Unless prior arranged, "Contractors" must bring sufficient tools and equipment to the site to finish the contract, including offices and storerooms. The mentioned equipment remains the responsibility of the "Contractor" with respect to loss, damage and theft.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- 8.3 In exceptional cases, where tools and equipment belonging to "Department" are used to finish the contract, the said equipment and tools are used on own risk and the "Contractor" indemnifies "Department" from any claims that may arise. The said indemnity must be in writing, as well as information regarding the loan period, identification and condition of tools and equipment. The "Contractor" is responsible for the returning of said tools and equipment in the same condition or better. The "Contractor" is responsible to "Department" for any damage or excessive wear of such tools or equipment and material.

9 EXCAVATIONS

- 9.1 Before any excavations commence, written permission must be obtained from "Department" to confirm the location of existing electrical cables, water pipes, etc.
- 9.2 All excavations and obstructions in floor, tar and dirt surfaces must be fenced effectively and safeguarded between sundown and sunup with a sufficient amount of red/yellow warning lights and symbolic signs.
- 9.3 The surrounding area must be kept clean, safe and tidy during excavation. Excess material may not obstruct unnecessarily.
- 9.4 If any property is in danger during excavation, it must be supported and the proposed support work must be submitted to the Department of Labour (OHS) and "Department" for approval.
- 9.5 Written permission must be obtained from "Department" to grant admittance to restricted areas as well as areas where dangerous or poisonous gases are present.

10 FIRST AID

- 10.1 The "Contractor" must provide and maintain a first aid box equipped according to legal requirement where more than (5) five persons are employed. The first aid box must be in the care of a person with a competency certificate from one of the following organizations:
- (i) SA Red Cross Association;
 - (ii) St Johns Ambulance;
 - (iii) SA First Aid League; or
 - (iv) A person or organization approved by the Chief inspector for this purpose.
- 10.2 A visible notice must be put up on any work premises with the name of the person responsible for first aid. In an emergency "Department's" Ambulance / Fire Department or emergency services may be contacted at

11 FLAMMABLE LIQUIDS

- 11.1 The "Contractor" shall be held responsible for the necessary precautionary fire prevention measures. No smoking signs must be put up where applicable. The "Contractor's" employees must be informed of "Department's" fire prevention measures and evacuation procedures.

12 COMPENSATION BY CONTRACTOR

- 12.1 The "Contractor" shall be held responsible for all loss of and damage to property, the death or injury of persons, the resultant loss or damage suffered as well as all law suits, claims, costs, charges, fines and expenses due to negligence, violation of statutory liability or neglect of the "Contractor" or the "Contractor's" employees.

13 TRANSGRESSION OF RULES AND MISBEHAVIOUR

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- 13.1 The "Contractor" is warned that any act(s) leading to damage or loss of employees of the "Contractor" or the "Department" shall not be tolerated. The "Department" may (without any reason) demand that any employee of the "Contractor" be withdrawn from the principal "Contract" or site.

21 INCIDENT REPORTING

- 21.1 All incidents referred to in Section 24 of the Occupational Health and Safety Act and or other incidents shall be reported, by the "Contractor", to the Department of Labour, as well as to the "Department" and should such an incident take place outside normal working hours, on a Saturday, Sunday or Public holiday to The "Department" shall further be provided with a written report relating to any incident.
- 21.2 The "Department" will obtain an interest in the issue of any formal inquiry conducted in terms of the Occupational Health and Safety Act in any incident involving the "Contractor" and/or his employees and/or his subcontractors.
- 21.3 The "Contractor" undertakes to report to "Department" anything deemed to be unhealthy and/or unsafe and that he undertakes to verse his employees and/or subcontractors in this regard.

15 LIAISON AND SUPERVISION

- 15.1 The "Contractor" hereby undertakes to liaise on a regular basis with the designated Risk Control Officer and "Department" representative regarding any hazards or incidents that may be identified or encountered during the performance of the "Principal Contract".

16 SERVICE INTERRUPTION

- 16.1 Should any work done by the "Contractor" cause a possible interruption, written permission must be obtained from "Department", before such work commences. The "Contractor" may not switch on or off any compressed air, steam, oxygen, vacuum supply or electrical supply without written permission from the "Department".

17 CONFIDENTIALITY

- 17.1 The "Contractor" and his employees shall regard all data, documentation and information of the contract and related documentation as confidential.
- 17.2 Lost documentation/plans or related documentation shall immediately be reported in writing to the "Department".
- 17.3 The "Contractor" shall not put up any advertisements or billboard at the site without permission.
- 17.4 The "Contractor" shall not take photographs of the contract site or part thereof or any work process or part thereof, without written permission from the "Department", or have photographs taken, published or let it be published.

18 CONTRACT SITE AND PRESERVATION

- 18.1 Employees of the "Contractor" shall not be allowed entrance to the site unless a valid identity document, issued by "Department", is displayed. The mentioned documents shall only be valid for a limited period, where after it must be renewed.

19 COMPLETION OF WORK

- 19.1 The "Contractor" or his employees shall not leave the contract site before the "Department" is satisfied that the contract is completed according to the requirements and standards set out in the contract and that the working site is left in a satisfactory and safe condition.

20 LIQUOR, DRUGS, DANGEROUS WEAPONS AND FIREARMS

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- 20.1 The "Contractor" shall ensure that no liquor, drugs, dangerous weapons or firearms be brought onto the premises.

21 SEARCHES

- 21.1 The "Contractor" and any person engaged in the contract work may at any time be searched by "Department" appointed security personnel and all packages, suitcases, etc. must be presented to the access control point for examination prior to them being brought onto the property or leaving the property.

22 GENERAL CONDITIONS

- 22.1 Notwithstanding anything to the contrary in this agreement, it is hereby specifically determined that the "Contractor-"
- 22.1.1 shall have acquainted himself and be conversant with the contents of all statutory provisions applicable to the health and safety of workers and other persons on the site including the execution of the work, and in particular the conditions contained in the Occupational Health and Safety Act, 1993 (Act 85/1993), and the regulations promulgated in terms thereof, and shall comply therewith meticulously and in all aspects and/or take care that it is complied with;
- 22.1.2 shall be obliged to immediately execute all instructions given to him by an authorized representative of "Department" in order to ensure and uphold the implementation and enforcement of the provisions referred to in sub-paragraph 1, to the satisfaction of the said representative;
- 22.1.3 shall indemnify the "Department" against any or all liability which may be incurred by the "Department" as a result of the omission of the "Contractor", his employees, sub-contractors and/or representatives to comply with the provisions referred to in sub-paragraph 1, or to ensure that it shall be complied with;
- 22.1.4 shall undertake to pay upon demand any and/or all legal costs and other expenses which "Department" may have incurred as a consequence of any criminal charges or other proceedings pending against, or involving the "Department" as a result of the contravention or non-compliance by the "Contractor", his employees, sub-contractors and/or representative of any of the statutory provisions referred to in sub-paragraph 1.
- 22.1.5 Should the "Contractor" neglect to immediately execute any health and safety written orders issued to him, or to his employee in charge of the works, in terms of the stipulations of sub-paragraph 2, the "Department" shall be entitled to suspend the execution of the works and take the necessary steps to execute or have such order executed. Under these circumstances the contractor shall be obliged to pay "Department", upon demand, all costs and expenses incurred by "Department", in order to execute or have the said orders executed.
- 22.1.6 Should the abovementioned steps not establish a healthy and safe work environment the "Department" will be entitled to terminate the contract without incurring any further costs or claims from the contractor.

23 "CONTRACTOR" IDENTIFICATION BOARD

- 23.1 The "Contractor" shall provide on any work premises a temporary identification board containing at all worksites the following information:

Company name

On behalf of which division/department the work is being done

The contact number and name of the person representing the "Contractor"

The contact number and name of the person representing "Department"

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

24. ACKNOWLEDGEMENT

24.1 The "Contractor" hereby acknowledges that he has read and received a copy of the "Principal Contract" and agrees to be bound by and undertakes to observe all the terms and conditions of the "Principal Contract". This appointment is made in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993.

25. EXCEPTIONS AND OMISSIONS

26. REMARKS

THE CONTRACTOR

SIGNED AT ON THIS DAY OF

WITNESSES:

.....
THE CONTRACTOR

1.
2.

THE DEPARTMENT

SIGNED AT ON THIS DAY OF

WITNESSES:

.....
THE DEPARTMENT

1.
2.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

INDEMNITY CERTIFICATE

Contractor : _____
Employer : Department of Rural Development and Land Reform
Contract : _____

I/we _____ Hereafter the “Contractor”

“Contractor” hereby indemnifies the Department against any claim of whatever sort which may arise directly or indirectly from the execution by me/us of the above-mentioned contract and which may be instituted against “Department”, as well as of any loss or damage which the “Department” suffers or expenditure the “Department” incurs to prevent responsibility for such claim, loss or damage, whatever the cause of such claim may be or whatever loss or damage the “Department” suffers.

THUS done and signed at _____ on this _____ day of _____ 200....

WITNESSES:

1. _____ **CONTRACTOR**
2. _____ **DEPARTMENT**

R 2
REVENUE STAMP

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

ACKNOWLEDGEMENT CERTIFICATE

I, in my capacity as.....

Duly authorized hereto.....representing

..... Contractors, acknowledge receipt
Of a copy of the Department's safety manual for contractors and the under mentioned person as my supervisor regarding
all works and services which must be executed by the Contractor. The appointment is done in terms of the Occupational
Health and Safety Act, 1993 (Act 85/1993).

SIGNED AT ON 200...

I, accept the abovementioned appointment, and
declare that I am familiar with the contents of the Department Safety Manual for contractors.

CASUALTIES REGISTRATION NUMBER

.....
.....
.....

SIGNED AT ON 200....

SIGNATURE:

WITNESSES: 1.

2.

A copy of this certificate shall be submitted to the "Department" before any work commences.

R 2
REVENUE STAMP

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PART C2: PRICING DATA

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C2.1 – PRICING INSTRUCTIONS

GENERAL

The pricing instructions describe the criteria and assumptions for which in the Contract it will be assumed the Tenderer has taken into account when developing his prices. The bills of quantities record the Contractor's rates for providing supplies, services, engineering and construction works in accordance with the Scope of Work.

The terms of payment and the provisions for price adjustment, if applicable, are established in the Contract Data. These items are not described in the Pricing Data.

The Tenderer's obligations in pricing the tender offer and the Employer's undertakings in the checking and correction of arithmetical errors are dealt with in the Standard Conditions of Tender contained in Annexure F of SANS 294, as amended in and read in conjunction with the Tender Data.

The Model Preambles for Trades 2008 as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained.

Supplementary preambles and/or specifications are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the Model Preambles.

The contractor's prices for all items throughout these bills of quantities shall take account of and include for all of the obligations, requirements and specifications given in the Model Preambles and in any supplementary preambles and/or specifications.

The Principal Building Agreement, Edition 6.1, March 2021, the Contract Data, the Standard and Particular Specifications and the Drawings shall be read in conjunction with the Bill of Quantities.

DOCUMENTS MUTUALLY EXPLANATORY

The documents forming the Contract are to be taken as mutually explanatory of one another. The bills of quantities forms an integral part of the Contract Documents and shall be read in conjunction with the Tender Data, Contract Data, Scope of Work, Site Information, General and Special Conditions of Contract, the Specifications and the Drawings.

DEFINITIONS

For the purpose of this bills of quantities, the following words shall have the meanings hereby assigned to them:

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Unit: The unit of measurement for each item of work as defined in the Scope of Work and Site Information.

Quantity : The number of units of work for each item.

Rate : The payment per unit of measurement at which the Contractor contracts to do the work.

Amount : The product of the quantity and the rate tendered for an item.

Sum : An amount contracted for an item, the extent of which is described in the bills of quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

DESCRIPTIONS

Descriptions in the bills of quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the bills, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

UNITS OF MEASUREMENT

The units of measurement indicated in the bills of quantities are metric units.

The following abbreviations are used in the bills of quantities:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
l/min	=	Litre per minute
m/s	=	Meter per second
kPa	=	kilopascal
MPa	=	megapascal
m ²	=	square metre
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
no	=	number
PC sum	=	Prime Cost sum
Prov Sum	=	Provisional Sum
sum	=	lump sum
t	=	ton (1 000 kg)

NET MEASUREMENTS

Unless otherwise stated, items are measured nett in accordance with the drawings, and no allowance is made for off-cuts and waste.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

QUANTITIES

The Bills of Quantities shall be measured and priced according to the method of measurement for the Standard system of measuring work 7th Edition (2015).

The Bills of Quantities are all provisional and thus will be re-measured on site before the finalisation of the Final Account.

These Bills of Quantities contain pages numbered consecutively as indicated in the Index. Before the contractor submits his tender he should check the number of pages, and if any are found to be missing or duplicated, or the figures or writing indistinct, or the tender documents contain any obvious errors, he should notify the quantity surveyor at once and have rectified as no liability whatsoever will be admitted by the quantity surveyors in respect of errors in a tender due to the foregoing.

On no account should these documents be used for placing orders for materials. The contractor may do so at his own risk but shall not be reimbursed for additional costs so incurred. Should any part of the drawings not be clearly understood by the contractor, he shall before constructing and/or ordering material, obtain clarification in writing from the principal agent.

Unless a separate rate for the supply and for the installation of any items is specifically called for, the supply and installation costs of any item shall be deemed to be fully included in the unit price. All Bills of Quantities are Provisional and therefore re-measurable.

CURRENCY

All rates and sums of money quoted in the bills of quantities shall be in Rand and whole cents. Fractions of a cent shall be discounted.

VALUE ADDED TAX

Value Added Tax shall be excluded from the rates and sums contracted for the various items of work included in the bills of quantities. VAT will be added as a single entry to the summary.

RATES AND PRICES

10.1 General

The Contractor must price each item in the bills of quantities in BLACK INK. Reproduced computer printouts of the bills of quantities will not be acceptable.

The rates and prices to be inserted in the bills of quantities shall cover all the services and incidentals for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted, as these will be used as a basis for assessment of payment for additional work that may have to be carried out.

Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Data, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts contracted for the items in the bills of quantities. Separate additional payments will not be made.

A price or rate is to be entered against each item in the bills of quantities, whether the quantities are stated or not. An item against which a NIL price is entered will be considered to be covered by the other prices or

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

rates in the bills. The Contractor will not be paid for items against which no rate or lump sum has been entered in the bills of quantities.

Should the Contractor group a number of items and contract one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

Should the Contractor indicate against any item that compensation for such item is included in another item, the rate for the item included in another item shall be deemed nil.

A submission may be regarded as non-responsive if any rates or lump sums in the bills of quantities are, in the opinion of the Employer, unreasonable or out of proportion.

10.2 "Rate only" items

The Contractor shall fill in a rate (in the rate column) against all items where the words "rate only" appear in the Amount column, which rate will constitute payment for work which may be done in terms of this item. Such "rate-only" items are used where it is estimated that little or no work will be required under the item or where the item is to be considered as an alternative to another item for which a quantity is given.

10.3 Arithmetic

Excepting where Sum Amounts are required or where Provisional Sums have been indicated, the Contractor shall enter an applicable rate in the Rate Column of the bills of quantities for each bill item. He shall also enter an appropriate sum in the Amount column for each bill item, by determining in the applicable line item the product of the Quantity and the Unit Rate.

VARIATION IN TEXT

No alteration, erasure or addition is to be made in the text of the bills of quantities. Should any alteration, erasure or addition be made, it will not be recognised; the original wording of the bills of quantities will be adhered to.

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C2.2 BILL OF QUANTITIES

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

THE CONTRACT PART C3: SCOPE OF THE WORKS

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A2	Applicable Standards and Particular Specifications

Contractor

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Employer

Witness 1

Witness 2

C3.1: DESCRIPTION OF THE WORKS

3.1.1 EMPLOYER'S OBJECTIVES

The Employer's objective is **THE APPOINTMENT OF THE CONTRACTOR TO UNDERTAKE THE REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN THE FREE STATE PROVINCE**

The contractor is expected to make available short-term employment opportunities and skills development to local unemployed people from the beneficiary community.

3.1.2 OVERVIEW OF THE WORKS

The Project entails the refurbishment of the existing structures, located in BETHLEHEM. The project includes, but is not necessarily limited to the following trades:

- Partial replacement of roof structures and complete replacement of roof sheeting;
- Install gutters, fascia and barge boards;
- New ceilings;
- Painting of walls internally and externally;
- Tiling of ablution walls;
- Repair of wall defects;
- Repair of floor defects;
- Tiling of floors;
- Servicing of windows and install shatterproof glass panes;
- Re-wiring of entire building with lights and electrical connection points;
- Installation of HVAC Equipment (Aircon or evaporative units);
- Repair of ablutions (Toilets, hand wash basins);
- Carpentry works;
- Installation of new water supply line from the nearest municipal supply line (250m);
- Installation of new sewer supply line to the nearest municipal supply line (250m);
- Storm water infrastructure, access and parking;
- Repairs to the security fence;
- Replacement of fire hose reels;
- Installation of a new electrical supply cable with a kiosk;
- Landscaping;
- Repair of structural defects;
- Fire detection alarm system;
- Access control and security infrastructure;
- Bulk services beyond 50m from the site boundary;
- ESKOM Transformer points;
- Equipment and furniture of the buildings;
- High tech lighting, sound equipment and curtains for the stage;
- Kitchen equipment in the community hall;
- High level light masts.

3.1.3 EXTENT OF THE WORKS

3.1.3.1 Extent and Scope

This contract comprises the supply of labour, materials, plant, equipment, transport and management for the completion of the Works.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The scope and extent of the Works comprise the following trades:

- Partial replacement of roof structures and complete replacement of roof sheeting;
- Install gutters, fascia and barge boards;
- New ceilings;
- Painting of walls internally and externally;
- Tiling of ablution walls;
- Repair of wall defects;
- Repair of floor defects;
- Tiling of floors;
- Servicing of windows and install shatterproof glass panes;
- Re-wiring of entire building with lights and electrical connection points;
- Installation of HVAC Equipment (Aircon or evaporative units);
- Repair of ablutions (Toilets, hand wash basins);
- Carpentry works;
- Installation of new water supply line from the nearest municipal supply line (250m);
- Installation of new sewer supply line to the nearest municipal supply line (250m);
- Storm water infrastructure, access and parking;
- Repairs to the security fence;
- Replacement of fire hose reels;
- Installation of a new electrical supply cable with a kiosk;
- Landscaping;
- Repair of structural defects;
- Fire detection alarm system;
- Access control and security infrastructure;
- Bulk services beyond 50m from the site boundary;
- ESKOM Transformer points;
- Equipment and furniture of the buildings;
- High tech lighting, sound equipment and curtains for the stage;
- Kitchen equipment in the community hall;
- High level light masts.

The above merely provides an overview to describe the extent of the contract and in no way relieves the Contractor of fulfilling the full scope of the works described in the tender documentation.

NOTE: Tenderers are required to allow in their tendered prices for the supply of all necessary materials and equipment, the supply and use of tools, the provision, operation and maintenance of all Contractor's plant and equipment, the supply and supervision of all labour and workmanship and everything and every service necessary for the construction, completion and maintenance of the Works in the manner required by the Contract and to the entire satisfaction of the Engineer.

3.1.3.2 Available facilities

The Contractor shall make his own arrangements with the necessary authorities for the supply of electricity, telephones, water for testing as well as potable water for drinking.

3.1.4 LOCATION OF THE WORKS

The proposed site is located in the Free State Province, under DIHLABENG LOCAL MUNICIPALITY, THABO MOFUTSANYANA DISTRICT.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C3.2 ENGINEERING

3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Design responsibilities through to contract completion are as follows:

DESCRIPTION	RESPONSIBLE
Construction of the Works including necessary Temporary Works	CONTRACTOR
Commissioning of the Whole of the Works	CONTRACTOR
Maintaining of the Works during the Defects Liability Period	CONTRACTOR

3.2.2 DESIGN PROCEDURES

The Contractor shall be responsible for the design and specifications for the following aspects of the Works.

- Any temporary works requirements,
- Design integration before and during construction
- The requirements of the relevant Performance Specifications
- Procedures for all necessary approvals
- Environmental Management
- Design change procedures, and
- Record keeping and tracking of documents

C3.3 PROCUREMENT

3.3.1 PREFERENTIAL PROCUREMENT PROCEDURES AND REQUIREMENTS

The system of measurement of preferential procurement points shall be as defined in the Section T1.3: Tender Data.

3.3.2 USE OF LOCAL LABOUR

It is a requirement of the Employer that the contractor appoints and use the local labour.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The service provider is therefore required to limit the use of non-local labour to key personnel only and to employ only local labour on this Contract.

The service provider shall fill in the relevant forms regarding “Key Personnel” and state how many non-local key personnel he intends to employ in the various categories.

The numbers stated in the “Key Personnel” forms shall be strictly controlled during the Contract Period and any increase in numbers shall be subject to the approval of the Project Manager.

The service provider will be expected to procure, deliver and ensure security of material.

The service provider will also be expected to train, supervise and ensure quality on the project.

Local Labour comprising of NARYSEC participants and local community labourers will be utilized for the refurbishment of the community hall.

3.3.3 SUB CONTRACTORS, SMME's, FEMALES & YOUTH

The female component of the total labour force, including labour employed by SMME's must be maximised and women must take up not less than 40% of the total labour days expended on the contract.

The youth (35 years and under but out of school) component of the total labour force, including labour employed by SMME's must be maximised and must take up not less than 20% of the total labour days expended on the contract.

The Employer reserves the right to delay payments to the Contractor should the Contractor fail to provide any item of the required documentation timeously.

In the event of any discrepancy between the requirements of this Clause and the Procurement Policy, the Procurement Policy shall take precedence.

C3.4 CONSTRUCTION

PART A: GENERAL

A1 PRELIMINARIES AND GENERAL

The tenderer is referred to Bill 1 of the pricing document for the full intent of the method of construction.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

SPECIFICATION FOR

**REPAIR AND REFURBISHMENT OF THE BOIKETLONG COMMUNITY HALL IN BETHLEHEM
UNDER DIHLABENG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT IN
THE FREE STATE PROVINCE**

PART C4: CIVIL WORK SPECIFICATION

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

AA PLUMBING AND DRAINAGE INSTALLATIONS

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

TECHNICAL SPECIFICATION

AA PLUMBING AND DRAINAGE INSTALLATIONS

CONTENTS

AA 01	SCOPE
AA 02	STANDARD SPECIFICATIONS
AA 03	GENERAL REPAIRS AND MAINTENANCE
AA 04	OPERATING AND MAINTENANCE MANUALS
AA 05	TESTS AND INSPECTIONS ON COMPLETION OF REPAIR WORK
AA 06	QUALITY ASSURANCE SYSTEM
AA 07	OPERATING AND COMMISSIONING OF PLANT AND INSTALLATION
AA 08	GUARANTEE OF EQUIPMENT AND MATERIAL
AA 09	DETAILS OF REPAIR WORK

AA 01 SCOPE

This specification covers the general repair and maintenance of plumbing and drainage installations, which include the following:

- (a) Rainwater disposal systems
- (b) Soil and wastewater drainage systems
- (c) Domestic water distribution and reticulation systems
- (d) Sanitary and brassware equipment
- (e) Fire water piped reticulation networks.

This specification shall form an integral part of the repair and maintenance contract document, and shall be read in conjunction with the additional and particular specifications compiled as part of this document.

This specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence.

AA 02 STANDARD SPECIFICATIONS

AA 02.01 GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

AA 02.01.01 SABS Specifications and codes

SABS 0254	-	The installation, maintenance, replacement and repair of fixed electric storage water heating systems
SABS 0400	-	The applications of building regulations
SABS 1200 DB	-	Earthworks (pipe trenches)
SABS 1200 LB	-	Bedding (pipes)
SABS 1200 L	-	Medium-pressure pipelines
SABS 1200 LD	-	Sewers
SABS 0252. Part 1	-	Water supply installations for buildings
SABS 0252. Part 2	-	Drainage installations for buildings

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SABS Specifications listed on page 3 of the DPW Specification OW 371

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

AA 02.01.02 Department of Public Works Specifications

OW 371 - Specification of materials and methods to be used. (Fourth revision, October 1993)
Guide for architects concerning drainage, water supply and stormwater drainage
PW 343 - Building specifications for regional offices
FPO/G61/3E - Guide to architects
Drainage details.

AA 02.01.03 Occupational Health and Safety Act of 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) shall be adhered to.

AA 02.01.04 Manufacturers' specifications, codes of practice and installation instructions

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers' specifications, instructions and codes of practice.

AA 02.01.05 Municipal regulations, laws and by-laws

All municipal regulations, laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

AA 03 GENERAL REPAIRS AND MAINTENANCE

The following specifications shall be adhered to unless otherwise specified in the Particular Specification.

AA 03.01 GENERAL REPAIR AND INSTALLATION REQUIREMENTS

- (a) All materials and equipment supplied and installed shall be new, high quality and designed and manufactured to the relevant specifications and suitable for providing efficient, reliable and trouble-free service.
- (b) All work shall be executed in a workman-like manner by qualified registered plumbers.
- (c) All equipment, component parts, fittings and materials supplied and/or installed, shall conform in respect of quality, manufacture, test and performance to the requirements of the applicable current SABS specifications and codes, except where otherwise specified or approved by the Engineer in writing.
- (d) All materials and workmanship which, in the opinion of the Engineer, are inferior to that specified for the work will be condemned. All condemned material and workmanship shall be replaced or rectified as directed and approved by the Engineer.
- (e) The Contractor shall submit a detailed list of the equipment and material to be used to the Engineer for approval before placing orders or commencing installation.
- (f) All new piping shall be installed and positioned so as not to impede on access routes, entrances and other services. The Contractor shall coordinate these new pipe routes taking other services and equipment into account.
- (g) All control equipment and serviceable items shall be installed and positioned so that they will be easily accessible and maintainable.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (h) The Contractor shall make sure that all safety regulations and measures are applied and enforced during the repair and maintenance work to ensure the safety of the public and the User Client.
- (i) Repair and maintenance work shall be programmed in such a manner as to ensure the shortest possible downtime of any service and the least inconvenience to the User Client and the public. The Contractor shall make sure that the necessary notifications and notices are timeously put into place for these activities.

AA 03.02

GENERAL REQUIREMENTS FOR REPAIR AND INSTALLATION OF DOMESTIC WATER INSTALLATIONS

- (a) All pipes are to be carefully examined for defects and flaws before installation and shall be neatly fitted. They shall be installed in such manner as to prevent the formation of air locks. Automatic air vents shall be installed on all high points of the installation.
- (b) The ends of all the pipes are to be clean, free from burrs, and rough edges, and joined together tightly. Where applicable such as with galvanised piping, an approved pipe jointing compound may be sparingly used with best quality hemp. All surplus or exposed hemp is to be thoroughly cleaned off joints before the painting of pipes. Pipes to be installed underground shall comply with the requirements of SABS 1200L and SABS 1200LB as far as bedding, excavation and backfilling are concerned.
- (c) All vertical pipes must be securely fixed with brackets and supports of approved type, into the wall and not more than 40 mm from the wall. These fixings must be strictly adhered to.
- (d) Pipes installed in service ducts and ceiling voids are to be perfectly plumbed and secured with approved brackets, fixed securely at distances not exceeding the specified distances and not more than 40 mm away from the face of the walls or soffits. Pipes must be free to move in the brackets. Pipes inside buildings and where specified shall be chased into walls, wrapped with building paper and properly secured and covered.
- (e) Pipes passing through walls and concrete floors are to be provided with suitable pipe sleeves extending 10 mm beyond finished floor or wall surfaces. All pipe fixings and throughways shall be free to allow movement for expansion and contraction. Any pipe fitting used to join a pipe which is rigidly secured by a structural element shall be securely anchored to prevent any stress developing between the fitting and the structural element.
- (f) Chromium or nickel-plated metal covering plates are to be provided and fixed securely to pipes passing through the ceilings and walls. This requirement is not applicable to concrete floors and ceilings.
- (g) Pipes passing through the ceilings or floors shall be offset from the wall to the front of the cornice with sufficient clearance to allow for the clear fixing of a ceiling plate. Pipes shall not be installed directly through the cornice. In multi-storey buildings where wall thickness varies, the same shall apply.
- (h) All offsets are to be evenly and symmetrically set, the offsets being as near to the ceiling as possible.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (i) Pipes shall be installed in such a manner to allow for contraction and expansion.
- (j) During construction all pipe ends shall be kept plugged to prevent any ingress of dirt, rubble, etc.
- (k) Damages, chases, holes, etc, in brickwork, concrete and other finishes resulting from repair, replacement and service work shall be made good to match the existing and shall include plaster, concrete work, brickwork, paint, tiling, ceilings and all required materials for the remedial action.
- (l) The work shall be of a high quality and executed by qualified tradesmen in accordance with the relevant specifications.

AA 03.03 GENERAL REQUIREMENTS FOR REPAIR AND INSTALLATION OF SOIL AND WASTEWATER INSTALLATIONS

The following requirements shall apply to this installation unless otherwise specified.

AA 03.03.01 Underground sanitary drainage installations

- (a) All manhole covers and frames shall be cast into the concrete cover slabs.
- (b) Manholes in trafficable areas shall be provided with type 1A heavy-duty cover and frame and surrounded by concrete slabs.
- (c) Fittings in the ground and below floor slabs shall be without access eyes.
- (d) Sewer pipes in the ground with a slope steeper than 1:5 and/or under surface beds shall be encased in concrete as detailed.
- (e) The sewer outside the boundary of a building complex shall be constructed strictly in accordance with the details and specifications of the local authorities.
- (f) Existing drainage invert levels and positions are to be checked against invert levels given on the drawings before commencing the work. The Contractor shall inform the Engineer immediately of any discrepancy.
- (g) All affected existing services are to be located and exposed before commencing the proposed repair work.
- (h) The drainage system shall be tested according to the specifications laid down by the NBR. This shall be carried out in the presence and to the satisfaction and approval of the Engineer.
- (i) During construction all pipe ends are to be suitably plugged to prevent any ingress of dirt, rubble, etc.
- (j) Modern technology video surveying equipment and detection equipment shall be utilised if so approved by the Engineer to establish blockage problems and indicate the positions of such problems. The Engineer's Representatives has no authority to approve the use of such surveying equipment.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (k) Any drainage pipe within the 45° range below building foundations shall be encased in concrete or soilcrete as specified.

AA 03.03.02 Above ground sanitary drainage installations

- (a) All accessible waste and soil fittings above ground level shall have inspection eyes. Inspection eyes shall not be underneath any fittings.
- (b) All single wash hand basins shall be connected to a 40 mm internal diameter waste pipe.
- (c) All groups of wash hand basins and sinks shall be connected to a 50 mm internal diameter waste pipe, unless otherwise indicated.
- (d) All traps up to and including 50 mm diameter shall be of the "deep reseal" (75 mm) type.
- (e) The maximum bend on any single fitting shall be 45°, with the exception of ventilation pipes where bends of up to 90° may be used.
- (f) Drainage pipes and fittings running below concrete slabs and along walls and columns shall be suspended by means of approved type hangers, holderbats, etc, placed at appropriate intervals, to provide a rigid, proper suspended system as required by the manufacturer.
- (g) All ventilation pipes shall be finished off with a suitable durable grating.
- (h) All S-trap WC pans shall have plugged anti-siphon horns fitted to provide for cleaning access.

AA 03.04 PRESSURE TESTING OF WATER PIPES

- (a) All new pipe installations under the repair Contract shall be pressure tested before being taken into use. The Engineer shall witness this pressure test. Tests shall be carried out both on surface-mounted and buried pipework. Buried pipes shall be backfilled except at fittings and joints before being tested.
- (b) Completed sections of the pipe installation shall be filled with water after all branches have been plugged, sealed or closed.
- (c) The section of pipe shall be hydraulically pressure tested by means of a suitable manually-operated or mechanically-driven pressure pump.
- (d) A pressure of at least 1,5 times the working pressure of the class rating of pipes or fittings shall be applied for a period of time specified in the specifications or as recommended by the manufacturers. (Refer to SABS 1200 L for minimum and maximum test pressures.)
- (e) Tests shall not be performed against closed valves.
- (f) Leakage which occurs shall be measured and calculated and checked against the allowable losses, as specified in SABS 1200 L.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (g) If the completed section of pipe complies with all specifications and passes the tests and inspection, to the approval of the Engineer, and the Contractor shall backfill the open sections of trench at the joints and connections, where applicable.
- (h) The Contractor shall then proceed to build all the valve chambers, inspection chambers, etc, for underground installations and shall close-off around pipes in walls, voids and ducts for above ground installations.

AA 03.05 **STERILISING OF WATER PIPES**

- (a) Before any repaired and new pipeline is taken into use, the pipeline shall be sterilised over its complete length, including the fittings. The pipe shall be filled with potable water chlorinated to a concentration of 15 mg of chlorine per litre of water, which shall remain in contact with the inner surface of the pipeline for a period of not less than 24 hours. The pipeline shall be filled for sterilising in such a manner that no water-hammer shock is created or air is trapped in the pipeline.
- (b) The Contractor shall submit full details of the proposed method of sterilising the pipeline to the Engineer for approval at least fourteen days prior to the commencement of sterilising.
- (c) The cost of water for filling the pipeline for sterilising shall be borne by the Contractor.
- (d) The Contractor shall provide all necessary materials, tools, equipment and labour required for sterilising the pipeline. After sterilising the pipeline the Contractor shall, at no extra cost, empty the pipeline and dispose of the water in a manner approved by the Engineer.

The Contractor may use the following products as a source of chlorine:

- chloride of lime to SABS 295 yielding 33 % free chlorine by mass;
- calcium hypochlorite to SABS 295 yielding 70 % free chlorine by mass;
- chlorine gas applied by chlorinator.

After sterilisation, an approved water quality test shall be carried out to a minimum number of 10 % of the total water points, randomly selected, evenly spread. These tests shall include a full bacteriological test as per SABS 241 and the results shall be submitted to the Engineer for approval. All tests shall be for the Contractor's account.

AA 03.05.01 **Bacteriological requirements**

When tested the water shall comply with the limits given in table AA 03.05.01/1.

TABLE AA 03.05.01/1

PROPERTY	RECOMMENDED MAXIMUM LIMIT	MAXIMUM ALLOWABLE LIMIT
Total coliform bacteria count per 100 millilitre	Nil*	5
Faecal coliform bacteria count per 100 millilitre	Nil	Nil

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Standard plate count per millilitre	100	Not specified
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- *(a) If any coliform bacteria are found in a sample, a second sample must be taken immediately after the tests on the first sample have been completed. This sample shall be free from coliform bacteria.
- (b) Not more than 5 % of the total number of water samples (from any one reticulation system) tested per year may contain coliform bacteria.

The Engineer shall witness the sterilising of the pipes.

The Contractor shall ensure that during the sterilising procedure the necessary safety precautions are instituted to prevent the intake of water by the user and/or public from the system. On completion the system shall be properly flushed out.

AA 03.06 AIR TEST FOR SEWER AND DRAINS

The following air test requirements are specified in the NBRI information sheet X/BOU 2-34 and are reproduced here. They shall be applicable to all air tests on new sewers and drains installed under the repair work phase, and shall be executed by the Contractor and witnessed by the Engineer.

AA 03.06.01 Method of air testing

All openings in the pipeline are plugged by means of sewer testing plugs. The sewer plug at the lowest end of the pipeline is connected to an air supply hose, which is attached to a mechanically driven air blower, compressor or hand pump. Air is pumped into the pipeline at a pressure of approximately 375 mm water gauge. The pressure is held at this level for a period of two minutes to allow the air temperature to become constant. Subsequently the air supply is closed off and the time recorded for the air pressure to drop from 250 to 125 mm water gauge. If the recorded time is less than the value given in table AA 03.06.01/1 below, it means that the pipeline leaks and does not comply with the required standards of tightness. The apparatus required for the air test is commercially available.

- a) The following requirements have to be taken into account when performing the air test:
- b) Air-permeable pipelines such as vitrified clay or asbestos cement should preferably be tested when moist or wet.
- c) The trench should be partially backfilled before the test is carried out. This is to stop possible temperature variations and to prevent damage to the pipeline during subsequent backfilling operations.
- d) The testing equipment should be shielded from the direct rays of the sun.
- e) Flexible joints are recommended for sewer and drain pipelines. Good quality flexible joints are superior to cement caulked joints and they also provide the pipeline with flexibility to prevent cracking due to subsequent soil movement.
- f) The test method is very sensitive to flaws in the pipeline, such as cracks or leaking joints. The actual positions of flaws along the pipeline can be determined by using special equipment.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- g) If the pipeline is below the water table and subjected to external water pressure, the test method should be modified so that the final pressure value are higher than that of the external water pressure acting on the lowest part of the pipeline.

TABLE AA 03.06.01/1: MINIMUM TIMES FOR PRESSURE DROP OF 250 mm TO 125 mm WATER GAUGE

PIPE (DIAMETER (mm))	MINIMUM TIME (min - s)	CRITICAL LENGTH OF PIPELINE (m) (58 m ² INTERNAL SURFACE AREA)	MINIMUM TIME (S) FOR LONGER LENGTH (L) OF PIPELINE
100	1 - 58	184,6	0,640 L
150	2 - 57	123,1	1,439 L
200	3 - 56	92,3	2,559 L
225	4 - 26	82,1	3,239 L
250	4 - 55	73,8	3,998 L
300	5 - 54	61,5	5,757 L
375	7 - 23	49,2	8,996 L
450	8 - 51	41,0	12,954 L
525	10 - 20	35,2	17,632 L
600	11 - 49	30,8	23,030 L

AA 04 OPERATING AND MAINTENANCE MANUALS

The Contractor shall be responsible for the compilation of an inventory list and operating and maintenance manuals.

This shall be done in accordance with Additional Specification SB: Operating and Maintenance manuals.

All information shall be recorded and captured in electronic format and the Department shall be provided with three sets of hard copies.

AA 05 TESTS AND INSPECTIONS ON COMPLETION OF REPAIR WORK

Except where otherwise provided in the Contract, the Contractor shall provide all labour, materials, power, fuel, accessories and properly calibrated and certified instruments necessary for carrying out such tests. The Contractor shall make arrangements for such tests and he shall give at least 72 hours notice to the Engineer, in writing, prior to commencing test.

In the event of the installation not passing the test, the Engineer shall be at liberty to deduct from the Contract price all reasonable expenses incurred by the Engineer attending the repeated test.

Whenever any installation or equipment is to be operated for testing or adjusting as provided for above, the Contractor shall operate the entire system for as long a period as may be required to prove satisfactory performance at all times in the occupied space served by that system for up to twenty-four hours a day continuously until the system is handed over.

The Contractor shall provide all labour and supervision required for such operation and the Department may assign operating personnel as observers, but such observation time shall not be counted as instruction time.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

After completing the installation or system, all equipment shall be tested, adjusted and readjusted until it operates to the satisfaction and approval of the Engineer.

The Contractor shall submit certificates of tests carried out to prove the soundness of all installations.

AA 06 **QUALITY ASSURANCE SYSTEM**

The Contractor shall institute an approved quality assurance (QA) system which shall be submitted to the Engineer for approval. The records of this QA system shall be kept throughout the duration of the Contract and be submitted to the Engineer at regular intervals as required.

AA 07 **OPERATING AND COMMISSIONING OF PLANT AND INSTALLATION**

On completion of the repair work and/or the installation of new pipe systems and items of equipment the system and equipment shall be put into operation after all tests have been carried out to the satisfaction of the Engineer. The Contractor shall operate the system for a period of time as specified by the Engineer and train the staff of the User Client to maintain the system. This period of time shall not exceed one month.

Logging of the operation of the installations shall commence immediately upon commencement of their use.

The Contractor shall submit a full commissioning report.

AA 08 **GUARANTEE OF EQUIPMENT AND MATERIAL**

The Contractor shall provide and obtain guarantees from the manufacturer(s) and/or supplier(s) to the effect that each new fitting, pipe or other item of material and equipment supplied and installed under the repair contract, shall comply with the application.

AA 09 **DETAILS OF REPAIR WORK**

AA 09.01 **GENERAL**

During the repair and maintenance Contract all the systems, installations and equipment shall be repaired as specified in the Particular Specification. This repair work shall include but not be limited to the specified Particular Specification details.

All repair work shall be executed using approved materials and equipment suitable to the systems and/or installations they serve.

All materials and equipment shall comply fully with the requirements as specified for each installation.

The said repair work shall be executed in accordance with the relevant codes of practice, standards, regulations, municipal laws and by-laws, manufacturer's specifications and codes of practice and all additional and particular specifications included in this document.

The repair work items shall be listed in tabular form in the Particular Specification with all relevant details, such as capacity, size, manufacturer, model number, etc.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

All repair work shall be executed within the specified durations listed in the Appendix to Tender. All new equipment, materials and systems shall be furnished with a written guarantee with a defects liability period of 12 months from date of issue of a certificate of completion for the repair work. These guarantees shall be furnished in favour of the Department of Public Works. On completion of the required and specified repair work the systems, installations and equipment shall be commissioned and handed over to the satisfaction of the Engineer.

Repair work items for the plumbing and drainage installations shall be categorised under the following headings:

- (a) Rainwater disposal systems
- (b) Soil and wastewater drainage systems
- (c) Domestic water distribution and reticulation networks
- (d) Sanitary and brassware equipment
- (e) Fire water piped reticulation networks.

AA 09.02 RAINWATER DISPOSAL SYSTEMS

AA 09.02.01 General

Repair work to the rainwater disposal system shall be detailed in the Particular Specification and shall include but not be limited to the following:

- (a) Replacement of damaged, broken, leaking and corroded pipework and fittings;
- (b) Replacement of damaged, broken and missing rainwater outlets, stormwater catch pit gratings, manhole covers and frames and floor drains;
- (c) Repair work to damaged manholes, catch pits, curb inlets, channel drains and drain points including builder's work and benching;
- (d) Initial unblocking and clearing of all rainwater drainage pipes, manholes, catch pits, drain points, channel drains and gutters;
- (e) Repair and upgrading of drainage system where necessary;
- (f) Provision of additional rainwater drainage points where outlets are insufficient and ponding occurs;
- (g) Prevention of the ingress of any unauthorised effluent into this drainage system;
- (h) Realign and fix gutters to correct falls where necessary, including additional brackets where required.
- (i) Reinstatement and making good of walls, tiling, floors, concrete, road surfaces, etc, to approved acceptable levels where any repair, upgrading and/or service work has been executed;

AA 09.02.02 Material and equipment specification for rainwater disposal systems

Materials and equipment to be used for repair items shall be suitable and/or adaptable to the existing installation and shall comply with the following:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

(a) Vitrified clay pipe and fittings

Vitrified clay pipes shall only be used for underground installations. The pipes and fitting shall strictly conform to SABS 559. The pipes and fittings shall have a minimum crushing strength of 45 kN/m.

The joining method to be used shall be polypropylene couplings with integral rubber seal similar or equal to Vitrosleeve in accordance with SABS 974 allowing up to 2,5° angular movement per joint and 5 mm line displacement per joint. The joint shall retain an effective water seal with regard to above conditions with a 6 m water head.

Pipes shall be cut using an approved pipe cutter and the ends shall then be trimmed by means of a pipe trimmer to remove any sharp edges.

The piping system shall be tested as indicated in this specification under subclause AA 03.06 above.

(b) Supercast cast-iron pipe and fittings

Supercast cast-iron pipes can be used for underground and above ground installations. Plain-ended cast-iron pipes and fittings, manufactured from 150, grade A grey iron in accordance with SABS 1034 shall be used. Fittings and pipes shall be free of pinholes, blowholes, blemishes, flash and foundry sand and have a smooth bore. All pipes and fittings shall be sand-blasted and coated on the inside and outside by submersion in a corrosion inhibiting oxide primer or bitumen paint.

The pipes and fittings shall be joined by means of stainless steel neoprene couplings as supplied by the manufacturer of the pipe system. The coupling shall be installed according to the manufacturer's specification and tightened with a torque wrench to a torque of 6,8 Nm.

(c) uPVC pipe and fittings above ground

uPVC pipes and fittings shall be used for above ground installations.

For pipe sizes larger than 160 mm diameter uPVC class 6 pressure pipe to SABS 966 shall be used with prefabricated uPVC bends and junctions. Prefabrication shall be done by means of hot-air welding of fittings to be covered with three layers of fibreglass reinforced lining over welded sections. The resin to be used shall be as specified by the manufacturer for usage with PVC. Bends shall be manufactured out of 3 to 4 sections per bend. Pipe jointing shall be done by means of couplings fixed with solvent cement for PVC piping. This joint shall be reinforced with a fibreglass lining of three layers.

Piping has to be supported and bracketed with properly sized and designed brackets consisting of two half sections clamped over the pipe and shall with two hanger rods.

Pipes be pressure tested in sections as specified in this specification.

(d) Galvanized steel piping and fittings above ground

Galvanized steel piping shall be used for above ground rainwater drainage systems. The pipe to be used shall be plain ended medium gauge uncoated pipe to SABS 62 galvanized to SABS 763. All fittings are to be manufactured from the same material welded with flanged ends or rolled ends to fit clambon fittings. Fittings are only to be galvanized after manufacturing. All joints to be either flanged or equipped with clambon couplings. All fittings and junction to be 45° sections.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The pipe system shall be properly secured and bracketed at regular intervals with correctly sized and designed galvanized brackets.

Pipes are to be pressure tested in sections as specified in this specification under subclause AA 03.06 above.

(e) Geberit HDPe pipe and fittings

Geberit HDPe pipes and fittings can be used for underground and above ground installations where specified. Pipes shall be plain ended and only Geberit HDPe bends and fittings shall be used. Jointing of pipes and fittings shall be done by butt welding, electro-sleeve couplings and/or flanged joints. Pipes and fittings shall only be installed by Geberit approved installers and the Contractor shall furnish a certificate to this effect. Pipes and fittings shall be installed strictly according to the Geberit application technique.

Pipes to be pressure tested in sections as specified in this specification.

(f) Roof outlets

Where waterproofing is installed, as for roof slabs, an adjustable roof outlet/drainage point to be used consisting of a cast-iron unit with cast-iron ring clamp to fit over waterproofing edge and an adjustable height outlet to fit in with the screed level. For surfaces such as paving and walkways a flat grating of brass or cast iron shall be used with a catch basket. Within paving blocks a square top frame shall be used. For roof outlets a domed grating is to be used. Where roofs are to be covered with stones, a mesh shall be installed to prevent any stones from entering the rainwater system.

Two-way side outlets shall be used in cases where required.

Floor and roof outlets to be fitted to cast-iron pipe by means of SSN couplings.

AA 09.03 SOIL AND WASTEWATER DRAINAGE SYSTEM

AA 09.03.01 General

Repair work to the soil and wastewater drainage system shall be detailed in the Particular Specification and shall include but not be limited to the following:

- (a) Replacement of damaged, broken, leaking, corroded above and underground pipework and fittings;
- (b) Replacement of damaged, broken and missing gully gratings, manhole covers and frames, cleaning eye covers, screws and bolts, inspection eye covers, end caps and vent cowls;
- (c) Repair work to damaged manholes, gullies, cleaning eyes, floor drains, etc, including builder's work and benching;
- (d) Initial unblocking only of all blocked drainage pipework, traps, floor drains, gullies and the cleaning of sanitary ware equipment;
- (e) Video surveying of all underground drainage pipework when so authorised by the Engineer (but not by the Engineer's Representative) to establish root ingress, damaged pipework, fat build-up, blockages, incorrect falls, sagging and as-built

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

information. This survey shall be utilised to establish the extent of repair and upgrade work to be executed;

- (f) Repair and upgrading of soil and wastewater drainage systems where necessary;
- (g) Repair work to bracketing systems including fixing and repair of existing brackets and the introduction of additional brackets where required;
- (h) Repair, re-fix and bracket sanitary ware equipment to walls, floors, etc, where required;
- (i) Repair, replace and clean out sanitary ware and equipment traps;
- (j) Test pipe system, traps and equipment for leakage;
- (k) Empty, clean out separators, clean out strainers, and test for leak tightness, repair and recommission oil and grease separators. Check the conformance of the capacities of the oil and grease separators in relation to the facilities they serve; where necessary these shall be upgraded and where no separators have been provided, new separators shall be provided;
- (l) Reinstatement of walls, tiling, floors, concrete finishes, holes, chases, surfaces, etc, to an approved acceptable level where any repair, upgrade and/or service work has been executed;
- (m) Prepare, paint and repaint pipework and equipment where necessary, in accordance with Technical Specification BH: Fittings.

AA 09.03.02 Material and equipment specification for soil and wastewater drainage systems

Materials and equipment to be used for repair items shall be suitable and/or adaptable to the existing installation and shall comply with the following:

- (a) Vitrified clay pipe and fittings

As specified in subclause AA 09.02.02(a) above.

- (b) Supercast cast-iron pipe and fittings

As specified in subclause AA 09.02.02(b) above.

Where cast-iron stub stack overflow gullies are used with pipe materials such as PVC a rubber O-ring shall be used to fit over the PVC pipe into the cast-iron fitting. The joint shall be grouted up afterwards.

Above ground piping shall be bracketed with properly sized and designed brackets according to the manufacturer's specification at correct intervals.

The piping system shall be tested in accordance with the NBRI information sheet X/BOU 2-34 as specified in subclause AA 03.06 above.

- (c) uPVC soil and waste pipe and fittings

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

UPVC soil, vent and waste pipe systems can be used for underground and above ground drainage installations. This piping shall conform in all respects to SABS 971 for underground systems and to SABS 967 for above ground systems.

All underground pipes, as well as soil pipes above ground, shall be joined by means of rubber ring seal couplings and fittings in accordance with the manufacturer's specification. All waste and vent pipes shall be joined by means of solvent weld fittings and couplings. The solvent weld glue to be used shall be as specified by the pipe manufacturer, allowing for thermal contraction and expansion.

The piping system shall be pressure tested in accordance with the NBRI information sheet X/BOU 2-34 as specified in subclause AA 03.06 above

(d) Structural wall uPVC pipes and fittings

Structural wall uPVC drainage pipe shall be used for underground drainage systems. This piping system shall be used with standard underground uPVC pipe fittings, equipped with rubber ring joints. The pipe shall be equipped with z-lock type rubber ring joints.

The piping system shall be pressure tested in accordance with the NBRI information sheet X/BOU 2-34 as specified in subclause AA 03.06 above.

(e) Geberit HDPE pipes and fittings

As specified in subclause AA 09.02.02(e) above.

(f) Stainless steel floor traps and floor channels

Stainless steel floor traps and channels shall be manufactured from 304 stainless steel with a load capacity of 1 500 kg. The floor traps shall have a flow capacity of 3 litre/second.

The units shall be fitted with a double water seal, large sludge box and shall be easily dismantable for cleaning purposes. Tiling keys and waterproofing flanges shall be provided where required. Side inlets with diameter of 50 mm shall be provided for waste connections to other equipment where required.

(g) Cast-iron floor traps

Cast-iron floor traps shall be manufactured from cast iron and shall be fitted with a water seal and a large sludge box and lid to be easy removable for maintenance purposes. The unit shall be designed such as to provide access to the drainage system and to be used as a cleaning point.

AA 09.04 DOMESTIC WATER DISTRIBUTION AND RETICULATION NETWORKS

AA 09.04.01 General

Repair work to the domestic water distribution and reticulation networks shall be detailed in the Particular Specification and shall include, but not be limited to the following:

- (a) Replacement of damaged, broken, leaking, corroded above and underground pipe work, fittings and equipment;

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (b) Repair, replace and service valves, which shall include new gaskets, gland packings, seals, bolt and nuts, etc;
- (c) Where valves do not close properly, all these valves shall be refurbished, descaled or replaced where necessary;
- (d) Repair, clean and service all strainers, including the replacement of strainer elements where corroded and installation of new gaskets;
- (e) Repair, service, test and readjust pressure-reducing valves. Pressure gauges are to be recalibrated and checked. Up and downstream pressures are to be logged. Downstream pressure has to be adjusted to an acceptable level, taking into account the allowable working pressure of the system and its components;
- (f) Repair, service and check the proper functioning of all non-return valves;
- (g) Repair, service, readjust and calibrate all safety and expansion relief valves;
- (h) Repair, service and clean out all air release valves and vacuum breakers;
- (i) Repair work to bracketing systems including fixing and repair of existing brackets and provision of additional brackets where required;
- (j) Hot-water pipe lagging and cladding shall be inspected, repaired, sealed and replaced where required;
- (k) Repair, service and log readings of water meters including cleaning of integral strainers;
- (l) Water storage tanks are to be emptied, cleaned out, repaired, sealed and put back into operation. Ball float and/or filling valves to these tanks are to be serviced and repaired where required;
- (m) Water pipes are to be sampled for corrosion and scaling. The Engineer will evaluate the actions to be taken if the results of this sampling indicate that attention is required;
- (n) Water supply has to be sampled and chemically analysed for the suitability to the systems and materials it serves;
- (o) Domestic geysers are to be repaired and serviced in accordance with the manufacturer's specification and SABS 0254 shall include descaling, replacement of elements, testing for any leaks, checking of safety valve operation (replace if required), testing of the thermostat operation and set point (replace if necessary);
- (p) Pressure test and sterilise repaired new installation and equipment;
- (q) Reinstatement and making good of walls, tiling, floors, concrete, finishes, holes, chases, surfaces, etc, to an acceptable level where repair, upgrade and/or service work has been executed.

AA 09.04.02 Material and equipment specification for domestic water distribution and reticulation networks

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Materials and equipment to be used for repair items shall be suitable and/or adaptable to the existing installation and shall comply with the following requirements:

(a) Copper pipe installation

- (i) The installation of copper piping systems shall be done in accordance with the manufacturer's instructions and all relevant codes, standards and regulations.
- (ii) Copper pipes shall only be installed downstream of galvanized mild steel pipes when applicable.
- (iii) Where dissimilar metals are joined, dielectric or isolating couplings shall be used. This is not required where copper and brass dezincified alloys join.
- (iv) Copper pipes shall be of the hard drawn type Class 0 in accordance with SABS 460 and shall be joined by means of capillary soldered type fittings. No compression type fittings shall be allowed unless otherwise specified.
- (v) Copper capillary soldered type fittings shall be used in accordance with ISO 2016, SABS 1067, DIN 2856 or BSS 864.
- (vi) The soldering flux to be used shall be water based and easily flushed out, withstand temperatures above 240 °C and shall contain no ammonia. The flux shall be non-toxic when dissolved in water.
- (vii) The solder to be used shall be in accordance with SABS 24 and shall consist of a material containing 97 % tin and 3 % copper. Solders containing lead, resin core and acid core shall not be used.
- (viii) The heat source to be used shall be propane gas with induction air, at a temperature not higher than 240 °C. The pipe ends and fittings shall be cleaned and waxed with an approved solder flux, before soldering. The pipe and fittings shall then be fitted together and heated to the correct temperature before the solder is applied. Care must be taken not to add too much or too little solder to the joint. Immediately after setting of the solder the joint shall be wiped clean with a wet cloth. Pipes shall be washed out as soon as possible after jointing and all traces of flux shall be removed.
- (ix) All bronze or brass equipment and fittings shall be of the dezincification resistant (DZR) type.
- (x) Copper pipes and fitting shall be installed strictly to the manufacturer's specification which shall include the following:
 - (1) No labour bends;
 - (2) Provision for thermal contraction and expansion of pipes;
 - (3) Pipe brackets shall be installed at appropriate positions where pipes are installed on surface level;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (4) Pipes chased or built into walls or floors shall be wrapped with two layers of building paper or similar approved material. Hot and cold water pipes running next to each other shall be at least 50 mm apart;
- (5) Equipment fixed to copper pipe outlets, where the pipes are surface mounted or built into walls, shall be done by means of copper wall plate fittings on the copper pipes, properly secured to the structure to prevent structural damage to soldered joints.
- (xi) Pipe hangers and brackets shall be of copper, copper alloy or non-conductive materials. No piece of copper pipe shall touch any other conductive surface. Brackets shall be designed to structurally support and fix the pipe system, and shall allow enough clearance from walls, soffits, etc, to insulate hot-water pipes and maintain equipment.
- (xii) Pipe hangers and brackets shall be installed according to the manufacturer's specification on the following maximum spacings:

PIPE DIAMETER (mm)	HORIZONTAL (metre)	VERTICAL (metre)
15	1,3	1,9
22 and 28	1,9	2,5
35 and 42	2,5	2,8
54	2,5	3,9
67 – 108	2,8	3,9

- (xiii) All copper pipes open to structural damage, shall be protected by steel sleeves or a structurally designed cover.
- (xiv) All pipework shall be pressure tested and sterilised as specified.
- (xv) Where flanged fittings are used, cadmium-plated bolts, nuts and spring washer shall be used to join these flanges.
- (xvi) All hot-water pipes shall be lagged as specified.
- (xvii) Shut-off valves shall be installed on all branch pipes and ball-o-stop valves shall be installed on all connectors to basin pillar cocks, sink mixers, cistern type WCs and other fittings.
- (xviii) All pipes shall be marked in accordance with SABS 0210 or as specified by the Engineer.
- (xix) Approved type expansion bellows shall be installed where required for expansion and contraction to prevent excessive strain on fittings and soldered joints.

(b) Galvanized steel pipe installations

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (i) All galvanized steel pipes shall be medium gauge mild steel screwed and socketed pipes to SABS 62 and shall be normalised and marked as such by the manufacturer. Pipes shall be hot-dip galvanized to SABS 763.

All fittings shall be malleable cast-iron fittings to SABS 509 and galvanized to SABS 763.

- (ii) All 80 mm diameter and larger pipes shall be joined with Class 16 flanged couplings to SABS 1123/1600. The bolts, nuts and spring washers to be used on these joints shall be cadmium-plated.
- (iii) In pipe ducts and elsewhere pipes shall be fixed onto walls, soffits, etc, with approved type of supports, holderbats, clamps, etc. Brackets shall be designed to structurally support and fix the pipe system and shall have enough clearance from walls, soffits, etc, to insulate hot-water pipes and maintain equipment.
- (iv) Pipes shall be supported according to the manufacturer's specifications with approved brackets at the following maximum intervals:

PIPE DIAMETER (mm)	HORIZONTAL (metre)	VERTICAL (metre)
15 dia to 20 dia	1 200	1 830
32 dia to 40 dia	1 830	2 450
50 dia to 150 dia	2 450	3 050

Pipes shall be installed in such a manner as to prevent air locks. A minimum rise of 1:250 shall be maintained to high points, which shall be fitted with suitable air release valves.

- (v) All pipes shall be marked according to SABS 0210 or as specified by the Engineer. All surface pipes shall be painted.
- (vi) Pipes shall be installed flush with brick walls before plastering unless otherwise instructed by the Engineer.
- (vii) Provision shall be made for thermal contraction and expansion.
- (viii) The type of pipe joint compound shall be approved by the Engineer and used sparingly with good quality hemp. For pipes larger than 80 mm diameter a jointing compound such as Epidermix 32 shall be used.
- (ix) Any pipe buried shall have at least 900 mm cover and be coated and wrapped to SABS 1117 and tested in the presence of the Engineer.
- (x) All exposed hot-water pipes shall be lagged as specified.
- (xi) All pipework and fittings shall be pressure tested and sterilised as specified
- (xii) Valves shall be installed on all branch pipes and ball-o-stop valves on all connectors to basin pillar cocks, sink mixers, cistern type WCs and other fittings.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (xiii) Approved type expansion bellows shall be installed where required for expansion and contraction to prevent excessive strain on fittings and pipe joints.

(c) uPVC underground pipe installations

uPVC piping shall conform to SABS 966 with rubber ring type joints.

- (i) All bends shall be uPVC type fittings with rubber ring joints.
- (ii) All other fittings such as T-pieces, reducers, flanges, etc, shall be bitumen-dipped cast-iron rubber ring jointed fittings to SABS 546.
- (iii) No solvent weld type fittings will be allowed.
- (iv) All cast-iron fittings shall be coated and wrapped to SABS 1117.
- (v) All pipes shall be laid on a 100 mm sand-bedding cradle and covered with 300 mm sand before backfilling.
- (vi) All backfilling shall be in accordance with SABS 1200 DB and to the Engineer's approval.
- (vii) Pipe trenching and bedding:

AREA	MINIMUM COVER	BEDDING TYPE	MAIN FILL
Vehicle traffic	1 100	Flexible pipe bedding as per SABS 1200 LB	Soilcrete
Under surface bed	600		Soilcrete
Other areas	900		90 % of modified AASHTO density

All thrust blocks shall be cast between the pipe and the undisturbed trench material.

- (viii) No concrete shall come into direct contact with the UPVC pipe. At the thrust blocks the bend shall be wrapped with a Densopol 80 HT Tape or similar approved.
- (ix) HDPe pipe connections to uPVC pipes up to 50 mm can be done by means of SG Iron manufactured saddles with the appropriate gaskets and cadmium-plated bolts and nuts.
- (x) All pipe crossings under roads and parking areas shall be backfilled as specified in subclause CA 04.04.02(b).
- (xi) All pipework shall be pressure tested with all joints uncovered, to the satisfaction of the Engineer.
- (xii) Suitably sized air release valves built into valve chambers shall be installed at all high points of the pipeline.

(d) HDPe underground pipe installations

- (i) HDPE piping shall be Type 4 HDPe pipe to SABS 533.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (ii) All fittings shall be of Plasson compression type and shall conform to ISO/DIS 3458.
- (iii) All pipes shall be laid on a 100 mm sand bedding cradle and covered with 300 mm of sand of selected material.
- (iv) All backfilling shall be in accordance with SABS 1200 DB and to the Engineer's and approval.
- (v) Pipe trenching and bedding:

AREA	MINIMUM COVER	BEDDING TYPE	MAIN FILL
Vehicle traffic	1 100	Flexible pipe bedding as per SABS 1200 LB	Soilcrete
Under surface bed	600		Soilcrete
Other areas	900		90 % of modified AASHTO density

- (vi) No concrete shall come into direct contact with the HDPE pipe. At these points the fittings shall be wrapped with Densopol 80 HT tape or similar approved.
- (vii) All pipe crossings under roads and paring areas shall be backfilled as specified in subclause CA 04.04.02(b).
- (viii) All pipework shall be pressure tested with all joints uncovered to the satisfaction of the Engineer.
- (ix) Suitably sized air release valves built into valve chambers shall be installed at all high points of the pipeline.

(e) Valves

- (i) Gate valves underground in valve chambers to connect to uPVC piping (65 mm NB and larger)

Gate valves are to be equipped with non-rising spindle, spherical graphite iron body to SABS 936 Grade 42, cast-iron nitrile butadiene rubber covered gate, stainless steel spindle, nitrile butadiene rubber O-rings and seals, cast-iron bonnet and gunmetal thrust collar to BS 2100 LG2.

The valves shall conform to SABS 664 and/or 665 and shall be capable of withstanding a working pressure of 1 600 kPa.

The valves shall be fitted with a square key spindle top to close the valves in clockwise direction and socket ends to SABS 665 to fit into uPVC Class 12 pipe and shall be installed to details provided.

- (ii) Gate valves underground in valve chamber to connect to HDPE piping

The gate valves shall be of the dezincified brass type with brass gate, brass body, non-rising spindle and BSP threaded socket ends. The valves shall conform to SABS 776 Class 125. The valves shall be able to withstand a working pressure of 1 600 kPa. The valve shall be fitted with a hand wheel

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

on an extended spindle shaft of 700 mm to close in a clockwise direction and shall be installed to details provided.

- (iii) Gate valves above ground for temperatures up to 40 °C to connect to steel piping (65 mm NB and larger)

Gate valves are to be equipped with non-rising spindle, spherical graphite iron body to SABS 936 Grade 42, cast-iron nitrile butadiene rubber covered gate, stainless steel spindle, nitrile butadiene rubber O-rings and seals, cast-iron bonnet and gunmetal thrust collar to BS 2100 LG2.

The valves shall conform to SABS 664 and/or 665 and shall be capable of withstanding a working pressure of 1 600 kPa.

The valves shall be fitted with flanged ends to SABS 1123, table 16, hand wheel to close the valves in a clockwise direction and installed in an upright position or sideways to a maximum 90 ° from upright.

- (iv) Gate valves above ground for temperatures above 40 °C to connect to steel piping (65 NB mm and larger)

Gate valves shall be equipped with non-rising spindle, spherical graphite iron body to SABS 963 Grade 42, cast-iron gate, gunmetal seat and gate rings, high-tensile bronze spindle, cast-iron bonnet and gunmetal thrust collar to BS 2100 LG2.

The valves shall conform to SABS 665 and shall be capable of withstanding a working pressure of 1 600 kPa and a temperature of 90 °C.

The valve shall be fitted with flanged ends to SABS 1123, table 16, hand wheel to close the valve in a clockwise direction and installed in an upright position or side ways to a maximum 90° from upright.

- (v) Gate valves above ground to fit to copper pipes (65 mm NB and larger)

Gate valves shall be equipped with non-rising spindle, gunmetal bronze or dezincified brass body, gunmetal or dezincified brass gate and graphite asbestos packing in the gland.

The valve shall be fitted with a hand wheel to close in a clockwise direction and installed in an upright position or sideways to maximum 90° from upright.

The valve shall be equipped with flanges to SABS 1123, table 16, hand wheel to close the valve in a clockwise direction and installed in an upright position or sideways to a maximum 90° from upright.

- (vi) Gate valves above ground for temperatures up to 100 °C (up to 50 mm NB)

The gate valves shall be of the dezincified brass type with brass gate, brass body, non-rising spindle and BSP threaded socket ends. The valve shall conform to SABS 776, Class 125.

The valves shall be able to withstand a working pressure of 1 600 kPa.

The valve shall be equipped with a hand wheel to close in a clockwise direction.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The valve shall be installed in an upright position or sideways to a maximum 90° from upright and shall be so placed with other fittings to be removable without cutting the pipework.

(vii) Ball-O-Stop valves (15 mm diameter - 25 mm diameter)

These valves shall be full-way ballcock type with BSP threaded ends. The valves shall conform to SABS 1056, Part 3, shall be rated for a test pressure of 2 000 kPa, and shall be chrome-finished where exposed.

(viii) Angle regulating valves

These valves shall be 15 mm chromium-plated angle regulating valves with a 350 mm chromium-plated copper tube and cap nuts where required.

(f) Strainers

(i) Strainers for connection to steel or UPVC pipes (65 mm NB and larger)

These strainers shall be of the Y-type with cast-iron body, stainless steel or bronze strainer element and shall be equipped with flanged ends to SABS 1123, table 16. The hole sizes of the strainer element shall be maximum 1 mm diameter and be removable without dismantling of pipework. The strainer shall be suitable for a temperature of up to 90 °C at a 1 000 kPa pressure rating and installed with the element facing downwards or a maximum of 45° sideways.

(ii) Strainers for connection to copper pipes (65 mm NB and larger)

These strainers shall be of the Y-type with bronze or dezincified brass body, stainless steel strainer element and must be equipped with flanged ends to SABS 1123, table 16. The hole sizes of the strainer element shall be maximum 1 mm diameter. The strainer element shall be removable without dismantling of pipework. The strainer shall be suitable for a temperature of up to 90 °C at a 1 000 kPa pressure rating and installed with the element facing downwards or a maximum of 45° sideways.

(iii) Strainers for connection to steel and copper pipes (up to 50 mm NB)

These strainers shall be of the Y-type with bronze or dezincified brass body, stainless steel strainer element and must be equipped with BSP threaded socket ends. The hole sizes of the strainer element shall be maximum 0,8 mm diameter. The strainer shall be suitable for a temperature of up to 90 °C at a pressure rating of 1 000 kPa and installed with the element facing downwards or a maximum of 45° sideways.

(g) Non-return valves

(i) Non-return valves for cold water (65 mm NB and larger)

The non-return valve shall be of the spring-loaded dual flap plate type fitted between two flanges (wafer).

The non-return valve shall be equipped with a cast-iron body, aluminium bronze plates, stainless steel springs and neoprene seals on the plates. The valves shall be suitable for a working pressure of 1 000 kPa.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (ii) Non-return valves for hot water (up to 100 mm NB and cold water (up to 50 mm NB)

These non-return valves shall be of the spring-loaded piston type, with bronze or dezincified brass body, stainless steel spring and bronze disc with neoprene seal fitted with BSP threaded socket ends. The valve shall be suitable for a working pressure of 1 000 kPa and a temperature of up to 90 °C. All valves shall be installed as to be removable without extensive pipework removal.

- (h) Air release valves and vacuum breakers

- (i) Double orifice double-acting air release valves with sizes from 50 mm NB to 200 mm NB

This air release valve shall be fitted with small and large orifice. The air release valve shall be fitted with a cast-iron body, stainless steel or fibreglass balls, integral shut-off valve and flanged ends to SABS 1123, table 16.

The valve shall be suitable for maximum pressure of 1 600 kPa.

- (ii) Single orifice air release valves for main water lines with sizes from 25 mm NB to 50 mm NB

This air release valve shall be fitted with a small orifice, cast-iron body, fibre glass or stainless steel ball float and BSP threaded inlet.

When the valve is installed a shut-off valve shall be installed on the inlet side.

The valve shall be suitable for maximum pressure of 1 600 kPa.

- (iii) Single orifice double purpose air release valves for domestic water lines up to 15 mm NB

This air release valve shall be fitted with a stainless steel float, brass or cast steel body with an integral shut-off valve fitted.

The valve shall be capable to withstand a working pressure of 1 000 kPa at 110 °C.

- (iv) Vacuum breaker up to 40 mm diameter

The vacuum breaker shall be fitted with neoprene seal, spring-loaded disc in a dezincified brass or bronze body. The valve shall seal watertight and shall be designed to withstand a working pressure of 1 000 kPa and a temperature of 90 °C.

- (i) Pressure-reducing valves

- (i) Combination pressure-reducing stations

Where a high peak flow as well as a small flow can occur and the small flow is out of the range of the large pressure-reducing valve, a small pressure-reducing valve is installed in parallel with the large pressure-reducing valve. The two pressure-reducing valves in parallel shall be set according to the manufacturer's specification.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

(ii) Large pressure-reducing valves (65 mm NB and larger)

This pressure-reducing valve shall be equipped with a cast-iron body, neoprene nylon-reinforced diaphragm, bronze seal disc washer, stainless steel shaft and flanged ends. The valve shall be pilot operated and shall be designed to handle high flows at a minimum head loss.

The valve must be adjustable to handle a wide range of incoming pressures at a constant downstream pressure.

The valve shall be equipped with flanged ends to SABS 1123, table 16.

(iii) Small pressure-reducing valves (15 mm NB to 50 mm NB)

This pressure-reducing valve shall be equipped with brass body, balanced single seat and integral strainer. The valve shall be able to handle a wide range of incoming pressures while the downstream pressure stays constant with maximum inlet pressure of 1 000 kPa and a maximum water temperature of 40 °C.

The valve shall be equipped with BSP male threaded brass union couplings.

(j) Water meters

(i) Combination water meters

Where high peak flow, as well as a small flow, can occur and the small flow is out of the registration range of the large water meter, a small water meter shall be installed in parallel with the large water meter to cater for the small flows with integral automatic change-over valves. These valves shall be designed to have a minimum pressure drop at operating point.

(ii) Water meters (50 mm NB and larger)

These water meters shall be of the dry type with all gears and transmission and roller counters in a dry head, and shall be equipped with flanged ends to SABS 1123, cast-iron body with high quality corrosion-proof coating. The meter shall be protected from magnetic fields and sealed to prevent tampering with adjustments. The meter must be able to work up to a pressure of 1600 kPa under a maximum water temperature of 40 °C. The scale of meter must be in cubic metre (m³) and equipped with needle indicators reading in litres. Accuracy of meter shall be not less than 98 %.

The meters shall be installed with leading and trailing lengths of pipes to the manufacturer's specification.

(iii) Water meters (up to 50 mm NB)

The meter shall be of the volumetric rotary piston type with brass body equipped with union couplers. The meter reading must be in kilolitres. The meter shall have an accuracy of not less than 98 %. The meter must be able to operate up to a water pressure of 1000 kPa at a water temperature of 40 °C.

The meters shall be installed with leading and trailing lengths of pipes to the manufacturer's specification.

(k) Adjustable balancing valves

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Adjustable balancing valves shall be supplied and installed as indicated on the applicable drawings. A portable differential pressure meter shall be used, with all the necessary pipes, shut-off valves and air release valves to set the balancing valves. A graph chart shall be supplied to indicate the flow units against the valve adjustment and as the pressure differential over the valve.

The pressure gauge shall be calibrated according to the current accepted SI units.

The calibrated adjustable balancing valves shall be of the angle valve type equipped with bronze valve body, bronze disc, internal seals with BSP threaded ends. The valve shall be fitted with stop-cock connection ends on inlet and outlet onto which the differential pressure gauge can be coupled. The valve shall be equipped with an indicator on the valve handle to show the position of the valve opening. The valve shall be suitable for operating at a temperature of 90 °C against a pressure of 1 000 kPa.

(l) Semi-conductive reheating tape for hot-water pipes

Semi-conductive reheating tape shall be strapped to the hot-water pipes under the thermal insulation. This reheating tape shall be installed strictly according to the manufacturer's specification.

The system shall be fitted with all the necessary end seals, tee splices, straps, etc, as required by the supplier.

The reheating tape shall be of the self-regulating type equipped with a parallel circuit, self-regulating conductive core, polyolefin jacket and tinned copper braid on the outside.

The reheating tape shall be sized to maintain an operating temperature of 60 °C of water inside the pipe.

(m) Expansion bellows

(i) Expansion bellows for pipes (50 mm NB and larger)

Expansion bellows shall be of the rubber-lined type fitted between flanges. These bellows shall be suitable for an operating temperature of -10 °C to 110 °C at an operating pressure of 1 500 kPa. The bellows shall be installed strictly in accordance with the manufacturer's specifications.

(ii) Expansion bellows for copper pipes (up to 40 mm NB)

These expansion bellows shall have a copper body with corrugated stainless steel lining and soldered capillary type couplings. The bellows shall be able to withstand a working pressure of 600 kPa at a temperature of 210 °C. Installation shall be strictly in accordance with the manufacturer's specifications.

(n) Lagging of hot-water pipes

(i) Preformed closed cell flame retarded flexible insulation sections

Where pipes are installed in service ducts, ceiling voids, etc, the pipes shall be insulated with Thermaflex preformed pipe insulation sections. This insulation shall be used with pipe systems where the maximum temperature is 80 °C. For a temperature higher than 80 °C preformed fibreglass sections shall be used with galvanized sheet metal muffs.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

All bends and T-pieces shall be cut in a 45° mitre box to form a neat joint. All joints shall be glued together with a contact adhesive supplied by the manufacturer. Pipe sizes larger than 50 mm diameter shall be insulated with preformed fibreglass sections with canvas covers glued together with cold wood glue.

Thermaflex thickness for various pipe sizes shall be as follows:

PIPE SIZE (STEEL)	PIPE SIZE (COPPER)	THERMAFLEX THICKNESS
50 mm dia	54 mm dia	20 mm
40 mm dia	42 mm dia	20 mm dia
32 mm dia	35 mm dia	15 mm dia
25 mm dia	28 mm dia	15 mm dia
20 mm dia	22 mm dia	15 mm dia
15 mm dia	15 mm dia	15 mm dia

(ii) Preformed fibreglass sections with galvanized sheet metal muffs

All hot-water pipes in service tunnels, service corridors and where exposed to damage and/or weather shall be insulated with preformed fibreglass sections covered with galvanized sheet metal muffs in a watertight manner. Sheet metal muffs shall be installed with the joints overlapping at least 50 mm and the longitudinal overlap pointing downwards to prevent ingress of water. The sheet metal muff shall be strapped with 10 mm galvanized straps by means of a strapping tool with a minimum of 2 straps/section. All pipe bends, T-pieces, etc, shall be insulated with 25 mm diameter fibreglass rope covered with a 12 mm thick layer of self-setting fibre cement. A reinforcing gauge shall be wrapped over the fibre cement while wet and painted with mastic paint when dry.

Fibreglass section thickness for the various pipe sizes shall be as follows:

PIPE SIZE (STEEL)	PIPE SIZE (COPPER)	FIBREGLASS THICKNESS
100 mm dia	108 mm dia	50 mm dia
80 mm dia	76 mm dia	40 mm dia
65 mm dia	67 mm dia	40 mm dia
40 mm dia	54 mm dia	25 mm dia
40 mm dia	42 mm dia	25 mm dia
32 mm dia	35 mm dia	25 mm dia
25 mm dia	28 mm dia	20 mm dia
20 mm dia	22 mm dia	20 mm dia
15 mm dia	15 mm dia	20 mm dia

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

AA 09.05 SANITARY AND BRASSWARE EQUIPMENT

Repair work to the sanitary and brassware equipment is detailed in the Particular Specification and shall include but not be limited to the following:

- (a) Damaged and/or broken irreparable sanitary and brassware equipment shall be replaced with equal specification equipment or approved alternative. These shall be installed strictly to the manufacturer's specifications.
- (b) Sanitary and brassware equipment that is unsuitable for the purpose and application they serve are to be replaced with suitable equipment.
- (c) The quantities of sanitary and brassware equipment needed for the number of people and application they serve, shall be investigated in accordance with the current SABS 0400 application regulations. If found to be insufficient these items of equipment facilities shall be increased only if approved by the Engineer.
- (d) Loose sanitary ware shall be re-fixed and bracketed to structures in accordance with the manufacturer's specifications.
- (e) Stained sanitary ware equipment shall be cleaned, where possible, with approved cleaning agent in accordance with the manufacturer's specification.
- (f) All cisterns are to be cleaned out and filling and flushing mechanisms shall be serviced and repaired. Where beyond repair status, these items shall be replaced with items of equal specification or approved alternatives.
- (g) Unserviceable flush valves to be repaired utilizing the manufacturers repair kits only. Valves that are worn or damaged beyond repair shall be replaced with valves of equal specification. The design of the valve shall be of such type that all working components can be replaced or repaired without the necessity of changing the valve body – wear and tear must not affect the body of the valve.

Brushed chrome concealed type with integral vacuum breaker, non-hold open feature and shut off device. Chrome plated vandal resistant pushbutton activation, "Through Wall" guide tube, wall fixing and captive linkage rod assembly.

Valve to be of either piston type or diaphragm type with replaceable working cylinder and piston or diaphragm.

- (h) All pillar taps, mixers, sink taps and other taps are to be serviced, utilising repair kits. Where equipment is beyond repair these items shall be replaced with items of equal specification or approved alternatives. Where equipment connections are loose these shall be properly secured to sanitary ware and other equipment.
- (i) Leaking, corroded or damaged chromium-plated flush pipes to water-closets and urinals are to be replaced where required.
- (j) Replace missing and/or damaged shower gratings with gratings of equal specification or approved alternatives.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (k) Service and repair water metering taps by utilising manufacturer's replacement kits where necessary. Where damaged beyond repair the complete item shall be replaced with one of equal specification or approved alternative.
- (l) Replace missing or damaged tap handles with matching handles from the manufacturer of the tap with a countersunk cap screw for the fixing of the handle to the head pot.
- (m) Readjust all timing mechanisms on flush valves and metering taps to the correct flushing and flow times.
- (n) Replace damaged or missing basin and/or sink mixer swivel arms with items of equal specification or approved alternative.
- (o) Replace missing or damaged toilet seats and covers with items of equal specification or approved alternatives.
- (p) Repair and service urinal syphonic valves with replacement kits from manufacturer. Where no spares are available or equipment is damaged beyond repair, these items are to be replaced with values of equal specification or approved alternatives.
- (q) Repair and clean out all bottle traps. Bottle traps that are damaged beyond repair are to be replaced with traps of equal specification or approved alternatives.
- (r) Repair and service bath taps and mixers by utilising manufacturer's replacement kits. Where damaged beyond repair, the taps and mixers shall be replaced with items of equal specification or approved alternatives.
- (s) All tap handles to be of the crutch type where the handle is fixed to the spindle by factory press fit.

AA 09.06 FIRE WATER PIPED RETICULATION NETWORKS

AA 09.06.01 General

Repair work to the fire water piped reticulation networks is detailed in the Particular Specification and shall include but no be limited to the work described below. This specification only covers the water piped reticulation for the fire water protection system, while the equipment related to this installation, such as fire hydrants, hose reels and extinguishers, are covered and detailed in Technical Specification JC: Conventional Fire Fighting Equipment. This specification has to be read in conjunction with the afore-mentioned specification.

- (a) Replace damaged, broken, leaking, corroded above and underground pipework, fittings and equipment.
- (b) Repair, and service valves which shall include the installation of new gaskets, gland packings, seals, bolt and nuts, etc. If necessary the valves shall be replaced.
- (c) Where valves do not close properly, all these valves are to be refurbished, descaled and if necessary replaced.
- (d) Repair, service and check the proper functioning of all non-return valves and backflow preventers.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (e) Repair, service, readjust and calibrate all pressure gauges.
- (f) Repair bracketing systems including fixing and repair of existing brackets and the provision of additional brackets where required.
- (g) Report all problems related to firefighting equipment to the Engineer.
- (h) Water storage tanks are to be emptied, cleaned out, repaired, sealed and put back into operation. Ball float and/or filling valves to these tanks are to be serviced and repaired where required.
- (i) Pressure test and sterilise repaired new installations and equipment.
- (j) Reinstate and make good walls, tiling, floors, concrete, finishes, holes, chases, surfaces, etc, to an acceptable level where any repair, upgrade and/or service work has been executed.
- (k) Record pressure readings on supply to installation.

AA 09.06.02 Material and equipment specification for fire water piped reticulation networks

Materials and equipment to be used for repair items shall be suitable and/or adaptable to the existing installation and shall comply with the following:

- (a) Galvanized steel pipe installation
 - (i) All galvanized steel pipes shall be medium gauge mild steel screwed and socketed pipes to SABS 62 and shall be normalised and marked as such by the manufacturer. Pipes shall be hot-dip galvanized to SABS 763.
 - (ii) All fittings shall be malleable cast-iron fittings to SABS 509 and galvanized to SABS 763.
 - (iii) All 80 mm diameter and larger pipes shall be joined with Class 16 flanged couplings to SABS 1123/1600. The bolts, nuts and spring washers to be used on these joints shall be cadmium-plated.
 - (iv) In pipe ducts and elsewhere pipes shall be fixed onto walls, soffits, etc, with approved type of supports, holderbats, clamps, etc. Brackets shall be designed to structurally support and fix the pipe system and shall have enough clearance from walls, soffits, etc, to maintain equipment.
 - (v) Pipes shall be supported according to the manufacturer's specifications at the following maximum intervals:

NORMAL SIZE (mm)	HORIZONTAL (mm)	VERTICAL (mm)
15 dia to 20 dia	1 200	1 830
32 dia to 40 dia	1 830	2450
50 dia to 150 dia	2 450	3 050

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (vi) All pipes shall be marked according to SABS 0210 or as specified by the Engineer. All surface pipes shall be painted.
- (vii) Pipes shall be installed on the surface, unless otherwise specified.
- (viii) Provision shall be made for thermal contraction and expansion.
- (ix) The type of pipe joint compound shall be approved by the Engineer and used sparingly with good quality hemp. For pipes larger than 80 mm diameter a jointing compound such as Epidermix 32 shall be used.
- (x) Any buried pipe shall have at least 900 mm cover and be coated and wrapped to SABS 1117 and tested in the presence of the Engineer.
- (xi) All pipework and fittings shall be pressure tested as specified.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

(b) uPVC underground pipe installations

- (i) uPVC piping shall conform to SABS 966 with rubber ring type joints.
- (ii) All bends shall be uPVC type fittings with rubber ring joints.
- (iii) All other fittings such as T-pieces, reducers, flanges, etc, shall be bitumen-dipped cast-iron rubber ring jointed fittings to SABS 546.
- (iv) No solvent weld type fittings will be allowed.
- (v) All cast-iron fittings shall be coated and wrapped to SABS 1117.
- (vi) All pipes shall be laid on a 100 mm sand bedding cradle and covered with 300 mm sand before backfilling.

(vii) Pipe trenching and bedding:

AREA	MINIMUM COVER	BEDDING TYPE	MAIN FILL
Vehicle traffic	1 100	Flexible pipe bedding as per SABS 1200 LB	Soilcrete
Under surface bed	600		Soilcrete
Other areas	900		90 % of modified AASHTO density

- (viii) All thrust blocks shall be cast between the pipe and the undisturbed trench material.
- (ix) No concrete shall come into direct contact with the uPVC pipe. At the thrust blocks the bend shall be wrapped with Densopol 80 HT tape or similar approved.
- (x) HDPE pipe connections to uPVC pipes up to 40 mm diameter can be done by means of SG Iron manufactured saddles with the appropriate gaskets and cadmium-plated bolts and nuts.
- (xi) All pipe crossings under roads and parking areas shall be backfilled as specified in subclause CA 04.04.02(b).
- (xii) All pipework shall be pressure tested with all joints uncovered to the satisfaction of the Engineer.
- (xiii) Suitably sized air release valves built into valve chambers shall be installed at all high points of the pipeline.
- (xiv) Duckfoot bends shall be used to all fire hydrants at the foot of fire hydrants. This to be cast into thrust blocks.

(c) HDPE underground pipe installations

- (i) All HDPE piping shall be Type 4 HDPE pipe to SABS 533.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (ii) All fittings shall be of Plasson compression type and shall conform to ISO/DIS 3458.
- (iii) All pipes shall be laid on a 100 mm sand bedding cradle and covered with 300 mm of sand or selected material.
- (iv) All backfilling shall be to the SABS 1200 DB and to the Engineer's approval.

- (v) Pipe trenching and bedding:

AREA	MINIMUM COVER	BEDDING TYPE	MAIN FILL
Vehicle traffic	1 100	Flexible pipe bedding as per SABS 1200 LB	Soilcrete
Under surface bed	600		Soilcrete
Other areas	900		90 % of modified AASHTO density

- (vi) No concrete shall come into direct contact with the HDPE pipe. At these points the fittings shall be wrapped with Densopol 80 HT tape or similar approved.
- (vii) All pipe crossings under roads and parking areas shall be backfilled as specified in subclause CA 04.04.02(b).
- (viii) All pipework shall be pressure tested with all joints uncovered to the satisfaction of the Engineer.
- (ix) Suitably sized air release valves built into valve chambers shall be installed at all high points of the pipeline.

(d) Valves

- (i) Gate valves underground in valve chambers to connect to uPVC piping (65 mm NB and larger)

Gate valves are to be equipped with non-rising spindle, spherical graphite iron body to SABS 936 Grade 42, cast-iron nitrile butadiene rubber covered gate, stainless steel spindle, nitrile butadiene rubber O-rings and seals, cast-iron bonnet and gunmetal thrust collar to BS 2100 LG2.

The valves shall conform to SABS 664 and/or 665 and shall be capable of withstanding a working pressure of 1 600 kPa.

The valves shall be fitted with a square key spindle top to close the valves in clockwise direction and socket ends to SABS 665 to fit into uPVC.

Valves are to be provided with locking devices to lock valves in open position.

- (ii) Gate valves underground in valve chambers to connect to uPVC piping

The gate valves shall be of the dezincified brass type with brass gate, brass body, non-rising spindle and BSP threaded socket ends. The valves shall conform to SABS 776 Class 125. The valves shall be able to withstand a working pressure of 1 600 kPa. The valve shall be fitted with a hand wheel

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

on an extended spindle shaft of 700 mm to close in a clockwise direction and shall be installed to details provided.

(iii) Gate valves above ground to connect to steel (65 NB and larger)

Gate valves are to be equipped with non-rising spindle, spherical graphite iron body to SABS 936 Grade 42, cast-iron nitrile butadiene rubber covered gate, stainless steel spindle, nitrile butadiene rubber O-rings and seals, cast-iron bonnet and gunmetal thrust collar to BS 2100 LG2.

The valves shall conform to SABS 664 and/or 665, and shall be capable of withstanding a working pressure of 1 600 kPa.

The valves shall be fitted with flanged ends to SABS 1123/1600, hand wheel to close the valves in a clockwise direction and installed in an upright position or sideways to maximum 90° from upright.

These valves shall be equipped with locking devices to lock valves in open position.

(iv) Gate valves above ground (up to 50 mm NB)

The gate valves shall be of the dezincified brass type with brass gate, brass body, non-rising spindle and BSP threaded socket ends. The valves shall conform to SABS 776 Class 125.

The valves shall be able to withstand a working pressure of 1 600 kPa.

The valve shall be equipped with a hand wheel to close in a clockwise direction.

The valves shall be installed in an upright position or sideways to maximum 90° from upright and shall be so placed with other fittings as to be removed without cutting the pipework.

The valves shall be equipped with locking devices to lock valves in open position.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

BA ROOF COVERINGS

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TECHNICAL SPECIFICATION

BA ROOF COVERINGS

CONTENTS

BA 01	SCOPE
BA 02	STANDARD SPECIFICATIONS
BA 03	REPAIR OF ROOF SHEETING AND WALL CLADDING
BA 04	DETAIL OF REPAIR WORK
BA 05	MAINTENANCE
BA 06	MEASUREMENT AND PAYMENT

BA 01 SCOPE

This specification covers the repair/replacement and the maintenance of existing roof coverings. This specification also covers the supply, delivery, installation and maintenance of new roof coverings for various types of buildings.

Roof coverings shall mean the repair/replacement and maintenance of existing roof coverings, side wall cladding and ancillary items, and maintaining materials and components. Roof coverings shall also mean the installation and maintenance of new roof sheeting and side wall cladding, roofing screws, purlins, flashings, rainwater goods, fascias and barge boards. This specification does not include work related to trusses, ceilings and paintwork specified elsewhere.

The complete scope of repair work shall be as described in BA 04: Detail of repair work.

Maintenance of this part of the installation shall be performed in accordance with Additional Specification SA: General Maintenance, and the specific requirements included in this Technical Specification.

BA 02 STANDARD SPECIFICATIONS

BA 02.01 GENERAL STANDARD SPECIFICATIONS

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

OW 371	-	Specification of materials and methods to be used (Fourth revision, October 1993)
SABS 1200 HB	-	Cladding and sheeting
SABS 653	-	Softwood brandering and battens
SABS ISO 2161	-	Hot-dip galvanised coatings on fabricated iron and steel articles
SABS 1273	-	Fasteners for sheet roof and wall coverings
SABS 0400-2004	-	National Building Regulations 2004 edition

BA 02.02 ADDITIONAL SPECIFICATIONS

Technical Specification BB: Carpentry and joinery
Technical Specification BC: Waterproofing of concrete roofs

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Technical Specification BJ: Painting

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

BA 03 REPAIR OF ROOF SHEETING AND WALL CLADDING

BA 03.01 ADDITIONAL REQUIREMENTS FOR REPAIR OF PROFILED ROOF SHEETING (NON-CONCEALED AND CONCEALED FIXING)

BA 03.01.01 Roof cladding

Existing roof sheeting shall either be replaced or repaired as scheduled in the Schedule of Quantities. Where new sheeting is specified, the existing roof sheeting must be removed. Each day's removed sheeting shall be fully covered with new sheeting at the end of the day. Plastic membranes or approved equivalent protection shall be used to minimise the possibility of damage caused by rain, etc, and to protect the personnel occupying the buildings. The new roof sheeting shall be 0,6 mm thick galvanised (or Chromadek) IBR or approved equivalent for roof slopes exceeding 15 °. Concealed fixed type Chromadek roof sheeting will generally be used to cover roofs with slopes not exceeding 15 °. The sheeting must be laid in long lengths without end overlaps. The broad flutes must be turned up at the apex to form a dam, and turned down at the eaves and valley gutters to form a drip. Metal closers 0,8 mm thick galvanised (or Chromadek), complete with polyclosers set in one run of silicone sealant, are required at apexes, ridges, side and head walls, etc. All holes for fasteners shall be drilled. Punching of holes and nailing of cladding and flashings will not be permitted. Cutting of cladding and flashings with an angle grinder may only be done by using a tungsten steel blade.

The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation. Z275 galvanising spelter shall be used and the Contractor shall provide SABS certificates of compliance to the Engineer. Various standard dark colours shall be used for Chromadek-finished roof sheeting, flashings, gutters and down pipes. To prevent unnecessary damage to galvanised or colour-coated sheets, proper measures must be taken to prevent contamination by moisture while material is still bundled or nested in stacks. Only stages 1 and 2 "white rust" on sheets will be permitted, provided that the white rust is successfully removed in accordance with ISCOR recommendation. The Contractor shall provide a guarantee for the Chromadek materials obtained from the manufacturer. In all cases the roof sheeting must be laid strictly in accordance with the manufacturer's specifications.

In certain cases the removed existing roof sheeting can be reused to repair agricultural sheds and similar types of structures.

The following paragraphs in specification OW 371 must be read in conjunction with this technical specification:

- Paragraph 7.6, excluding 7.6.1(i), 7.6.2(a) and 7.6.2(e)
- Paragraph 7.7, excluding 7.7.1, 7.7.5 and 7.19.1(a).

BA 03.01.02 Main fasteners to timber purlins: Galvanised/Chromadek IBR sheeting (or approved equivalent)

No. 12 (5,5 mm) x 90 mm type 17 hexagon head (H/H) carbon steel (C/S) zinc-plated self-drilling roofing screws shall be used for timber. The roofing screws with no.12 x 25 mm diameter x 1,0 mm thick low carbon EPDM/galvanised bonded washers are used as main fixing for the roof sheeting to timber purlins. 65 mm long x no 21 H/H C/S Topspeed or Posidriv main fasteners for steel purlins with the same washers are to be used. Fasteners shall be provided at alternating ribs, excluding side lap ribs.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

BA 03.01.03 Side lap fasteners: Galvanised/Chromadek IBR sheeting (or equivalent approved)

Stitching shall be done with Leak King plugs for IBR roof sheeting @ 600 c/c maximum. An approved 8 x 3 mm thick butyl rubber sealer strip (PG Sealer Strip or approved equivalent) with nylon cord between sheets shall be provided.

BA 03.01.04 Flashings

Flashings must be 0,8 mm thick Chromadek/galvanised flashings at ridge caps, side and head walls, drips, corners, etc, as described elsewhere. The minimum length of an overlap between flashings is 150 mm. Apply two runs of silicone sealant between flashings. Flashings are to be stitched together with no. 10 (4,8 mm) x 16 mm x H/H C/S zinc-plated self-drilling stitching screws. The stitching screws with no. 12 x 19 mm diameter x 1,0 mm thick low carbon EPDM/galvanised bonded washers are to be used at end laps and longitudinally @ 400 c/c maximum at ribs, etc. The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation.

BA 03.01.05 Sealant

Silicone sealant with an amine cure system with primer shall be used to waterproof all flashings and rainwater goods, viz gutters and down pipes. Two runs of silicone shall be provided at end overlaps.

BA 03.01.06 Pipe flashings

Dektite or equivalent approved pipe flashings shall be used to waterproof pipe protrusions through the roof sheeting. Installation shall be done strictly in accordance with the manufacturer's specification and shall include the application of Dektite silicone sealant and fastening of flashing to the surface with TEKS or approved equivalent self-drilling fasteners.

BA 03.01.07 Insulation

No insulation repairs are required. In certain cases insulation may be necessary to reduce heat load or to comply with hygiene requirements as in abattoirs. Refer to section 7 part 7.6.3 of OW 371.

(a) Specification for non-visible roof insulation material:

Super Sisalation 420 RSA or equivalent approved reinforced reflective aluminium foil (heavy grade) laid on 1,6 mm diameter galvanised (unless noted otherwise) straining wires 300 mm centres to the manufacturer's specification. The insulation shall be laid longitudinally over the purlins and lapped 150 mm at joints.

(b) Specification for visible roof insulation material:

White Alucushion (code 2906) or equivalent approved white bubble foil on aluminium foil backing laid on 1,6 mm diameter white plastic (PVC) coated straining wires at 383 mm centres to the manufacturer's specification. The insulation shall be laid longitudinally over the purlins and lapped at joints.

BA 03.02 ADDITIONAL REQUIREMENTS FOR REPAIR OF PROFILED SIDE WALL CLADDING (NON-CONCEALED AND CONCEALED FIXING)

BA 03.02.01 Side wall cladding

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Existing sidewall cladding shall either be repaired or replaced as scheduled in the Schedule of Quantities. Where new cladding is specified, the existing side wall cladding must be removed. Each day's removed cladding shall be fully covered with new cladding by the end of the day. The new side wall cladding shall be 0,6 mm thick galvanised (or Chromadek) IBR or approved equivalent. The sheeting must be laid in long lengths without end overlaps. Metal closers 0,8 mm thick galvanised (or Chromadek), complete with polyclosers set in one run of silicone sealant, are required at apexes, gables, side and head walls, etc.

The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation. Z275 galvanising spelter shall be used and the Contractor shall provide SABS certificates of compliance to the Engineer. Heavy-duty profiled polycarbonate sheets shall be used for translucent sheeting. Various standard dark colours for Chromadek finished sidewall cladding, flashings, and gutters and down pipes shall be used. In all cases the cladding must be laid strictly in accordance with the manufacturer's specifications.

BA 03.02.02 Main fasteners to timber girts: Galvanised/Chromadek IBR (or approved equivalent) and profiled translucent sheeting

No. 12 (5,5 mm) x 90 mm type 17 hexagon head (H/H) carbon steel (C/S) zinc-plated self-drilling roofing screws for timber. The roofing screws with no.12 x 25 mm diameter x 1,0 mm thick low carbon EPDM/galvanised bonded washers are used as main fixing for the roof sheeting to timber girts. 65 mm long x no 21 H/H C/S Topspeed or Posidriv main fasteners for steel girts with the same washers are to be used. Fasteners shall be provided at alternating ribs, excluding side lap ribs. Correct installation procedures must be followed, especially in respect of the drilling speed and torque settings of the drill for various materials.

BA 03.02.03 Side lap fasteners: Galvanised/Chromadek IBR (or approved equivalent) sheeting

Stitching shall be done with Leak King plugs for IBR roof sheeting @ 600 c/c maximum. Provide an approved 8 x 3 mm thick butyl rubber sealer strip (PG Sealer Strip or approved equivalent) with nylon cord between sheets.

BA 03.02.04 End overlaps

If unavoidable, the end overlap shall be 300 mm minimum between sheeting and sealed with two rows of silicone sealant between the sheeting. Bolt the ribs in the overlap region with the (polycarbonate) translucent sheeting with galvanised no. 21 gutter bolts, bonded washers and nuts through every alternative rib.

BA 03.02.05 Side overlaps: Vertical profiled translucent sheeting

Stitching shall be done with 6 mm cadmium-plated cladding bolts and nuts x 25 mm long @ ± 300 c/c with no. 12 x 19 mm diameter x 1,0 mm thick low-carbon EPDM/galvanised bonded washers.

BA 03.03 RAINWATER GOODS

BA 03.03.01 Gutters

(a) Standard size for houses:

Gutters shall be 100 x 75 x 0,6 thick standard Chromadek/galvanised non-supporting beaded gutter. Galvanised brackets are to be provided at every second truss. Brackets shall be painted with water-based pure acrylic emulsion paint to Technical Specification BJ 03.01.03(g). Alternatively, standard 210 x 127 x 83 x 0,6 mm thick

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Brownbuilt or similar continuous rolled approved Chromadek fascia gutter with galvanised gutter clips can be used.

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(b) Typical size for other buildings:

125 x 100 x 0,8 thick standard Chromadek self-supporting beaded gutter to detail.

Dark colours shall be used where indicated by the Engineer.

The following paragraphs in specification OW 371 must be read in conjunction with this technical specification:

7.15, 16.12 and 16.13.

The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation.

BA 03.03.02 **Joints in gutters, valleys, etc**

150 mm overlap sealed with an approved silicone and riveted together with two rows of sealed pop rivets. Linings to valleys and secret gutters, etc, shall have an overlap of 225 mm.

BA 03.03.03 **Accessories and ancillary items**

(a) End stops:

0,6 mm thick Chromadek/galvanised finished end stop shall be joined to gutter on site and sealed as for joints in gutters. Thickness to be the same as for gutter.

(b) Outlets:

0,6 mm thick Chromadek/galvanised finished outlets shall be fixed to gutter with pop rivets and sealed with an approved silicone. Outlet to slip into down pipe. Thickness shall be the same as for gutter.

(c) Fascia straps:

25 mm wide x 1,0 mm thick galvanised straps at +/- 686 mm c/c.

(d) Corner joints:

Overlaps are to be neatly mitred, pop riveted together and sealed with an approved silicone.

(e) Sealant:

Clear silicone sealant with an amine cure system and primer shall be used to waterproof gutters and down pipes.

BA 03.03.04 **Down pipes**

Standard sizes:

100 x 75 x 0,6 thick Chromadek/galvanised down pipes

100 x 100 x 0,8 thick Chromadek/galvanised down pipes

Dark colours shall be used where indicated by the Engineer.

Down pipes are to have double-seamed joints. Down pipes, shoes, offsets, etc, shall be joined together by means of 100 mm slip joints and pop riveted together.

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The Contractor shall take all necessary measurements and dimensions on site prior to manufacturing and installation.

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BA 03.03.05 Down pipe accessories

(a) Brackets:

Standard galvanised brackets shall be spaced at centres not exceeding 2,4 metres.

Brackets shall be primed and painted with water-based pure acrylic emulsion paint as specified in Technical Specification BJ 03.01.03(g).

(b) Shoes, offsets and spreaders:

Shoes, offsets and spreaders must be manufactured from 0,8 mm thick Chromadek/galvanised material, cut and mitred to suit. All joints are to be sealed with an approved silicone sealant.

BA 03.04 GENERAL

The Contractor shall be responsible to ensure the stability of the supporting structure during and after the removal of existing roof cladding and sheeting.

SABS 1200 HB: Cladding and Sheeting shall be applicable for the erection of all new roofs.

The Contractor shall submit a 3-year guarantee for the water tightness of the roofs and for workmanship.

BA 06 MEASUREMENT AND PAYMENT

BA 06.01 DETAILS OF MATERIAL TO BE USED

For detail descriptions of materials, thicknesses, dimensions and ancillary items to be used, as specified in the various payment items of roof sheeting, cladding, flashings, etc, refer to the scheduled lists PROVIDED IN THE BILL OF QUANTITIES.

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BB CARPENTRY AND JOINERY FOR ROOFS AND CEILINGS

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TECHNICAL SPECIFICATION

BB CARPENTRY AND JOINERY FOR ROOFS AND CEILINGS

CONTENTS

BB 01	SCOPE
BB 02	STANDARD SPECIFICATIONS
BB 03	VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS

BB 01 SCOPE

Carpentry and joinery shall mean the repair and replacement and maintenance of materials and components such as removal of existing timber roof trusses, purlins, ceilings, etc, and the installation of new timber trusses and other timber roof members, structural beams, purlins, battens and ceilings. This specification does not include work related to roof coverings and paintwork, which are specified elsewhere.

This specification covers the repair of existing timber members in roof trusses, the removal and replacement of existing timber members from roof trusses and associated timber roof members and ceilings. This specification also covers the supply, delivery and installation of new timber trusses, purlins, battens and beams for various types of timber related structures and ceilings.

The complete scope of repair work shall be as described in BB 04: Detail of repair work.

Maintenance of this part of the installation shall be performed in accordance with Additional Specification SA: General Maintenance, and the specific requirements included in this Technical Specification.

BB 02 STANDARD SPECIFICATIONS

BB 02.01 GENERAL STANDARD SPECIFICATIONS

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

OW 371	-	Specification of Materials and Methods to be used (Fourth revision, October 1993)
SABS 0243	-	The design, manufacture and erection of timber trusses
SABS 266	-	Gypsum plasterboard
SABS 563	-	Stress-graded softwood: general structural timber
SABS 653	-	Softwood banding and battens
SABS 803	-	Fibre-cement boards
SABS 1245	-	Stress-graded softwood engineering timber

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BB 02.02 ADDITIONAL SPECIFICATIONS

Technical Specification BA: Roof coverings
Technical Specification BD: Walls
Technical Specification BJ: Paintwork

BB 03 VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS

BB 03.01 ADDITIONAL REQUIREMENTS FOR REPAIR OF TIMBER ROOF STRUCTURES

BB 03.01.01 Timber trusses

(a) Replacing timber trusses

The Engineer shall inspect timber trusses for defects and establish which timber trusses must be replaced.

Reasons for replacing trusses will include but not be limited to the following:

- (i) Deflection exceeding acceptable limits;
- (ii) Inadequacy in design, eg structural strength, structural instability, load conditions;
- (iii) Decay of large portions of truss members (defective timber);
- (iv) Large portions of truss members having so many defects, eg cracked timber, corroded connector nail plates, etc, that it will be uneconomical to repair the defects.

(b) Repair of timber trusses

Repair work shall include but not be limited to the following:

- (i) Strengthening of truss members, connections, splices and anchorage at supports;
- (ii) Strengthening of truss members due to unforeseen loads, notching and cutting for services by other contractors;
- (iii) Repair of truss members where large knots and waness occur;
- (iv) Replacing metal plate connectors in cases of corrosion, incorrect application of connector plates, incorrect size of connector plates, unsymmetrically fitted connector plates, connector plates with teeth flattened, minimum bite of less than 65 mm of a connector plate on a truss member;
- (v) Replacing of decayed timber, particularly rafter ends at roof overhangs and at roofing screws. Timber subjected to insect attack and fungal decay should be treated with an appropriate preservative. Where there is a low risk of decay or insect attack, two coats of Creosote may be applied to the timber. Refer to clauses 8.1 and 8.2 in OW 371 for the preservation of wood in high-risk regions;
- (vi) Replacing and/or repair of cracked timber members. Galvanised connector plates and metal straps may be considered;
- (vii) Maximum slenderness ratio must be less than 180 for compression members that carry forces resulting from dead and live loads. Compression members 36 mm thick and longer than 1,8 m must have a continuous longitudinal runner centrally placed (or T-bracing) and properly connected and braced. For members that resist loads caused by wind, the slenderness ratio must be less than 250;
- (viii) Plumb of trusses should not exceed 100 mm or total span/20 whichever is the least;
- (ix) Exposed portions of the trusses shall be painted to match existing appearance.

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The roof trusses shall be fully braced. The Engineer shall give instructions regarding the provision of bracing members to the roof system.

BB 03.01.02 Purlins (for sheeted roofs, battens for tiled roofs)

(a) Replacing timber purlins

The Engineer shall inspect timber purlins for defects and possible reuse. The Engineer shall establish which timber purlins need to be replaced.

Reasons for replacing purlins will include but not be limited to the following:

- (i) Decayed timber, particularly at gable overhangs;
- (ii) Broken, warped and brittle timber;
- (iii) Worn-out roof screw holes;
- (iv) Inadequacy in design, eg structural strength and excessive deflection due to large spans;
- (v) Inappropriate spacing of purlins for the specific roof covering.

(b) Repair of timber purlins

Repair work shall include but not be limited to the following:

- (i) For roof pitches under 45° the purlins shall be erected on edge (narrow edge).
- (ii) All purlins shall be secured to rafters at each intersection in addition to nails. In roof voids a single 3,2 mm diameter galvanised wire tie bound twice with twisted ends or a galvanised bent plate connector shall be used for securing purlins to rafters. On roof overhangs only galvanised bent plate connectors shall be used for securing purlins to rafters.
- (iii) Splices shall be staggered. Splices that do not conform to the requirements of clause 8.8 of OW 371, or clauses 8.5.1 and 8.5.2 of SABS 0234, must be repaired. Nailed galvanised plate connectors on either side of purlins are also acceptable.
- (iv) Exposed portions of the purlins shall be painted to match existing appearance.

Skew nailing of purlins to trusses shall not be closer than 30 mm from the edge of the member.

BB 03.01.03 Structural timber

(a) Replacing structural timber

The Engineer shall inspect members of structural timber, ie beams and columns, for defects and shall establish which of these members must be replaced. Reasons for replacement will include but not be limited to the following:

- (i) Deflection exceeding acceptable limits;
- (ii) Inadequacy in design, eg structural strength, structural instability, load conditions;
- (iii) Decay of a large portion of the member (defective timber);
- (iv) Replacing of decayed timber, particularly at ends of beams.

(b) Repair of structural timber

Repair work shall include but not be limited to the following:

- (i) Strengthening of members, connections, splices and anchorage at supports;

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- (ii) Strengthening of members due to unforeseen loads, notching and cutting for services by other contractors;
- (iii) Exposed portions of structural timber shall be painted to match existing appearance;
- (iv) Bolt connections shall be in accordance with the requirements of SABS 0163.

BB 03.01.04 Ceilings

New ceilings shall be installed in accordance with section 9 of OW 371.

(a) Brander to ceilings

Brander to ceilings shall be replaced where:

- (i) Ceiling boards are replaced;
- (ii) Brander is broken, rotten and beyond any further use.

New brander shall be provided in accordance with clause 9.4 of OW 371. The brander shall continue over at least three bays and shall be staggered to ensure that splices do not all occur in one line. Brander must be provided for light fitting support.

(b) Gypsum ceiling boards

Repairs to existing ceilings shall include the installation of new 6,4 mm thick gypsum ceiling boards with metal H-section jointing strips. The new ceiling boards shall be nailed to brander with galvanised or cadmium-plated clout-headed nails.

Gypsum ceiling boards shall not be used in wet areas such as in ablutions, abattoirs, kitchens and bathrooms.

Ceiling boards shall be in long lengths, symmetrically arranged with smaller panels, closely butted and secured at 150 mm centres to brander as specified.

Where it is necessary to replace ceiling boards onto existing brander, new boards shall be installed by first drilling through and then securing with cadmium-plated flat headed wood screws, or alternatively by shot nailing to suit, to avoid unnecessary vibration or impact damage to adjacent elements.

Gypsum cove cornices 76 mm wide shall be provided where existing cornices are to be replaced.

Existing trap doors in ceilings shall be reused. If required, new 650 x 650 mm trap doors shall be installed.

No ceiling insulation must be provided unless specified.

Painting of the ceiling shall be done in accordance with Technical Specification BJ: Paintwork.

(c) Fibre cement ceiling boards

Fibre cement ceiling boards shall be installed in wet areas such as in ablutions, abattoirs, kitchens and bathrooms.

Fibre cement ceiling boards shall be 6 mm thick, complying with the requirements of SABS 803 and of the flat pressed type.

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The boards shall be nailed to the branderling with 2 mm diameter galvanised or cadmium-plated clout-headed nails, spaced at 100 mm centres at edges of boards and 150 mm centres along the intermediate branderling. Ceiling boards shall be in long lengths, symmetrically arranged with smaller panels as required and closely butted.

Replacement of new ceiling boards onto existing branderling shall be done as described in BB 03.01.04(b) above.

Fibrous plasterboard cove cornices to ceilings shall be of 100 mm girth, provided by an approved manufacturer. Gypsum cove cornices 76 mm wide can be used in kitchens and bathrooms of houses. Powder-coated wall angles 25 mm wide shall be used for cornices in abattoirs.

Existing trap doors in ceilings shall be reused. If required, new 650 x 650 mm trap doors shall be installed.

Painting of the ceiling shall be done in accordance with Technical Specification BJ: Paintwork.

(d) Exposed T-system suspended ceilings

Repairs to existing suspended ceilings will include but not be limited to the following:

- (i) Replace damaged panels with new ceiling boards;
- (ii) Replace sections of damaged T-strips or H-strips;
- (iii) Replace cornices;
- (iv) Tension, fix and realign existing hangers;
- (v) Install new hangers as required;
- (vi) Clean ceiling boards, including washing of the ceiling boards with a mixture of water and sugar soap and wiping dry, or painting the ceiling boards.

(e) External gable fibre cement boards for side cladding

External tongued and grooved boarding shall be removed and replaced with 6 mm thick flat pressed fibre cement boarding. The boarding shall be fixed to new branderling as specified in this section. Provide painted 25 x 25 mm meranti quarter rounds at edges as required.

The boarding shall be painted in accordance with Technical Specification BJ: Paintwork.

BB 03.01.05 Fascia and barge boards

Repairs to fascia and barge boards shall include but not be limited to the following:

- (a) Replace damaged and broken fibre cement fascia and barge boards.
- (b) Replace missing, corroded and damaged H-profile jointing strips.
- (c) Replace all nails with suitable length and diameter brass screws. Provide nylon plugs to timber where necessary.
- (d) Align and fix existing fascia and barge boards.
- (e) Paint fascia and barge boards in accordance with Technical Specification BJ: Paintwork. All sides including the edges must be painted.
- (f) The roof covering shall cover the top edge of the fascia on gables.

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BB 03.01.06 Timber trusses, purlins and battens

(a) Existing timber trusses and roof structure

(i) General

- (1) The Contractor shall establish proper access and install adequate lighting to the roof voids to enable detailed inspections of structural deficiencies by the Engineer. Temporary scaffold planks shall be laid across bottom chords to allow access to all critical areas. After inspection, the extent of repairs is to be agreed with the Engineer.
- (2) All completed work shall be inspected and approved by the Engineer.
- (3) All new timber work shall comply with SABS 0163.
- (4) Timber grade shall be S5 and replacement sizes are to match existing unless otherwise agreed.
- (5) Repair details on attached sheets R1 to R3 shall form the basis for repairs. Any deviations from or variations to these details are to be approved by the Engineer. Any types of failure not covered by these details shall be discussed with the Engineer who will then issue the necessary repair instructions.

(ii) Procedures (watermarked and slightly rotten members)

- (1) Watermarked and slightly rotten members need not be replaced or repaired if the following test indicate these members to be satisfactorily:

Using a 3,5 mm nail, make scratch marks in all these members to expose good unaffected timber. If scratch depth is 2 mm or less, it is acceptable and these members need only to be treated as described in (2) below.

- (2) The members shall be wire-brush cleaned, free of any loose or deleterious material, then treated with 1 coat of creosote, or similar approved. Apply by brush to affected areas and 200 mm beyond, all to the manufacturer's specifications. Safety precautions shall be taken against possible health or fire hazards as specified by manufacturer.

(iii) Procedures (cracked and failed members)

- (1) All members that are cracked right through will be regarded as failed members. Members with minor longitudinal cracks shall be repaired, following procedure 5 on sheet R3.
- (2) The Contractor must allow for propping and/or bracing at failed members to ensure complete structural stability during repairs.
- (3) Failed members as indicated in details 1 to 4 on sheets R1 to R3 shall be realigned by means of clamping with temporary backing pieces, after which repairs can proceed.
- (4) Members that are damaged too badly to effect repairs will have to be replaced or doubled up to suit the circumstances.
- (5) Once all repair work has been completed the Contractor must clean out the ceiling void, free of all rubbish, excess building material and all other foreign matter and make good any damage caused to ceilings, etc.

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- (6) Any alternative repair proposal shall be submitted in writing to the Engineer.

BD WALLS

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TECHNICAL SPECIFICATION

BD WALLS

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BD 01	SCOPE
BD 02	STANDARD SPECIFICATIONS
BD 03	VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS
BD 04	DETAIL OF REPAIR WORK
BD 05	MAINTENANCE

BD 01 SCOPE

This specification covers the repair and maintenance of existing interior and exterior walls including all related building elements such as plastering, partitioning, wall tiling, windows, doors, etc, which form an integral part of an installation.

In determining the remedy for any repair work, the Engineer must take the climatic conditions in which all building elements have to function into consideration. Allowance should be made accordingly for the strength and durability of all components in relation to their purpose and application.

This specification does not include any work related to paintwork as this is specified elsewhere.

The complete scope of repair work shall be in accordance with the section BD 04: Detail of repair work.

Maintenance of this part of the installation shall be performed in accordance with Additional Specification SA: General Maintenance, and the specific requirements included in this Technical Specification.

BD 02 STANDARD SPECIFICATIONS

BD 02.01 GENERAL STANDARD SPECIFICATIONS

The latest edition, including all amendments up to date of tender of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof. All other relevant and applicable SABS regulations are also to be considered as minimum requirements, and in particular SABS 0400: The Application of the National Building Regulations.

OW 371	-	Specification of materials and methods to be used (Fourth revision, October 1993)
SABS 022	-	Glazed ceramic wall tiles and fittings
SABS 227	-	Burnt clay masonry units
SABS 545	-	Wooden doors
SABS 622	-	Gypsum cove cornice
SABC 680	-	Glazing putty for wood and steel sashes
SABS 727	-	Windows and doors made from rolled mill steel sections
SABS 0107	-	The fixing of glazed wall tiles
SABS 1236	-	Silvered glass mirrors for general use
SABS 1263	-	Safety and security glazing materials for buildings

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BD 02.02 ADDITIONAL SPECIFICATIONS

Technical Specification BG: Metalwork
Technical Specification BH: Fittings
Technical Specification BJ: Paintwork

BD 03 VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS

BD 03.01 ADDITIONAL REQUIREMENTS FOR REPAIR OF PLASTERED AND UNPLASTERED WALL SURFACES

BD 03.01.01 Introduction

A detailed survey of all existing building elements may reveal the necessity for remedial work of varying degree. The Engineer shall make an assessment of all aspects that need to be addressed.

BD 03.01.02 Plastering: General

All plaster shall comply with the requirements of SABS 523 and section 21 of OW 371. All plastering shall be painted in accordance with Technical Specification BJ: Paintwork, or tiled according to this specification BD.

The Engineer shall inspect the plaster surfaces and establish which wall plastering must be repaired. Reasons for replacing existing plastering will include, but not be limited to the following:

- (a) Excessive plaster cracking
- (b) Loose (delaminated) and spalling plaster
- (c) Dusting
- (d) Scaling and flaking
- (e) Defective plaster mix.

All chases shall be marked out in straight lines and neatly cut on either side of the recess for the pipe/conduit with an angle grinder. The width of the removed plastering must extend at least 30 mm beyond the edge of the chasing. Pipes or conduits shall be fixed before commencing grouting and plastering.

After the pipe has been put in place, the void shall be filled with a non-shrink cement grout of 60 MPa compressive strength at 28 days. The chases shall then be covered by fixing with shot-fired nails an expanded mesh strip (30 mm longway x 10 mm shortway x 0,5 mm thick expanded metal lath) before applying the final plaster.

BD 03.01.03 Plastering: Walls of wet areas

Where necessary, hack off and remove existing internal plaster to walls. The substrates must be prepared to be sound, free from cement, grout, laitance, loose or segregated materials, voids or flaws and substances that could interfere with bonding of the new plaster. This preparation work can be done by means of chipping away with a chisel, steel-wire brush and angle grinders to the satisfaction of the Engineer. Smooth concrete must be chipped mechanically to prepare for bonding of new plaster. Before plastering commences, the substrates must be well wetted with clean water.

Only approved ready-mixed or pre-mixed bagged plaster mortar with 10 MPa compressive strength or equivalent may be used for plastering. Mix a liquid waterproofing admixture in a

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dilution of one part by volume with ten parts by volume of clean water. The diluted admixture is added to the appropriate dry cement/sand mixture. The mortar shall be produced in such quantities that will be used within one hour after mixing. The finished plasterwork shall be of an even and smooth trowelled surface finish.

When dry, apply two coats of an approved water dispersed epoxy resin coating to the plastered surfaces of the walls that are to be painted.

BD 03.01.04 **External plastering**

The Engineer shall mark out areas that need to be renovated. The Contractor shall neatly cut with an angle grinder in straight lines the edges of the poor patches of plaster that must be removed.

The substrate of the brick walls must be prepared to be sound, free from cement grout, laitance, loose or segregated material, voids or flaws and substances that might interfere with the bonding of the new plaster.

The surface must not be powdery or crumbly, and must exhibit adequate tensile strength. The preparation work can be done by means of chipping away with a chisel, steel-wire brush and angle grinders to the satisfaction of the Engineer.

Smooth surfaces must be chipped to provide mechanical bonding for new plaster. Before plastering commences the substrate must be well wetted with clean water.

Only approved ready-mixed or pre-mixed bagged plaster mortar with 5 MPa compressive strength or approved equivalent may be used for plastering. The Contractor shall submit the design mix with the volume of water to be added to the mortar mix for approval by the Engineer. An approved bonding agent must be added to the mortar mix.

The mortar shall be produced in quantities that will be used within one hour after mixing. Care shall be taken not to mix old mortar into any new batch.

The finished plasterwork shall made even and smooth by means of a wooden trowel (surface finish with rounded edges at sharp corners) to the satisfaction of the Engineer. The plasterwork shall be cured for seven days by any approved method to prevent loss of moisture.

Three (3) test cubes shall be taken for every 1000 m² plaster area. Cube moulds for nominal size 100 mm complying with the requirements of SABS Method 863 must be used. Final instructions for sampling, moulding, cutting and testing will be issued to the Contractor on site.

BD 03.01.05 **Rough-cast plaster**

Rough-cast plaster shall be applied in two coats. The undercoat shall be composed of one part cement and five parts sand finished with a wooden float. The finishing coat shall be composed of one part cement and three parts stone aggregate that will pass through a 4 mm sieve. The finishing coat shall be flicked on with a machine before the undercoat has set to obtain an even texture to match the existing rough-cast plaster.

Where the undercoat has already been plastered, the undercoat shall be prepared to receive the finishing coat. The surface of the undercoat plaster shall be chipped adequately to form a key and wetted before the finishing coat is applied.

BD 03.01.06 **Fine rough-cast plaster**

Fine rough-cast plaster shall be as for rough-cast plaster but the finishing coat shall be composed of one part cement and three parts coarse sand.

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BD 03.01.07 Internal plastering

The surface of internal plaster shall be steel trowelled to a smooth, even and true finish. External plaster shall be finished to a true and even surface with a wood float. All plaster surfaces shall be free from blemishes, cracks, blisters or other defects. Plaster shall turn into reveals and soffits of openings, and all angles shall be true and straight with salient angles slightly rounded.

Plastering of a surface shall be executed in one operation, as no joint marks will be allowed. Plaster on walls shall not be less than 12 mm or more than 20 mm thick and plaster on concrete shall be not less than 10 mm or more than 15 mm thick, except where specifically specified otherwise.

Only approved ready-mixed or pre-mixed bagged plaster mortar with 5 MPa compressive strength or approved equivalent may be used for plastering. The Contractor must submit the design mix with the volume of water that will be added to the mortar mix to the Engineer for approval.

BD 03.02 PARTITIONS

All internal non-load-bearing walls shall be inspected and the Engineer shall determine whether partitioning such as laminated plastic particleboard, polyester painted steel, vinyl clad gypsum panels or any other demountable partitioning should be replaced.

Where partitioning must be relocated or replaced, such new partitioning shall be non-combustible, provide acoustical privacy and comply with SABS 0400.

All new partitions shall assemble into a rigid structure and all units shall be readily removable from either side without disturbing adjacent units.

All exposed trims for doorframes, glazing and skirting are to be of aluminium, or alternatively be painted in accordance with Technical Specification BJ: Paintwork.

The type of boarding and jointing or cover strips shall be in accordance with the Schedule of Quantities.

BD 03.03 WALL CRACKS

Wall cracks shall be evaluated to determine the nature and severity of the occurrence of the cracks. The Engineer shall inspect all plastered and unplastered walls and identify the underlying factors causing cracks. Repairs shall be carried out in accordance with the Particular Specifications.

BD 03.04 FACE BRICKS

Face bricks shall be inspected for dirt, efflorescence, staining, oil, paint, lichens and mosses, water, smoke and soot, rust, or damage caused by chemical reaction.

Where efflorescence appears, light brushing and hosing down with clean water is recommended for most cases. The brickwork must be saturated with clean water before applying any chemical and washed down with clean water afterwards. Cleaning can also be achieved with scrubbing, water jetting with cleaning agents and soaps, etc. Staining caused by non-water-soluble salts, such as vanadium, manganese and iron, shall be treated as follows:

- (a) Remove vanadium staining by washing the wall with a solution of 100 g caustic soda to 1 litre of water. (Use the corresponding secondary potassium salts where available, as

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these will be less likely to cause visible secondary efflorescence.) If secondary efflorescence occurs, wash it off with clean water.

- (b) Manganese stains must be removed using proprietary brand chemical compounds based on hydrochloric acid with modifiers and sodium fluoride. These solutions should be applied as recommended by the manufacturer.
- (c) Where rust/iron stains occur, wash the affected area with a solution of 50 g oxalic acid, 20 g sodium fluoride, 15 g citric acid in 1 litre of fresh, clean water. Apply the solution to a dry wall and leave it on the wall until the stain has dissolved. Wash down using a solution of 50 g bicarbonate of soda in one litre of water.

External environmental stains and smears caused by soot, smoke, industrial pollution and spillage of oil, paint and other compounds, including micro-organic growths such as fungi, lichens and mosses on brickwork, must be identified and dealt with in an appropriate and approved way.

Care shall be taken to test the effect of some of the chemicals and compounds for possible harmful effects on the colours of the brickwork and on adjacent materials, as well as for possible toxicity to human, animal and plant life. All cleaning procedures shall be carried out with full knowledge of all the potential dangers to human and animal health, and the appropriate safeguarding and precautionary measures shall be put in place.

BD 03.05 **WALL TILING**

BD 03.05.01 **General**

Tiling shall comply with the requirements of SABS 22 and section 15 of OW 371. The code of practice for the fixing of glazed wall tiles, SABS 0107 and the recommendations of the South African Ceramic Tile Manufacturer's Association (SACTMA) must be adhered to.

All tiled areas must be checked for damaged surfaces or to determine where tile adhesion to subsurface may turn out to be of non-satisfactory standard. In cases where tiled surfaces need to be redone, proper care shall be taken in removing all damaged tiles, as well as any adhesive remains on the subsurface.

Matching of existing size and colour should be pursued wherever possible.

BD 03.05.02 **Glazed wall tiling**

White glazed tiles 150 x 150 x 5 mm thick, first grade, must be laid in a cement-based powder adhesive, strictly in accordance with the manufacturer's specification. Drying periods for backgrounds and substrates must be strictly adhered to. All tiles must be correctly bedded. This can be achieved by using a 6 mm square notched wall trowel to spread the fixative to the required thickness of 6 mm. Bed the tiles dry and move them firmly into position, ensuring that they are in proper overall contact with the bed and form an even surface.

A minimum of 2 mm grouting joints shall be allowed between tiles. Under no circumstances should the tiles be butt-jointed. Do not fill joints between tiles until at least 24 hours after the tiles have been bedded. Ensure that the joints are free of tile adhesive residue and any foreign matter. Fill joints with waterproof white cement. Existing joints must be cleaned and refilled with new white cement.

BD 03.05.03 **Ceramic wall tiling**

Glazed ceramic wall tiles 230 x 115 x 11, 5 mm thick, with grade 1 acid resisting quality finish are to be used. Apply an approved epoxy grout into the tile joints and finish off with a wetted

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

nosing tool to a smooth glazed finish. Ceramic tiles include special tiles, such as bull nose and corner tiles. Repairs include replacing damaged tiles and pointing between tiles with an approved epoxy grout.

BD 03.05.04 Corner protectors

Install 75 x 75 x 5 mm thick aluminium angle corner protectors to external vertical wall corners for protection with 8 mm diameter impact nails x 80 mm long @ 300 mm c/c to a maximum height of 1,6 m. Seal the interface gap with approved silicone.

Install for abattoirs and dairies 75 x 75 x 3 mm thick stainless steel grade 304 angle corner protectors, polished to a No 2B finish with a grit 180, to external vertical wall corners. Fix the corner protectors with 8 mm diameter impact nails x 80 mm long @ 300 mm c/c to a height of 1,8 m. The interface gap must be sealed with an approved polyurethane sealant.

BD 03.05.05 Expansion joints

Expansion joints for glazed wall tiling shall be provided at 3,5 m centres maximum (vertically and horizontally). The joints shall be 5 mm wide. Prepare the joints by cleaning them thoroughly. The joints shall be primed and sealed with an approved one component 5 x 5 mm white polyurethane joint sealant.

Expansion joints for ceramic wall tiling shall be provided at 4 m centres maximum (vertically and horizontally). The joints shall be 10 mm wide maximum. Prepare the joints by cleaning them thoroughly. The joints shall be primed and sealed with approved one component 10 x 10 mm white polyurethane joint sealant.

BD 03.06 WINDOWS

BD 03.06.01 General

All windows shall be inspected to assess the level of workability, paying special attention to hinges, handles, stays, catches, etc. Should any window be found unsuitable due to damage to the frame, opening section or any other part thereof, such window shall be replaced.

The Contractor shall take great care to make sure that the appropriate waterproofing details are applied strictly to ensure adequate protection against any water penetration.

BD 03.06.02 Steel windows

The Engineer shall inspect for any deficiencies in residential and industrial type steel windows and cell windows. Where necessary, windows shall be serviced and repainted in accordance with Technical Specification BJ: Paintwork.

BD 03.06.03 Burglar bars to steel windows

Where manganese bars are incorporated in the fixed mullions of the windows, this shall be done in such a way that the bars are not wider apart than 15 cm/centre. The bars shall have at least a section of 30 x 16 mm, penetrating at least 100 mm in the lintels and sills. Heavy duty burglar bars shall be 15 mm diameter or 12 mm square. Loose burglar bars shall be site welded to the window frames.

BD 03.06.04 Timber windows

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

All wooden windows are to be inspected and treated according to the condition of the timber as stipulated in Technical Specification BJ: Paintwork.

BD 03.06.05 Aluminium windows

When working with mortar or plaster great care shall be taken to protect all aluminium sections from staining by applying a film protector or motor oil on the aluminium surface.

BD 03.07 GLAZING

BD 03.07.01 Glass

Cracked and broken glazing shall be replaced. The glazing and fixing of glass in buildings shall be carried out strictly in accordance with SABS Code of Practice 0137.

BD 03.07.02 Putty

Care shall be taken to remove all chipped, flaked or damaged putty. The Engineer shall indicate on site which putty must be replaced.

All new putty shall comply with the requirements of the SABS 680. The putty shall be delivered on the site in sealed containers marked with the SABS mark.

Type I putty as specified shall only be used for glazing in wood sashes and Type II only in steel sashes.

Paintwork on putty shall not commence until putty has properly dried out, which may necessitate the addition of an accelerating agent. The Contractor shall therefore take programming of trades in prison areas into consideration.

BD 03.08 DOORS

BD 03.08.01 General

All existing doors shall be inspected for the general condition and integrity of hinges, locking mechanisms, etc.

All steel doors shall comply with the requirements of SABS 727 and 1129 and section 13 of OW 371.

All new external doors are to be fitted with 1½ pair heavy duty hinges.

Door signage, such as door numbers, etc, shall be in accordance with Technical Specification BH: Fittings, and the Schedule of Quantities.

Special attention shall be given to the condition of striker plates and hinges that need to be replaced, or properly secured where possible. Doors shall be painted to the requirements of Technical Specification BJ: Paintwork.

BD 03.08.02 Doors, sidelights and fanlights

All wooden stock doors shall comply with the requirements of SABS Standard Specification 545 and section 8, clauses 8.33 and 8.34 of OW 371.

BD 03.08.03 Flush doors

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall inspect all doors, internal and external. Where any door needs to be replaced, such door shall be a 40 mm thick solid laminated door as specified for interior or exterior use and shall be capable of withstanding the raking, deflection, puncture and moisture resistance tests for the desired application.

Unless otherwise specified, face veneer shall be rotary cut, and shall be of the timber specified, or where doors are to be painted, shall be of timber suitable for painting. Painting shall be done in accordance with Technical Specification BJ: Paintwork, and the Schedule of Quantities.

Edge strips for concealing the vertical edges of doors shall be of the same timber as the face veneer and for single doors and hinge edges of double doors shall not be less than 10 mm thick, and for rebated meeting edges of double doors not less than 20 mm thick. The top and bottom edges of doors showing end grain shall be sealed with lacquer or other suitable material if the edges were disturbed in any way.

BD 03.08.04 Toilet doors in ablutions

Doors showing signs of erosion due to water penetration shall be either replaced or cut short 150 mm from finished floor level. If the existing semi-solid door panel is to be retained, it should be cut short 150 mm from the floor level. A 38 x 50 mm SAP insert must be glued and nailed in at the bottom edge. The steel frame must also be cut short and filled in with grout at the cut edges and fixed to the wall with 2 x 8 mm diameter heavy duty impact nails.

BD 03.08.05 Doors for abattoirs and dairies

Doors in abattoirs and dairies shall be made of 0,5 mm white Chromadek sheet-metal glued onto 40 mm thick 16 kg/m³ density polystyrene core with chemical glue.

The door leaf shall be finished off around the edges with 46 x 30 x 2,5 mm thick anodised aluminium channels and sealed with white silicone sealant.

The doorframe shall be manufactured from 1,6 mm thick grade 430 stainless steel, polished to No 2B finish.

The existing timber door panels must be replaced with the above-mentioned type door panels. Where instructed the steel door frames will only be replaced if they are severely corroded and/or damaged. The new steel frames must be built into the brick walls with the necessary steel lugs (3 per side) and the core of the frame must be filled with mortar. All other requirements shall be complied with as specified in clause 13.6 of OW 371.

BD 03.09 IRONMONGERY

BD 03.09.01 General

All ironmongery shall comply with the requirements of section 11 of OW 371. All ironmongery shall be approved by the agent/representative before fixing. Articles shall be fixed with screws of similar metal and shall be eased, oiled, adjusted and left in perfect working order on completion.

All ironmongery shall be inspected to assess the level of workability, paying special attention to door handles, locks, door closers, door stops, door catches, fixing of these fittings, etc. Should any of these fittings be found unsuitable due to damage, corrosion, etc, they shall be replaced. Where existing holes in wood are worn out, these holes must be plugged with wood to receive the screws.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Toilet doors in ablutions must be fitted with approved D-type natural anodised aluminium pull handles and 150 x 150 mm plate. Install 15 mm diameter concealed steel roller ball catch with chromium-plated striker plate with circular hole for roller ball catch. Fix this plate to door frame with two aluminium pop rivets.

BD 03.09.02 Door locks

Each lock shall be provided with two keys and no key shall pass a second lock. All mortice locks, mortice latches and night latches, rim and cylinder rim night latches, and escutcheon for locks shall comply with the requirements of the SABS. The Contractor shall supply all screws, etc, required for completion of the work.

BD 03.09.03 Cupboard doors

Where required according to the Schedule of Quantities, built-in cupboard doors in sleeping quarters are to be provided with 2 x angle iron sections of 35 x 80 x 3 mm thick x 10 mm diameter hole for a padlock that must be fixed to the inside of the cupboard door.

Locker doors shall be provided with a 50 x 50 x 5 mm thick mild steel angle x 10 mm diameter hole for a padlock site welded to the locker.

BD 04 DETAIL OF REPAIR WORK

The detail of the work is described in the Schedule of Quantities.

BD 05 MAINTENANCE

This specification must be read in conjunction with Additional Specification SA: General Maintenance.

All components forming part of any wall structure shall be maintained as part of the maintenance of installations as defined in Additional Specification SA: General Maintenance.

Maintenance shall include all repair work, replacing of components, servicing, fixing of defects or any other actions or rectifying measures necessary to maintain the perfect functional condition of any wall structure.

Remuneration for maintenance of the walls shall be deemed included in the tendered monthly payment for maintenance of the installation under which it falls.

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BE FLOORS

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

TECHNICAL SPECIFICATION

BE FLOORS

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BE 01	SCOPE
BE 02	STANDARD SPECIFICATIONS
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BE 01 SCOPE

Floors shall mean the work to be carried out to repair and maintain materials and components such as removal of existing floors and installation of new floor coverings, skirtings, screeds, concrete floors and paving. This specification does not include work related to metalwork and paintwork, which are specified elsewhere.

This specification covers the removal of existing floor coverings, screeds and concrete surface beds, the repair of existing floor coverings, screeds and concrete surface beds. This specification also covers the supply, delivery and installation of new floor coverings, screeds and concrete surface beds for various types of buildings.

The complete scope of repair work shall as described in BE 04: Detail of repair work.

Maintenance of this part of the installation shall be performed in accordance with Additional Specification SA: General Maintenance, and the specific requirements included in this Technical Specification.

BE 02 STANDARD SPECIFICATIONS

BE 02.01 GENERAL STANDARD SPECIFICATIONS

The latest edition, including all amendments up to date of tender of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

OW 371	-	Specification of Materials and Methods to be used (Fourth edition, October 1993)
SABS 281	-	Hardwood block and strip flooring
SABS 581	-	Semi-flexible vinyl floor tiles
SABS 786	-	Flexible vinyl flooring
SABS 978	-	Wood mosaic flooring
SABS 070	-	The laying of thermoplastic and similar types of flooring
SABS 043	-	The laying of wood floors
SABS 0186	-	The laying of textile floor coverings
SABS 2149	-	Ceramic wall and floor tiles

BE 02.02 ADDITIONAL SPECIFICATIONS

Technical Specification BF: Structural concrete
Technical Specification BG: Metalwork

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

BE 03 VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS

BE 03.01 ADDITIONAL REQUIREMENTS FOR REPAIR OF FLOORS

BE 03.01.01 Floor coverings

Existing floors shall be inspected to determine the extent of any damaged floor areas. The existing floors and other building elements shall be protected from damage during the progress of any repair work and on completion shall be cleaned and handed over in a perfect condition. Only skilled workmen experienced in laying any type of floor finishes shall carry out the work.

BE 03.01.02 Preparation of floor slab and surface beds for new floor screeds

The existing concrete screed shall be removed in patches designated by the Engineer.

All laitance on the surface of the existing surface bed must be removed completely. Mechanised plant such as scabblers or abrasive blasters must be used. The Contractor shall take all necessary precautions to keep dust pollution to a minimum inside the building during the breaking out and removing of existing concrete screeds, as well as during the preparation of the existing concrete surface bed.

After the mechanical cleaning of the slab surface to expose the coarse aggregate, all dust and debris must be removed, and the surface must be thoroughly wetted and kept wet for at least 12 hours before application of the new concrete screed.

BE 03.01.03 Surface preparation of existing floor screeds for new floor coverings

The following procedure is suggested where vinyl tiles were laid with bitumen adhesive:

- (a) The Engineer will indicate the area where existing vinyl tiles are to be removed.
- (b) The bitumen must be removed mechanically and/or chemically. Remove as much bitumen and other contamination as possible by scraping. Bitumen can be heated to soften it.
- (c) Sweep or vacuum sub-floor thoroughly to remove dust and grit.
- (d) An approved solvent based degreasing and cleaning compound can be used to remove the bitumen chemically. The Contractor shall ensure the safety of the workers and the building against possible fire.
- (e) The concrete surface must be smooth. Even the surface with Pavelite or approved equivalent before laying the new vinyl tiles. The Pavelite must be applied in accordance with the manufacturer's specifications.
- (f) Vacuum clean the floor surface again before the adhesive is applied to lay the vinyl tiles.

BE 03.01.04 Cement screed

Cement screeding shall be carried out in accordance with clause 21.18 of OW 371. The Engineer shall determine which existing cement screeds are to be replaced. The cement screed shall have a maximum thickness of 30 mm. Where required the cement screed shall be modified with an approved alkali compatible acrylic emulsion by preparing the cement screed with a mixture of the latex and water in the required ratio.

Contractor

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Employer

Witness 1

Witness 2

Before the new screed is applied, remove all surface water from the slab. Apply a bond coat to the slab/surface bed, consisting of a 1:1 mix of cement and clean fine sand with just enough water to provide the consistency of slurry. Mix in equal parts an approved alkali compatible acrylic emulsion specially modified for use in cement mortars with water, and add Portland cement to form the slurry. Spread the bond coat evenly using a stiff fibre brush. Do not leave standing pools. Place screed before the bond coat dries out. The screed must be laid and compacted in one layer.

Curing should commence as soon as the finishing operations have been completed and should be continued for at least 7 days. The Engineer must approve the method of curing.

Joints must be formed in the screed at all existing contraction and expansion joints, as well as at intermediate positions at 3 m maximum spacing.

BE 03.01.05 Concrete screeds

(a) General

Concrete screeds shall have a minimum thickness of at least 50 mm. The Engineer shall determine the areas where the concrete screeds need to be replaced.

Only ordinary Portland cement, CEM 1 42,5 in accordance with SABS ENV 197-1, shall be used.

Coarse aggregate maximum size: 10 mm
28-day cube strength: 35 MPa.

The use of an approved plasticizer is recommended to reduce the water content of the mix to the absolute workable minimum.

The mix design must be submitted to the Engineer in advance for approval.

A set of three test cube samples shall be taken for every 500 m² floor area for the testing of the compressive strength of the concrete.

(b) Concrete floor hardener

Concrete natural non-ferrous aggregate floor hardeners shall strictly be applied in accordance with the manufacturer's specification and under his supervision. Note: The Contractor shall furnish a certificate of compliance, together with a written guarantee after completion.

(c) Compressive strength

At 7 days: 50 MPa
At 28 days: 70 MPa

All other aspects of the construction of new concrete screeds shall be adhered to as specified in Technical Specification BF: Structural concrete.

BE 03.01.06 Laying of material (ceramic excluded)

The laying of vinyl and similar flooring material in tile and sheet form and the fixing of plastic skirtings, nosings, etc, shall be carried out in accordance with SABS 043 and section 10, clause 10.3 of OW 371.

The laying of wood block and wood mosaic flooring shall be carried out in accordance with SABS 043 and section 10, clause 10.2 of OW 371.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The laying of textile floor coverings shall be done in accordance with SABS 0186.

Vinyl floor tiles shall be laid with continuous joints in both directions. Tiles shall be cut with a "jointer" at saw and expansion joints. Laying of tiles over these types of joints will not be permitted. Only latex-resin type adhesive shall be allowed to glue tiles to the concrete screed or surface bed.

BE 03.01.07 Granolithic screed finish

Granolithic screed finish to floors, treads of steps, thresholds and similar surfaces shall, unless otherwise specified, not be less than 25 mm thick. The granolithic screed shall be composed of three parts granite, or other approved hard stone chips, or approved hard, coarse sharp washed granitic or quartzite sand, half part clean sand and one part of cement, hand or mechanically trowelled to a true and smooth surface. No dry cement powder, grout or wet slurry mix shall be applied to the surface.

New granolithic screed shall be laid before the concrete surface bed or floor matures in order to allow for proper binding. If this is not possible, then the top of the surface bed or floor shall be hammered, chipped and then cleaned with a wire brush and a coat of neat cement grout applied immediately before the granolithic is laid.

The granolithic shall be laid in panels not exceeding 6 m² in area and jointed to lines of panels with V-joints. The joints between the panels shall coincide with joints in the concrete surface bed or floor.

Granolithic finish to stair risers, sides of curbs and other vertical surfaces shall, unless otherwise specified, not be less than 12 mm thick.

All granolithic work shall be done by experienced workmen only and shall be protected from damage caused by rain or other extreme weather for 12 hours after being laid. Protection shall be provided against too rapid drying whilst hardening by means of covering with wet sacks or other suitable material. The screed shall also be protected from damage and discoloration during the progress of the remaining work.

Edges of granolithic floor butting against different floor finishes and edges of margins, etc, shall be true and sharp, and shall be protected by fixing temporary wood strips which shall remain in position until the laying of the adjoining floor has commenced.

Where a non-slip granolithic floor finish is required, the granolithic shall be laid as specified above. Alundum grit shall then be sprinkled over the surface at the rate of 1 kilogram per square meter, lightly tamped in and allowed to set.

BE 03.01.08 Vinyl floor finishes

Existing floors should be inspected and where vinyl tiles need to be replaced, such tiles shall comply with the requirements of SABS 786, and be 300 x 300 x 2 mm thick unless otherwise specified. The flooring shall be of marbled pattern and of an approved colour (to be specified by the Engineer).

Vinyl floor tiles or sheets shall be laid with an adhesive recommended by the manufacturer. All the preparation and work in connection with the laying and fixing of the specified flooring and vinyl skirtings shall be done in accordance with SABS 070 and to the satisfaction of the Engineer.

The flooring shall, where necessary, be cut and neatly fitted against adjoining floors, thresholds, etc. Where required the Contractor shall carefully remove existing timber floor

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

skirtings and/or quarter rounds for re-use where vinyl tiles are laid against walls. Reinstate skirtings and/or quarter rounds.

Vinyl floor tiles shall, unless otherwise specified, be laid with continuous joints in both directions and vinyl floors shall, unless otherwise specified, be in standard widths with cut sheets at sides of floors as necessary, all to the entire satisfaction of the Engineer.

The vinyl flooring and skirtings shall be covered up and protected from damage during the progress of remaining work and on completion be cleaned and, unless otherwise specified, polished with the type of polish recommended by the manufacturer of the vinyl flooring.

BE 03.01.09 Skirtings

Loosened hardwood skirtings must be cleaned and where necessary removed and/or replaced by 76 x 19 (or 25 mm) mm thick hardwood skirting with one rounded top edge plugged to the wall. Painting shall be in accordance with Technical Specification BJ: Painting.

In selected areas skirtings shall be 100 mm high x 6 mm thick unglazed ceramic tiles glued to walls with an approved cement grout. The Engineer shall specify these areas.

Vinyl cove skirtings shall be of approved manufacture and colour and, unless otherwise specified, be 70 mm high.

BE 03.01.10 Sealing of vinyl flooring

The newly laid tiles shall, after four days, be scrubbed with a diluted neutral detergent/stripper complying with SABS 825 and rinsed thoroughly. After the floor has dried, apply two coats polymer/acrylic sealer combination containing a minimum of 22 % solids using an applicator pad. Ensure that the surface has set hard before allowing traffic on the floors.

BE 03.01.11 Wood block floors

(a) Replacement of wood block floors

Where required, wood blocks that must be replaced shall, unless otherwise specified, be Clear Grade, Class H with nominal sizes of 75 mm wide, 225 mm long and 20 mm thick, and shall comply with the requirements of SABS 281. Wood blocks that are loose must be re-laid using an approved hot or cold adhesive after the old bitumen has been removed and the surface prepared.

The moisture content of the blocks shall be as specified in the above-mentioned specification, and the blocks shall be treated with timber preservative as specified. The blocks shall, unless otherwise specified, be laid to a basket pattern with an approved hot or cold adhesive and shall be sanded on completion all in accordance with the SABS Code of Practice, SABS 043 and to the satisfaction of the Engineer

Wood block floors shall be covered up and protected from damage during the progress of the remaining work, and unless otherwise specified, a sealer shall be applied to the final sanded surface and then polished all in accordance with the above-mentioned Code of Practice.

(b) Partial repairs to parquet floors

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Only very loose wood blocks identified by the Engineer shall be repaired. The Contractor shall carefully remove the wood blocks for re-use. Scraping and any other suitable means shall be used to remove the old bitumen. The concrete surface bed or cement screed shall be cleaned from dust and bitumen residue as specified in BE 03.01.02. If the concrete or cement screed is in a poor condition, the poor patches shall be removed according to BE 03.01.04. The Contractor will be allowed to use rapid hardening cement grouts to reduce drying time of concrete and cement screeds in order to suit the working programme. The screeds must be laid at such a level as to enable the workmen to lay the cleaned wood blocks at the same level as the surrounding wood flooring blocks. The cleaned blocks shall be laid in a basket pattern (or the same existing pattern) with approved hot or cold bitumen at the same level as the surrounding blocks. Missing blocks must be replaced.

BE 03.01.12 Sealing of timber floors

Existing timber floors must be mechanically belt-sanded to remove all traces of existing sealer in strict compliance with SABS 043. Where necessary, existing flooring, skirtings and quarter rounds should be temporarily removed. Before applying the new wooden floor sealer, ensure that the surfaces are dry, sanded smooth and free from varnish or oil. Vacuum the dust from the prepared floor surfaces.

Apply three coats of clear, lead free wooden floor sealer with preservative and anti-fungicidal properties according to the manufacturer's specification.

Apply the first coat until an even glossy, wet surface is achieved. Leave to dry thoroughly. Apply at least two other coats in the same way, and finally a fourth and final coat. It is proposed that the Contractor first do a trial section to satisfy himself that he can handle this procedure. The final appearance of the wooden floor must be smooth and have a uniform non-gloss finish.

Reinstate skirtings and quarter rounds.

BE 03.01.13 Tiling (general)

Tiles shall be solidly bedded and jointed in cement mortar and, unless otherwise specified, joints shall be 6 mm wide.

The joints in all tiling are to be continuous in both directions. The pointing is to be carried out by well pressing in half-dry cement mortar. Under no circumstances may liquid cement grout be used for pointing.

All tiling shall be properly covered and shall be protected against any possibility of staining, discolouring or any other damage.

At completion, all tiling is to be exposed, checked for damage, repaired where necessary and cleaned off with soft soap and cold water and left in a perfect condition. The application of oil on tiling is not allowed.

BE 03.01.21 Ceramic and quarry floor tiles

(a) General requirements

The Engineer shall determine which tiles need replacement. The existing floor screed and floor tiles must be removed in patches and/or areas as determined by the Engineer.

Ensure that the base for floor tiling is rigid, stable and level unless required to have a fall in one or more direction(s). The surface preparation and cement screed (if required) are described in BE 03.01.03 and BE 03.01.04 respectively. When proprietary brand

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

adhesives are being used for fixing ceramic floor tiles it is essential that the surface to which the tiles are to be fixed is clean, dry, flat and true.

Lay approved unglazed ceramic split floor tiles (230 x 115 x 11,5 mm thick and of a selected or matching colour) in professional floor grouting with 8 - 10 mm wide joints. The floor grout must be applied with a 10 mm square notched floor trowel evenly over an area not exceeding 1 square metre at a time. Coved skirting tiles including external and internal skirting corners must be laid against walls in abattoirs. Setting out must be done correctly. The finished installation must be level plumb and true unless specified otherwise. In abattoirs the floor tiles must be laid to specified falls.

Mortar beds for dust-pressed tiles and quarry tiles shall be formed with a slurry of 1:1 cement and clean fine sand to a thickness of about 3 mm on an area not exceeding 1 square metre at a time. The joints will be 6 - 8 mm wide depending on the size of the tile.

The tiles must be laid in professional cement-based powder adhesive, strictly in accordance with the manufacturer's specifications. The Code of Practice for the fixing of tiles in accordance with SABS 2149 and the recommendations of the South African Ceramic Tile Manufacturer's Association (SACTMA) shall be followed. Important points to be taken into consideration are summarised below:

- (i) Sufficient time must be allowed between building operations.
- (ii) Drying periods for backgrounds and substrates must be strictly adhered to.
- (iii) No tiling may commence prior to the prescribed time.
- (iv) All tiles must be correctly bedded. The tiles must be properly bedded into a fixative that is spread evenly to the required thickness using a square notched rubber mallet (10 mm for ceramic tiles). Bed the tiles dry and move firmly into position, ensuring that they are in proper overall contact with the bed, and form an even surface.
- (v) A minimum of 6 - 10 mm grouting joints must be allowed between extruded and split tiles (3 mm minimum for pressed tiles). Ensure that the joints are free of tile adhesive and any foreign matter.
- (vi) Setting out must be done correctly.

(b) Filling of joints

Do not fill joints between tiles until at least 24 hours after the tiles have been bedded. Before applying the joint epoxy grout ensure that the joints are free of tile adhesive residue and any foreign matter. Apply the approved epoxy grout into the tile joints. The finishing-off must be completed with a wetted nosing tool or spatula so that a smooth glazed surface finish can be achieved. Application of the epoxy grout must be done strictly in accordance with the manufacturer's specifications. Finally, the tiles must be thoroughly cleaned.

BE 03.01.15 Movement joints in tiling

(a) General requirements

Movement joints are to be provided in tile work to allow for thermal expansion and contraction and crack control at existing expansion joints in the surface bed.

- (i) Provide movement joints in the tile work, screed and bedding down to the concrete surface bed or slab. The spacing of these joints depends on the position of existing joints, column and wall layouts and slab thickness. The maximum spacing of joints should be limited to 30 times the slab (surface bed) thickness or

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- 4,5 m, whichever is the lesser. The length-to-width ratio of tile panels should be limited to between 1,0 and 1,5.
- (ii) Provide isolation joints around the perimeter of the floor, around columns, walls and other fixed structural elements.
 - (iii) Joints shall be aligned with no offsets. Irregular shaped tile panels must be avoided. Where included angles are unavoidable, they should be less than 60 degrees.
 - (iv) The width of the joint shall be 6 mm minimum and 10 mm maximum. Provide an approved closed-cell expanded polyethylene foam joint filler with a hinged temporary blocking piece in the movement joints. The size of the blocking piece must be the same as the joint width.

(b) Joint sealing

The joints shall be prepared and primed prior the application of the joint sealant.

The liquid sealant in joints shall be an approved one part grey polyurethane sealant with a shore hardness of A45 and an elongation of 400 %. The manufacturer's specifications must be strictly followed.

(c) In abattoirs

Clean and dry all tile surfaces. All loose material must be removed by means of a wire brush or by water while all tile adhesives are cleaned from the edges of the tiles.

Ensure that all traces of release agents, curing compounds and existing joint sealant compounds are removed. Install a suitable closed-cell expanded polyethylene bond breaker cord in the expansion and isolation joints after which the complete substrate is primed with a component solvent free primer which penetrates into the tile and pulls all dust particles with it. Proceed with the final application of an approved one part grey polyurethane sealant with a shore hardness of A45 and an elongation of 400 %. The manufacturer's specifications must be strictly followed.

BE 02.02 PAVING

Repairs to paving shall include the improvement of existing paving, drainage channels and the replacement of paving that can not be repaired. Different paving types exist, eg concrete, precast segmental paving and regular blocks, bricks and slasto. This specification only covers pedestrian paving around buildings.

The Engineer shall identify the paving areas that are to be repaired. Defects to paving will include but not be limited to the following aspects:

- (a) Failure of subbase material and subsidence of sub-soil due to excessive water erosion;
- (b) Broken and severely damaged paving;
- (c) Distorted and disturbed paving;
- (d) Drainage problems, eg ponding of water on the paving and in drainage channels, incorrect falls, etc;
- (e) The omission of edge restraint;
- (f) Intrusion of weed or hostile root penetration.

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BE 03.02.01 Preparing foundation

If the subbase and/or subgrade have failed, this soft and unstable material shall be replaced. Existing paving must be carefully removed and stack for re-use. The new earth filling shall be of inert material, having a maximum plasticity of 10, free from large stones, etc, spread, levelled, watered and compacted in layers not exceeding 150 mm thick to a density of 95% of modified AASHTO density. Cement stabilization to improve the existing subgrade may be considered to improve the characteristics of the material. The blocks shall be laid true to line, levels and grade on a 25 mm thick layer of approved bedding sand. The bedding sand must not be used to fill hollows in an uneven subgrade or subbase surface. Where specified, plastic sheeting must be provided below the bedding sand layer. Refer also to BE 03.02.06.

The Contractor shall be responsible for carrying out all necessary process control tests on the density and moisture content of the completed subgrade, subbase, etc, to ensure that the required compaction is being attained.

BE 03.02.02 Laying of segmental block paving

The existing blocks shall be preselected for re-use. Broken and severely damaged paving blocks shall be replaced. New paving blocks shall comply with SABS 1058 Class 30 compressive strength. All blocks shall be laid true to line and level. Care shall be taken to ensure that joint lines are straight and square. The blocks shall have a minimum thickness of 60 mm.

After laying the blocks, the paving shall be compacted by means of vibrating plate compactor with joints between the blocks filled in, after compaction, by sweeping in fine sand. The jointing sand shall pass a 1,18 mm sieve and contain 10-50 % material passing the 75 micron sieve. The sand shall be free of all soluble salts or contaminants likely to cause efflorescence or staining.

Areas against curbs, manholes, etc, that require infilling and which exceed 25 % of a full block unit shall be filled with units cut to size using a mechanical or hydraulic guillotine, bolster or angle grinder. Infill areas constituting less than 25 % of a full block area and are of 25 mm minimum dimension shall be filled with 25 MPa concrete. Smaller areas shall be filled with 1:4 cement mortar.

BE 03.02.03 Laying face brick pavers, precast concrete blocks and slasto

The existing blocks shall be preselected for re-use. Broken and severely damaged paving blocks shall be replaced. All blocks shall be laid true to line and level. Care shall be taken that joint lines are straight and square. Slasto shall be to match existing pattern.

After laying the blocks (except slasto), the paving shall be compacted by means of vibrating plate compactor. Clean the top of the blocks before and after compaction. Thoroughly wet compacted area after compaction and leave 24 hours to dry. The joints between the blocks must be filled in, after compaction, with a 1:4 cement mortar. The joints shall be pointed with a steel tool to a smooth surface finish.

BE 03.02.04 Laying of cast in-situ concrete paving and drainage channels

Severely cracked and/or damaged concrete paving and drainage channels shall be replaced. The Engineer shall indicate which panels and sections of drainage channels are to be removed. Cutting out will be done with an angle grinder or saw cutting machine. Concrete panels must be removed in sizes where the ratio of the sides does not exceed 1:1,5. The foundation material must be improved as specified in BE 03.02.01.

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New concrete panels and drainage channels must be cast with a compressive strength of 25 MPa. Concrete paving to the specified thickness must be finished off with a smooth wood trowel surface finish or must match the existing surface finish. Edges must be finished off with a steel nosing tool with a radius of 5 mm. Expansion joints must be provided where specified. Drainage channels must be cast in lengths not exceeding 1 metre. Channels must be finished off to have a smooth steel trowel finish.

BE 03.02.05 **Precast concrete edge beams, curbs and channels**

Edge restraints shall be installed before paving commences. Edge restraints may be cast in-situ, or consist of precast units. Precast edge blocks shall have dimensions of 75 mm wide x 300 mm deep. Cast in-situ beams with 25 MPa concrete shall have dimensions of 300 x 300 mm and cast in lengths not exceeding 1 metre.

Precast concrete curbs and channels shall comply with SABS 927, generally in 1 metre lengths and finished smooth from the mould on exposed surfaces. Curbs and channels shall be bedded on and jointed in 1:3 cement mortar and pointed with keyed joints. Bases to curbs shall be Class B prescribed mix of unreinforced concrete.

BE 03.02.06 **Weed control**

Two types of weed killing shall be carried out:

- (a) Mixing weed killer to subbase for rehabilitated paving;
- (b) Spraying existing paving excluding concrete paving.

After the base course has been approved and the curbing completed, the prepared base must be treated with a weed killer similar or equal to HYVAR X at a rate of 4 kg/m². Plastic sheeting with a thickness of 375 micron shall be laid to prevent the penetration of grass underneath the segmental paving.

BE 03.02.07 **Site clearance**

Excess sand and all other debris shall be removed before the pavement is opened to traffic. The site shall be left in a tidy condition.

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BF STRUCTURAL CONCRETE

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TECHNICAL SPECIFICATION

BF STRUCTURAL CONCRETE (REPAIRS)

CONTENTS

BF 01	SCOPE
BF 02	STANDARD SPECIFICATIONS
BF 03	REQUIREMENTS OF REPAIR WORK

BF 01 SCOPE

This specification covers the repair of existing structural concrete elements and the supply, delivery and implementation of the repair procedures for the various types of buildings.

Structural concrete shall mean the scope of work to repair and maintain all structural concrete components such as walls, columns, stairs and suspended slabs. Joint repairs also form part of this specification. This specification does not include work related to metalwork and paintwork that are specified elsewhere.

The complete scope of repair work shall be according to the section: Detail of repair work.

Maintenance of this part of the installation (the works) shall be performed according to the Additional Specification: General Maintenance and the specific requirements to be included in this Technical Specification.

BF 02 STANDARD SPECIFICATIONS

BF 02.01 GENERAL STANDARD SPECIFICATIONS

The latest edition, including all amendments up to date of tender of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

OW 371	-	Specification of Materials and Methods to be used Fourth Edition, Oct. 1993
SABS 1200 G	-	Concrete (Structural)
SABS 1200 GA	-	Concrete (Small works)
SABS 1200 GB	-	Concrete (Ordinary buildings)
SABS 1200 GE	-	Precast Concrete (Structural)
SABS 1200 GF	-	Prestressed concrete
SABS 0100	-	Structural use of concrete
SABS 110	-	Sealing compounds for the building industry, two- component, polysulphide base
SABS 1077	-	Sealing compound for the building and construction industry, two-component, polyurethane-base
SABS 1254	-	Sealing compounds for the building industry, oleo- resinous base, for interior and exterior use.
SABS 1305	-	Sealing compounds for the building industry, one- component, siliconed-rubber-base

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BF 02.02 ADDITIONAL SPECIFICATIONS

Technical Specification BC: Waterproofing
Technical Specification BD: Walls
Technical Specification BE: Floors
Joint materials manufacturer's specifications (they shall take precedence over others)
Concrete repair materials manufacturer's specification (they shall take precedence over others)

BF 02.03 REQUIREMENTS FOR REPAIR OF STRUCTURAL CONCRETE

BF 02.03.01 Concrete repair

All existing structural concrete to be inspected to determine the extent of damage and repair work required. All remedial concrete work to be classified into the following categories by the Engineer:

- **Surface Concrete Repair**
Cosmetic repair of concrete surfaces where no reinforcing is exposed, where cover to reinforcement is not a problem (non-aggressive environment) and for non-structural repairs.
- **Mild to Moderate Concrete Repair**
When the reinforcing is exposed and the extent thereof is small compared to the size of the element under consideration.
- **Severe Concrete Repair**
Where the front of the reinforcing is exposed in large areas or reinforcing is exposed totally. Generally when the defective areas have adverse structural implications.

The above categories do not apply to off-shutter concrete, which will be treated on merit.

Any structural concrete elements that are damaged to such an extent that they cannot be classified under severe concrete repair, will be treated on merit. Detailed instructions will be issued during repair/maintenance for the rehabilitation of such structural concrete elements.

BF 02.30.02 Surface Concrete repair procedure

The following procedure, or similar approved by the Engineer to be used:

- Remove all loose and defective material and clean around affected area to expose aggregate.
- Saw-cut 10mm vertically around edges of repair area and break out concrete within to avoid tapered feathering.
- Wet area well, approximately 30 minutes before commencement of repair.
- Apply an approved shrinkage compensated cementitious repair mortar in strict accordance with the manufacturer's specifications.
- The repaired surface to be cured by covering with plastic sheeting and keeping wet for 48 hours or as otherwise specified.

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BF 02.03.03 Mild to Moderate Concrete repair procedure

The following procedure, or similar approved by the Engineer to be used:

- Remove all loose and defective material and break out to a minimum depth of 10mm.
- Saw-cut 10mm vertically around edges of repair area and break out concrete within, to avoid tapered feathering.
- Ensure that concrete is free from laitance, oil, grease etc and is sound, firm and clean.
- Exposed reinforcing to be wire brushed clean and free of all rust and then coated with an approved single component epoxy zinc primer.
- The concrete to be thoroughly wetted and kept wet for a minimum of 12 hours before applying remedial product, loose standing water to be removed prior to application of repair mortar.
- Apply an approved shrinkage compensated cementitious repair mortar in strict accordance with the manufacturer's specifications.
- The repaired surface to be cured by covering with plastic sheeting and keeping wet for 48 hours or as otherwise specified.

BF 02.03.04 Severe Concrete repair procedure

The following procedure or similar approved by the Engineer to be used:

- Propping of structure may be necessary during repair period.
- Chop around defective area removing all loose and suspect material taking care not to damage the existing reinforcing.
- Exposed reinforcing to be wire brushed clean and free of all rust and then coated with an approved single component epoxy zinc primer.
- The damaged area to be chopped rectangular in shape to expose the sound aggregate, and feathered edges to be saw-cut vertically and broken out to a minimum depth of 10mm.
- Ensure that the cavity is clean, dry and free of any debris.
- Apply an approved epoxy resin repair compound strictly in accordance with the manufacturer's specifications.
- In certain cases, which will be treated on merit, cementitious repair mortars as specified in BF 02.3.3, will be permitted.

BF 02.03.05 Concrete cracks

All existing concrete to be inspected to determine the extent and damage due to cracking of concrete. The cause of cracking is to be established to determine the correct remedial action to be taken. The Engineer will determine the extent of repair work required, which will in most cases, require individual specifications to suit.

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BF 02.03.06 Concrete crack repair procedure
(Generally used where cracking could adversely affect the structure)

The following procedure, or similar approved by the Engineer to be used:

- The surface over the entire length of the crack should be wire brushed to remove laitance or any other deleterious materials from the concrete.
- If the surface of the concrete is unsound, chase a vee cut into the crack.
- All debris to be removed.
- Drill holes into the crack. The size, depth and centres etc. as specified for the crack injection product to be used. Blow out holes free of drill dust.
- Install injection nipples into the holes as specified. Allow for air release holes.
- Seal the face/s with an approved epoxy.
- Pump in approved epoxy liquid to suit crack size/width.
- The above repair system to be done strictly in accordance with the manufacturers specifications and requirements, and must be carried out by approved specialists or suitably trained persons.

BF 02.03.07 Cleaning of Concrete

Concrete surfaces which have been soiled, stained, marked etc., and are aesthetically displeasing to the eye, must be cleaned to as close as possible, to new condition. Approved water-soluble cleaners and/or acid etching cleaners must be used strictly in accordance with manufacturers specifications.

BF 02.03.08 Expansion joints

Existing horizontal and vertical expansion joints to be inspected to determine the extent of damage to the joints. The existing expansion joints and other building elements shall be protected from damage during the progress of any repair work of expansion joints and on completion shall be cleaned and handed over in a perfect condition. Only skilled workmen experienced in the preparation for and application of the remedial products shall carry out the work.

The extent of the expansion joint remedial work to be determined by the site Engineer.

BF 02.03.09 Expansion joint remedial procedure

The following procedure to be used for remedial work to expansion joints. The site Engineer to confirm the remedial procedure required for each application and all workmanship is subject to his approval.

- Remove all damaged sealant from expansion joint.
- Joint former/filler to be inspected and if in poor condition, must be removed.

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- Remove all loose materials mechanically to ensure a sound, clean and dry concrete surface.
- Where required, the sides of the concrete joint to be cut smooth and straight with an angle grinder or diamond saw.
- Where required, the edges of the expansion joints to be provided with a fillet. Engineer to determine on site.
- Install a non-bituminous, non-extruding resilient joint filler where existing joint former/filler was removed.
- Install a closed cell resilient foam cord or release film or bond breaking tape before applying sealant.
- A primer coat to be applied to all surfaces, brushed well into the faces of the joint.
- Install a single component fast curing polyurethane joint sealer strictly according to the manufacturers specifications.
- All materials to be submitted to the Engineer for approval prior to installation.

BF 03 **DETAIL OF REPAIR WORK**

The Schedule of Quantities shows approximate quantities of work. Detailed instructions will be issued during construction.

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BJ PAINTWORK

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CB STORMWATER DRAINAGE

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TECHNICAL SPECIFICATION

CB STORMWATER DRAINAGE

CONTENTS

CB 01	SCOPE
CB 02	STANDARD SPECIFICATIONS
CB 03	OPERATING AND MAINTENANCE MANUALS
CB 04	EXECUTION OF REPAIR WORK

CB 01 SCOPE

This specification covers the materials, equipment, methods, testing and work required for the repair and maintenance of existing stormwater drainage systems. It covers both surface and underground drainage systems.

This specification shall form an integral part of the repair and maintenance contract document and shall be read in conjunction with portion 3: Additional Specifications included in this document.

Where a particular specification has been included in the documents to supplement Technical Specification CB: Stormwater drainage, this technical specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence. The Contractor shall at all times adhere to this technical specification, unless otherwise specified in the applicable Particular Specification.

CB 02 STANDARD SPECIFICATIONS

CB 02.01 GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

OW 371	-	Specification of Materials and Methods to be used (Fourth edition, October 1993)
SABS 1200 DB	-	Earthworks (pipe trenches)
SABS 1200 DK	-	Gabions and pitching
SABS 1200 G	-	Concrete (structural)
SABS 1200 LB	-	Bedding (pipes)
SABS 1200 LE	-	Stormwater drainage
SABS 1200 MK	-	Kerbing and channelling

CB 02.02 OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) shall be adhered to.

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CB 02.03 MANUFACTURERS' SPECIFICATIONS, CODES OF PRACTICE AND INSTALLATION INSTRUCTIONS

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers' specifications, instructions and codes of practice.

CB 02.04 MUNICIPAL REGULATIONS, LAWS AND BY-LAWS

All municipal regulations laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

CB 03 OPERATING AND MAINTENANCE MANUALS

No operating and maintenance manuals will be required for stormwater.

CB 04 EXECUTION OF REPAIR WORK

CB 04.01 GENERAL

The Contractor shall investigate and inspect all areas of the installation to confirm the extent of the repair work required and shall report to the Engineer. The Engineer will thereafter indicate any areas to be repaired and shall instruct the Contractor with regard to the repair work to be done.

At the start of the repair and maintenance contract all the systems and installations shall be repaired as specified in the Particular Specification. This repair work shall include but not be limited to the details specified in the Particular Specification.

All repair work shall be executed using approved materials and equipment suitable to the systems and/or installations they serve.

All materials and equipment shall comply fully with the requirements as specified for each installation.

The said repair work shall be executed in accordance with the relevant codes of practice, standards, regulations, municipal laws and by-laws, manufacturer's specifications and codes of practice and all additional and particular specifications included in this document.

All new, materials and systems shall be furnished with a written guarantee with a defects liability period of twelve (12) months from date of completion of repair work. These guarantees shall be furnished in favour of the Department of Public Works. On completion of the required and specified repair work the systems, installations and equipment shall be commissioned and handed over to the satisfaction of the Engineer.

Repair work items for the stormwater drainage systems shall be categorised under the following headings:

- (a) Prefabricated culvert installation and repair of existing culverts and structures;
- (b) Cleaning of prefabricated culverts;
- (c) Concrete channel construction and repair of existing channels;

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- (d) Cleaning of concrete drains and channels;
- (e) Cleaning of earth channels;
- (f) Construction and repair of brickwork inlet structures;
- (g) Provision of lockable stormwater grid inlets;
- (h) Cleaning of pipelines.

CB 04.02 **PREFABRICATED CULVERT INSTALLATION AND REPAIR OF EXISTING CULVERTS AND STRUCTURES**

This section covers the work in connection with the construction of prefabricated pipe and portal culverts and stormwater structures such as manholes, grid inlets and the like.

It also covers the removal and replacement of damaged and broken prefabricated culverts, as well as repairs to existing culverts and stormwater structures.

CB 04.02.01 **Construction**

Prefabricated culverts shall be constructed or replaced in accordance with the specifications at the locations indicated by the Engineer.

(a) Excavation

The width of the excavation shall be sufficient to allow the proper laying, bedding and backfilling of culverts. The widths of the excavation for each type and size of culvert shall be as set out in SABS 1200 DB.

The depth of the excavation for each type and size of culvert shall depend on site conditions and the amount by which the excavation is to exceed the proposed level of the invert of the culvert and shall be sufficient to allow the type and thickness of bedding material instructed by the Engineer.

Where excavation is to be carried out through asphalt premix or concrete, the asphalt/concrete shall be cut neatly and vertically with approved sawing equipment before the asphalt/concrete is removed.

Excavations shall commence from the outlet end of culverts to be installed.

(b) Classification of excavation

All excavations shall be classified as follows for payment purposes:

(i) Hard material

Material which cannot be excavated except by drilling and blasting, or with the use of pneumatic tools or mechanical breakers, and boulders exceeding 0,10 m³ shall be classified as hard material.

Where more than 40% of any material (by volume) consists of boulders each exceeding 0,10 m³ in size, the material shall be classified as hard material.

(ii) Soft material

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All material not classified as hard material shall be classified as soft material.

Notwithstanding the above classification, all material excavated from previously constructed fills, subgrades and subbases shall be classified as soft material.

(c) Disposal of excavated material

Where excavated material does not comply with the requirements for backfilling material as specified or is surplus to backfilling requirements, such excavated material shall be removed from the site and disposed of.

Material suitable for use in the works, however, shall be used as prescribed.

(d) Removal of damaged culverts

Where indicated by the Engineer damaged sections of prefabricated culverts shall be completely removed and replaced with new units.

Excavation shall be carried out as described for new culvert installation and the excavated material shall be, if suitable, preserved for backfilling. The damaged culvert units shall be disposed of.

(e) Laying of concrete pipe culverts

Concrete pipe culverts shall be laid on class A or B bedding as directed by the Engineer. The inside of the culverts shall be smooth and without any displacement and all pipes shall be laid true to line and level with a minimum slope of 2% or as directed by the Engineer.

(i) Class A bedding - see SABS 1200 LB

(ii) Class B bedding - see SABS 1200 LB

(iii) Rock foundation

Where rock, shale or hard material is encountered on the bottom of excavations a bed of fine material as required for class B bedding shall be placed before laying the pipe.

(iv) Concrete casing

Where ordered by the Engineer a pipe shall be encased in concrete according to the Engineer's instructions.

(f) Laying of concrete portal culverts

Portal culverts shall be laid on prefabricated floor slabs. A layer of fine-grained material of at least 75 mm thick shall be placed on the bottom of the excavation, levelled, compacted and trimmed to line and grade to form a bed to receive the precast slabs.

The portal portions of portal culverts shall be placed accurately and symmetrically on the floor slabs with a thin layer of mortar of one part of cement and six parts of sand between the contact surfaces to ensure a firm and uniform support.

(g) Extension of existing culverts

Where existing culverts require extension or where damaged sections are replaced the

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new sections shall be placed at the same grade and, where it joins the existing structure, at the same level as the existing structure.

Any sections of existing wing walls, approach slabs and head walls which may obstruct any new work shall be demolished and removed. The demolition and reconstruction of new inlet and outlet structures shall be paid for under the relevant sections in the specification.

Construction of culverts in half widths in existing roads

To allow the free flow of traffic at all times the culverts shall be constructed in half widths. The downstream section shall be constructed first and the end of the excavation adjoining the traffic lane shall be properly supported to prevent displacement from occurring.

(i) Repairing of cracks and joints

Where instructed by the Engineer cracks in existing culverts and culvert joints which have opened shall be caulked with material specified in the Particular Specification.

(j) Backfilling of prefabricated culverts

The backfill material shall be material selected from the excavation mixed with 80 kg Portland cement with every cubic metre of excavated material.

Generally the backfill material shall be a sandy material, but may contain larger particles up to 38 mm and shall have a plasticity index not exceeding 12.

In the case of concrete pipe culverts on class B bedding the backfilling material shall be tamped in under the flanks of the culverts to provide a uniform bedding, all to the satisfaction of the Engineer.

Backfilling alongside and over the culverts to the underside of the pavement layers shall be placed at optimum moisture content and compacted to a minimum of 90% of modified AASHTO density in layers not exceeding 150 mm after compaction. Where approved by the Engineer, testing may be done with a dynamic cone penetrometer (DCP). The average penetration rate recorded after every 5 blows for each layer shall not exceed 50. The full depth of a layer shall be tested.

Backfilling shall be carried out simultaneously and equally on both sides of a culvert to prevent unequal lateral forces from occurring and the ends of culverts shall be protected to prevent the backfill material from spilling beyond the required levels.

(k) Reinstatement of pavement layers

Unless otherwise instructed by the Engineer the pavement layers shall be reinstated as follows:

- (i) Selected layers shall be of at least a G5 quality and shall be compacted to at least 93% of modified AASHTO density.
- (ii) Material for the subbase layers shall be stabilized with 3% cement and compacted to 95% of modified AASHTO density, and shall be at least a G5 quality.
- (iii) The material for the base layer shall be stabilized with 5% cement and compacted to at least 97% of modified AASHTO density, and shall be at least a G3 quality.
- (iv) The surfacing layer shall consist of a medium continuously graded asphalt compacted to 94% of Marshall density. The thickness of the surfacing layer shall

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be at least 25 mm. A 60% cationic emulsion shall be applied at 0,4 litre/m² to the top of the base layer before the surfacing layer is placed.

The soil cement shall be mixed on site with suitable concrete mixers and the water and cement contents shall be carefully controlled.

(I) Repair of stormwater manholes, grid inlets and the like

Repair work will be undertaken on the structures indicated on the drawings, or as directed by the Engineer. All repair work will comply with the construction and quality requirements of SABS 1200 LE.

CB 04.02.02 Quality standard

Culverts shall be constructed true to lines and levels with the inside smooth and without any displaced joints.

CB 04.02.03 Materials

The prefabricated culvert units shall be factory produced by a reputable manufacturer of these units and shall comply with the following requirements:

(a) Prefabricated concrete pipe culvert units

Prefabricated concrete pipe culvert units shall comply with the requirements of SABS 677. Pipes with ogee joints shall be provided, unless otherwise specified. Pipes subjected to traffic loadings shall be class 100 D; all other pipes shall be class 50 D.

(b) Portal prefabricated concrete culvert units

Portal prefabricated concrete culvert units shall comply with the requirements of SABS 986.

(c) Other types of prefabricated culverts

If required, other types of prefabricated culverts will be specified in the Particular Specification.

(d) Manhole covers, grid inlets, etc

Manholes, grid inlets, etc, shall have covers and frames complying with SABS 558.

CB 04.03 CLEANING OF PREFABRICATED CULVERTS

The work involved under this section is the removal of silt and debris from prefabricated culverts including the cleaning of inlet and outlet structures.

CB 04.03.01 Construction

Prior to cleaning any prefabricated culverts, the Contractor shall arrange with the Engineer for an inspection of the stormwater network. The Contractor shall provide adequate equipment, such as torches, lights, mirrors, etc, to enable a basic visual inspection of all the culverts. Based on this inspection, the Engineer will instruct the Contractor as to which sections of the network require cleaning.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Material removed from the culverts shall be disposed of where instructed by the Engineer. Rubble and waste material shall be disposed of at the nearest appropriate solid waste disposal site, unless otherwise directed by the Engineer.

The Contractor must ensure that all material being removed is removed before or at the nearest accessible downstream structure. No additional payment will be made for the removal of material which, as a result of cleaning operations, find its way into a previously clean section of the culvert network.

CB 04.03.02 Quality standard

Prefabricated culverts shall be cleaned of all silt and debris such that all surfaces are clearly visible and accessible for inspection.

All spoil material shall be spread neatly and shall not wash back into drainage trenches.

The size of the culverts for the different categories will be determined as follows:

- (a) For pipe culverts - diameter
- (b) For portal culverts - width.

CB 04.04 CONCRETE CHANNEL CONSTRUCTION AND REPAIR OF EXISTING CHANNELS

This section covers the construction of new concrete lined drains where required and the maintenance of existing concrete drains. It includes the construction of kerb and channel combinations and repairs where required.

CB 04.04.01 Construction

The Engineer will indicate the locations where new drains are to be constructed to improve drainage and shall instruct where repairs to existing drains are to be carried out.

Construction of the following type of concrete drains may be required:

- (a) Concrete lining to open drains
- (b) Concrete pipes
- (c) Kerbing channeling combination.

Concrete drains shall be constructed in accordance with the details shown on the drawings or as directed by the Engineer.

(a) Excavation and preparation of bedding

The excavations shall be neatly trimmed to lines and levels so as to permit the accurate construction of the concrete linings. All loose material shall be well rammed at the optimum moisture content for the material used.

Where excavations are in hard material, overbreak shall be backfilled with concrete of the same class as specified for the lining.

In the case of kerbs and channels the trenches shall be excavated to the required depths and the bedding material shall be well rammed before placing the concrete.

Where wash-aways have occurred, any cavities or voids in the foundation material must be backfilled in layers not exceeding 150 mm in thickness and compacted to 90% of

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

modified AASHTO density.

(b) Concrete linings

Concrete lining of open drains shall be cast in situ only and the exposed surfaces shall be given a class U2 (wood-floated) surface finish.

Sealed joints in concrete shall be in accordance with the details indicated on the drawings and joints shall be painted with a coat of approved bituminous emulsion containing 60% of pure bitumen by mass.

Expansion joints shall be made in accordance with the drawings.

(c) Half-round channels

Cast in situ half-round channels shall be constructed in accordance with the drawings, or to fit existing sections.

(d) Kerbing and channeling

Kerbing shall include barrier kerbs, mountable and semi-mountable types. All the elements shall be prefabricated units with cast in situ channeling unless otherwise specified by the Engineer.

Kerbing and channeling shall be laid on the approved bedding with close joints filled with 3:1 sand: cement mortar not exceeding 10 mm in thickness and neatly pointed with a pointing trowel. Kerbing shall be propped with class 15/19 in-situ concrete at each joint (size: 300 mm long x 200 mm wide x 80% of kerb height).

(e) Concrete cast against existing surfaced edges

Where concrete lining or concrete channeling in kerb and channel combinations is to be cast against existing surfacing the edge shall first be cut, before excavation, with approved sawing equipment to provide a neat straight edge. Care shall be taken during the placing of the concrete not to spill concrete onto the adjacent surfacing. Any concrete stains shall be removed by the Contractor at his own expense.

(f) Reinstatement of damaged existing structures

Damaged existing structures shall be demolished to the extent directed by the Engineer on site and the resulting debris shall be spoiled.

The reinstatement of damaged sections shall be carried out to the same standards prescribed for new construction and shall be paid for under the relevant items scheduled for new structures.

Provision shall be made for the reinstatement of existing damaged prefabricated concrete half round channels.

(g) Inlet and outlet structures

The structures shall be constructed in accordance with the requirements specified in the relevant section in this specification.

CB 04.04.02 Quality standard

The drains shall be constructed neatly to the dimensions shown on the drawings and within the specified dimensional and alignment tolerances.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Repairs to drains shall be in uniformity with existing structures.

CB 04.04.03 Materials

(a) Concrete

Concrete for the various structural components shall comply with the class detailed on the drawings. Concrete in channel linings shall be class 20/19.

(b) Steel reinforcement

(i) Steel bars

Steel reinforcing bars shall comply with the requirements of SABS 920.

(ii) Welded steel mesh

Welded steel mesh shall comply with the requirements of SABS 1024.

CB 04.05 CLEARING OF CONCRETE DRAINS AND CHANNELS

This section covers the work in connection with the removal of silt, debris and vegetation causing obstruction to flow in concrete drains and channels.

CB 04.05.01 Construction

Concrete channels shall be cleaned where instructed by the Engineer. Generally, channels shall be cleaned when depth of silt in invert exceeds 100 mm, or when other foreign matter is present.

Material removed from channels shall either be loaded and removed from the site or disposed of adjacent to channels where it cannot be washed back into the channel as directed by the Engineer.

Where material is spoiled adjacent to channels the Contractor shall ensure that the material is spread neatly and well clear of the top of the channels where it will not wash back. Material removed from kerb and channel combinations, side drains or from other channels where directed by the Engineer shall be transported to spoil.

Vegetation growing in channel joints and cracks shall be removed with roots to prevent regrowth.

Vegetation growing over channels from the edges shall be slashed at the concrete edges and disposed of. Undesirable vegetation shall be removed with roots and spoiled where directed by the Engineer.

CB 04.05.02 Quality standard

Concrete drainage channels shall be clear of any obstruction such that the concrete surfaces are clearly visible.

CB 04.06 CLEANING OF EARTH CHANNELS

This section covers the work involved in cleaning of all earth drains and channels, repairs to

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

damaged earth drains and channels, as well as construction and repairs of banks and dykes.

CB 04.06.01 Execution of work

(a) Drains

Earth side drains and channels shall be cleaned of all debris, silt and vegetation when instructed by the Engineer.

Silt and debris excavated from the drains shall be deposited and spread neatly in close proximity of the drains where it will not wash back.

Scoured and eroded sections of drains shall be backfilled with suitable material obtained from the side of the road or from suitable sources indicated by the Engineer. The backfill material shall be compacted at the optimum uniform moisture content in layers not exceeding 100 mm after compaction. The Contractor shall use suitable compaction equipment to produce repairs that will not erode or scour again.

If in the opinion of the Engineer drains require protective covering against scouring and erosion, such work shall be executed in accordance with the relevant section of this specification.

(b) Construction and repair of banks and dykes

Material for the construction and repair of banks and dykes shall be an approved soil or gravel obtained from sources approved by the Engineer. It shall be positioned in such a way that water will flow on the natural ground and against the bank.

Banks and dykes shall be properly compacted in layers not exceeding 150 mm in thickness. If approved by the Engineer, mitre banks may also be constructed of hand-packed stone, provided that the interstices are filled with an approved cohesive soil.

CB 04.06.02 Quality standard

Drainage channels shall be clear of any obstructions and no scouring, erosion or pooling shall be evident.

Existing fill and cut slopes and invert grades of drains shall be maintained.

CB 04.07 CONSTRUCTION AND REPAIR OF BRICKWORK INLET STRUCTURES

CB 04.07.01 Reinstatement of damaged existing structures

Damaged existing structures shall be demolished to the extent indicated by the Engineer on site and the resulting debris spoiled.

The reinstatement of damaged sections shall be carried out to the same standards prescribed for new construction and shall be paid for under the relevant items scheduled for new structures.

CB 04.07.02 Lowering of inlet structures

Existing structures which are not functional due to the inlet being above the surrounding pavement level or ground level shall be demolished to the extent indicated by the Engineer and reinstated at the correct level to the same standard prescribed for new construction.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CB 04.08 **PROVISION OF LOCKABLE STORMWATER GRID INLETS**

Stormwater inlet structures within the prison walls shall be provided with lockable grids. These shall be in the form of a steel bar secured to the base of the catch pit and long enough to just protrude through the inlet grid. There shall be a hole in the end of the bar to allow a padlock to be positioned such that the grid will be immovable.

The steel bar shall be treated to avoid corrosion.

Padlocks shall be provided for all grid inlets. They shall be of a type suitable for outdoor use, or as specified in the Project Specifications.

CB 04.09 **CLEANING OF PIPELINES**

The work under this section involves the removal of silt and debris from pipelines, including the cleaning of inlet and outlet structures.

CB 04.09.01 **Construction**

Before cleaning any pipelines, the Contractor shall arrange with the Engineer for an inspection of the stormwater network. The Contractor shall provide adequate equipment such as torches, lights, mirrors and TV surveillance equipment, etc, to enable a basic visual inspection of all pipes. Based on this inspection, the Engineer will instruct the Contractor as to which sections of the network require cleaning and where detailed inspections are required.

Material removed from the pipes shall be disposed of where instructed by the Engineer. Rubble and waste material shall be disposed of at the nearest appropriate solid waste disposal site, unless directed otherwise by the Engineer.

The Contractor shall ensure that all material is removed at the nearest accessible structure. No additional payment will be made for the removal of material from previously cleaned sections of the network.

CB 04.09.02 **Quality standard**

Pipes shall be cleaned of all silt and debris.

All spoil material shall be spread neatly to ensure that it will not return to the drainage trenches.

The pipe sizes for the different categories will be determined by diameter.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CC FENCING AND GATES

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

TECHNICAL SPECIFICATION

CC FENCING AND GATES

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CC 01	SCOPE
CC 02	STANDARD SPECIFICATIONS
CC 03	OPERATING AND MAINTENANCE MANUALS
CC 04	EXECUTION OF WORK
CC 05	QUALITY STANDARD
CC 06	MATERIALS

CC 01 SCOPE

This specification covers the repair and maintenance of fencing and gates.

This specification shall form an integral part of the repair and maintenance contract document and shall be read in conjunction with portion 3: Additional Specifications included in this document.

Where a particular specification has been included in the documents to supplement Technical Specification CC: Fencing and gates, this technical specification shall act as a guideline to the Particular Specification and, in the event of any discrepancies between the Technical Specification and the Particular Specification, the latter shall take precedence. The Contractor shall at all times adhere to this technical specification, unless otherwise specified in the applicable Particular Specification.

CC 02 STANDARD SPECIFICATIONS

CC 02.01 GENERAL STANDARD SPECIFICATIONS, REGULATIONS AND CODES

The latest edition, including all amendments up to date of tender, of the following specifications, publications and codes of practice shall be read in conjunction with this specification and shall be deemed to form part thereof:

SABS 763	- Hot-dip (galvanised) zinc coatings (other than on continuously zinc-coated sheet and wire) (1988)
SABS 675	- Zinc-coated fencing wires (plain and barbed) (1993)
SABS 1373	- Chain-link fencing and its wire accessories (1983)
SABS 1372	- Prefabricated concrete components for fences
SANS 301-12:2004	- Fences Part 12: Specification for steel palisade fences

CC 02.02 OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993

All regulations and statutory requirements as laid down in the latest edition of the Occupational Health and Safety Act, 1993 (Act no 85 of 1993) shall be adhered to.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CC 02.03 MANUFACTURERS' SPECIFICATIONS, CODES OF PRACTICE AND INSTALLATION INSTRUCTIONS

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the manufacturers' specifications, instructions and codes of practice.

CC 02.04 MUNICIPAL REGULATIONS, LAWS AND BY-LAWS

All municipal regulations laws, by-laws and special requirements of the Local Authority shall be adhered to unless otherwise specified.

CC 03 OPERATING AND MAINTENANCE MANUALS

Operation and maintenance manuals will be required for motorised gates.

CC 04 EXECUTION OF WORK

The Contractor shall investigate and inspect all areas of the installation to confirm the extent of the repair work required and shall report to the Engineer. The Engineer will thereafter demarcate any areas to be repaired and shall instruct the Contractor with regard to the repair work to be done.

Any fencing work identified either by the Contractor or during inspection by the Engineer shall be carried out on the instruction of the Engineer.

The Contractor shall ensure that the necessary materials, skilled personnel, tools and equipment are available at all times to fences in a state of good repair.

The Engineer shall indicate where new fences are to be erected, or where repairs are necessary.

Under no circumstances shall a fence be left open or unattended at any time. Whenever a part of the fence is taken down to repair/replace it, it will be replaced within the same day it has been taken down.

Unless otherwise instructed by the Engineer, similar type fencing material to that in the existing fence line shall be used where fences are to be repaired.

CC 04.01 SCOPE OF WORK

The Scope of the Work includes all the fences and boundary walls on each installation.

CC 04.02 CLEARING THE FENCE ROUTE

The fence route shall be cleared over a width of at least 0,5 m on each side of the centre line of the fence and surface irregularities shall be levelled so that the fence will follow the general contour of the ground.

The bottom of the fence shall be located at a uniform distance above the ground line, but no more than 50 mm.

CC 04.03 INSTALLATION OF POSTS AND STANDARDS

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Posts shall be accurately set in holes and be provided with concrete bases to the dimensions specified.

Holes shall be dug to their full specified depth.

Posts shall be firmly planted into the ground at the same spacing as the existing posts or as instructed by the Engineer. The spacing of posts between any two straining posts shall be uniform.

All work to new and existing fences shall be in accordance with the applicable specification listed in this technical specification.

CC 04.04 ERECTING FENCE WIRES

All fencing wire shall be wired to the sides of posts in order to prevent the wires from being displaced or becoming loose. The wire shall be carefully strained and hung without sag, and with true alignment, care being exercised not to strain the wire so tightly that it will break or that end, corner, straining or gate posts will be pulled up.

Each strand of fencing wire shall be securely fastened in the correct position to each post with soft galvanised binding wire.

Splices in the fencing wire shall be permitted if made in the following manner using a splice tool. The end of each wire at the splice shall be carried at least 75 mm past the splice tool and wrapped snugly around the other wire for not less than six complete turns, the two separate wire ends being turned in opposite directions. After the splice tool is removed the space left by it in the splice wire shall be closed by pulling the wire ends together. The unused ends of wire shall be cut close so as to leave a neat splice.

CC 04.05 ERECTING DIAMOND MESH OR WIRE NETTING

Wire netting or diamond mesh shall be stretched against the fence and properly secured to the fencing wire. The diamond mesh or wire netting shall be secured by means of soft binding wire at 1,2 m centres along the top and bottom wires and at 3 m centres along each of the other fencing wires unless otherwise specified.

CC 04.06 CLOSING OPENINGS UNDER FENCES

At ditches, drainage channels or other hollows where it is not possible to erect the fence so that it follows the general contour of the ground, the Contractor shall cover the openings with wire netting or diamond mesh fixed to the fence.

CC 04.07 EXISTING FENCES

Where a new fence joins an existing fence, whether in line or at an angle, the new fence shall be erected with a new straining post positioned at the terminal of the existing fence.

CC 04.08 GATES

Gates shall be hung on gate fittings in accordance with the requirements specified. The gates shall be so erected that they swing in a horizontal plane at right angles to the gateposts, clear of the ground in all positions.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Double swing gates shall not leave a gap of more than 25 mm between them when closed and other gates shall not be further than 25 mm from the gate-post when closed. The clearance below the gates shall not exceed 75 mm with the gates closed.

Motorised gates shall be installed in accordance with the specification GF Electric motors included in this document.

CC 04.09 REPAIRS TO FENCES

In the case of fences that require repairing, the Contractor shall use new material as may be required to re-erect the fence to the standard specified.

CC 04.10 ERECTING NEW FENCING MATERIAL

All existing boundary fences and boundary walls to labour centres shall be completely removed and replaced with part steel palisade fencing and part prefabricated concrete walls, as specified by the engineer. All the material to and workmanship on the new fence and walls shall be in accordance with the applicable specification.

The length of the new fence and wall shall be covered with 400mm Flat Rap coil (BTC) on top of the fence, with the 400mm inclining towards the inside of the facility.

CC 05 QUALITY STANDARD

The completed fences shall be plumb, taut, true to line and ground contour, with all posts, standard and stays firmly set.

The Contractor shall, on completion of each section of fence, remove all cut-offs and other loose wire or netting so as not to create a hazard to grazing animals or a nuisance to the owners of the ground.

CC 06 MATERIALS

CC 06.01 POSTS

CC 06.01.01 Steel posts

New posts or posts that need to be replaced shall be of the same type and size as the existing posts. Tubular posts shall be galvanised in accordance with SABS 763 for Class B1 articles or shall be painted as specified and have a minimum wall thickness of 2,00 mm.

Tubular stays shall have a minimal bore of at least 60 mm and a wall thickness of at least 2,00 mm. These stays shall be galvanised as specified In SABS 763 or shall be painted as specified.

CC 06.01.02 Wooden posts

New posts or posts that need to be replaced shall be of the same type and size as the existing posts. Wooden posts shall be treated in accordance with SABS 457 (Hazard class H4 articles), or as specified and shall have a minimum diameter of 50 mm.

CC 06.01.03 Steel posts to palisade fence

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

New posts shall be in accordance with SANS 301-12:2004 - Fences Part 12: Specification for steel palisade fences:

- (a) The colour of the posts shall match the colour of the fence, both in accordance with the colours specified in the Department of Labour Corporate Image Manual.
- (b) The posts shall be 76 x 76 x 1.6 mm Fencing Posts with pyramid cap.
- (c) The length of the posts shall be 2400mm

CC 06.01.03 Concrete posts to prefabricated concrete wall

New posts shall be in accordance with SABS 1372 - Prefabricated concrete components for fences:

- (a) The colour of the posts shall be the natural colour of the concrete.
- (b) The type of post shall be as specified in SABS 1372 and as required by the construction of the wall.
- (c) The nominal length of the posts shall be 2300 mm.

CC 06.02 WIRE

CC 06.02.01 Barbed wire

Barbed wire shall comply with the requirements of SABS 675 and shall be one or more of the following types:

- (a) High-tensile grade, oval shaped, single-strand wire, 3,15 mm x 2,50 mm (2,81 mm equivalent diameter), and fully galvanised;
- (b) High-tensile grade, oval shaped, single-strand wire, 2,80 mm x 1,90 mm (2,31 mm equivalent diameter), fully galvanised (first class coating). This wire shall not be used less than 500 mm above ground where there is danger of grass fires;
- (c) Mild-steel grade, double strand, unidirectional twist wire, each strand 2,50 mm diameter, for use at any height above ground. The wire shall be fully galvanised;
- (d) Barbs shall be manufactured from 2,0 mm galvanised wire and shall be spaced at not more than 152 mm.

CC 06.02.02 Barbed tape coil

Barbed tape coil shall comply with the requirements for type A in CKS 592 and shall consist of close-coiled, high-tensile wire with a continuous strip of flat steel barbs (barbed tape) crimped to the wire along the entire length of the wire.

The high-tensile wire shall be Class B galvanized. The barbed tape shall be made of cold-roller carbon steel and galvanized to Class 2450.

CC 06.02.03 Smooth wire

Smooth wire shall comply with the requirements of SABS 675 and shall be of the types specified below:

- (a) Straining wire shall be 4,0 mm diameter and fully galvanised.
- (b) Fencing wire shall be high-tensile grade, 2,24 mm diameter wire fully galvanised.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- (c) Tying wire shall be 2,50 mm diameter, mild steel, galvanised wire for tying fencing wire to standards and droppers, and 1,60 mm diameter, mild steel, galvanised wire for tying netting and mesh wire to fencing wire.

CC 06.03 **DIAMOND MESH**

- (a) Diamond mesh (chain-link) fencing shall comply with the requirements of SABS 1373. The edge finish shall be both sides clinched or barbed.
- (b) The nominal diameter of the wire shall be 2,5 mm and the mesh size shall be 64 x 64 mm.
- (c) The wire shall be fully galvanised.

CC 06.04 **WELDED MESH**

Wire netting shall be fully galvanised with mild steel wire with a minimum diameter of 1,8 mm and 75 mm mesh.

CC 06.05 **MANUFACTURING TOLERANCES FOR WIRE**

The actual diameter of wire supplied shall nowhere be less than the specified diameter by more than the following tolerances:

Specified diameter	Tolerance
1,00 - 1,8 mm	0,05 mm
2,00 - 2,8 mm	0,08 mm
3,15 - 4,0 mm	0,10 mm

CC 06.06 **GATES**

New gates or gates that need to be replaced shall be the same type and size as existing gates. Gates shall be galvanised in accordance with SABS 763 for class B1 articles or shall be painted as specified.

New vehicle gates to the palisade fence shall be 1.8mx3.5m motorised palisade sliding gates. The tendered rate shall include for all guides, wheels, catches, supporting stays, rails to electric motor and any other accessories that may be deemed necessary to render the gate safe and operational. The electric motor shall be in accordance with the technical specification AB: Building Electrical installations, included in this document.

Each motorised gate shall require the installation of a pedestrian gate with a remote operated lock. The pedestrian gate shall be a 1.8m x 1.2m palisade gate.

All palisade gates shall be painted in accordance with the specification for steel painting in the technical specification BJ: PAINTWORK included in this document. The colour of the paint will be in accordance with the requirements of the Department of Labour Corporate Image Manual.

CC 06.07 **PALISADE FENCE**

The palisade fence shall be constructed from prefabricated devil fork panels. The devil fork panels shall be 1.8m x 3m in size using 25x25mm angle iron vertical members.

The palisade fence shall be painted in accordance with the specification for steel painting in the technical specification BJ: PAINTWORK included in this document. The colour of the paint will be in accordance with the requirements of the Department of Labour Corporate Image Manual.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CC 06.07 PREFABRICATED CONCRETE WALL

Panels and the construction of the prefabricated concrete wall shall be in accordance with SABS 1372:

- (a) The colour of all components to the wall will be the natural colour of the concrete.
- (b) The shape of the panels will be plain and rectangular except for the upper edges of the panels in the top of the fence, which will have a shaped upper edge as specified by the engineer on site.
- (c) The nominal width for all the panels will fall within the limits specified in SABS 1372.

MM MECHANICAL WORKS

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

TECHNICAL SPECIFICATION

MM MECHANICAL WORKS

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MM 01 DESCRIPTIVE

This section covers the supply, delivery, transport, handling, storage, erection, installation, commissioning, testing, adjustment, handling over in complete working order and upholding during the Defects Liability Period of all mechanical equipment to be incorporated.

MM 02 SCOPE

The Mechanical Works specification is for the following:

The provision of all structures to accommodate the plant and the construction of all foundations and structures will be carried out under the civil works done by the Principal Contractor. The Mechanical Contract shall not be a nominated sub-contract.

MM 03 COMPLIANCE WITH REGULATIONS

All equipment including temporary works and construction equipment must comply with the requirements of the Occupational Health and Safety Act, Act 85 of 1993 or the latest edition

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

thereof. The Contractor must meet all costs involved should alterations be necessary to secure compliance with the regulations mentioned.

MM 04 INFORMATION TO BE SUPPLIED BY TENDERER

To facilitate assessment of tender, Tenderers shall supply the following information with their tender:

- (a) Dimensioned scale drawings of the layout of all the plant in relation to each other and to the structure to house them and in sufficient detail to permit assessment of the cost of the civil engineering works by the Employer. Full information regarding space requirements, loading on supporting structures and major openings to go left in the structure must be included. Where detailed drawings are supplied for tender purposes by the Employer, any additions or variations shall be reported by the tenderer with his tender.
- (b) A full and detailed description and illustrations or drawings of the plant and ancillaries and of materials used in the construction thereof.

Drawings, illustrations, etc. referred to in this clause shall be submitted with the tender, and in the event of the tender being accepted, two further copies of the abovementioned drawings, illustrations, etc. shall be submitted by the Tenderer for inclusion in copies of the formal Contract Document.

The information called for in either the Specification or Technical Data Sheets shall be supplied at the time of tendering. However, these are not necessarily comprehensive and the responsibility for the supply of sufficient information rests with the Tenderer. Any additional information shall be given either on "Alterations by Tenderer" or in a covering letter referred to in "Alteration by Tenderer" and all drawings, sketches, pamphlets, etc. submitted with the tender shall be listed in "Alterations by Tenderer".

MM 05 DATA TO BE SUPPLIED BY SUCCESSFUL TENDERER

(Refer to Clause 5 of the General Conditions of Contract)

Within two weeks of the acceptance of his tender for any portion of the contract, the Contractor shall supply the Engineer, in triplicate, with fully dimensioned drawings of the plant ordered from him, the necessary data concerning the geometry of structures housing the plant, the positions and sizes of all foundations, bolt holes, opening in walls or floors and all other special features affecting the design and construction of the Works, so that the Employer can arrange for the necessary concrete work, foundations, bolt holes, openings for pipes, cable ducts, etc. for the proper erection and installation of the plant.

Any cutting or alteration of structural work arising from inadequate or incorrect dimensions and particulars afforded by the contractor, or through late receipt of such particulars, will be arranged by the Engineer to be carried out as he thinks fit at the expense of the contractor concerned under this Contract.

MM 06 DOCUMENTS

(Refer to Clauses 4, 5 and 6 of the General Conditions of Contract)

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The whole of this Specification, together with all Schedules and Annexures thereto and any drawings or information submitted by the successful Tenderer, will be considered as part of the contract Document.

MM 07 **SUFFICIENCY OF TENDER**

(Refer to Clauses 4, 5 and 6 of the General Conditions of Contract)

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender and of the prices stated in the Bill of Quantities which rates shall cover all his obligations under the Contract and all matters and things necessary for the proper completion and upholding of the Works.

Since there may be minor operations, items of materials, matters and details necessary for the proper execution and completion of the Works under the contract, which are neither shown on the drawings nor particularly mentioned in the Specification, the Contract shall include for such minor operations, materials, matters and details as if they had been expressly detailed and described. The contractor shall execute as part of this Contract every requisite for the full and perfect completion of the whole Works, except as may be specifically accepted in the Contract.

MM 08 **INTENT OF DRAWINGS AND SPECIFICATION**

The Drawings and Specification supplied with the Tender document are not intended to be either complete in detail or to prescribe rigidly the plant to be offered or the general layout of the works, but are intended only as a guide to Tenderers. The Specification details the minimum requirements of the employer and Tenderers must provide everything necessary, whether mentioned or not, to provide a satisfactory, efficient and workmanlike installation.

Should Tenderers consider that deviations from or additions to the plant as specified by the Employer are necessary, these must be described and accounted for in detail as set out in Clause A.9. Any exclusions by the Tenderer to the installation as specified shall be itemized and described in detail.

MM 09 **VARIATION FROM SPECIFICATION**

Should the Tenderer desire to make any alteration to the Specification with regard to the material or plant offered or the conditions of testing or other procedure, he shall set out his proposals in detail on "Alterations by Tenderer" attached to this Document, or, alternatively, shall set them out in detail in a separate letter marked "Alterations by Tenderer" and accompanying his tender. No alteration, amendment or exclusion will be recognized unless adequately set out as described above.

MM 10 **BILL OF QUANTITIES**

The rates quoted in the Bill of Quantities shall cover the cost of all work required for the execution of the Contract and each rate shall be considered as the full value of the work described in each item and as covering all contingent expenses.

MM 11 **MARKING**

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

All plant delivered under this contract shall have painted or marked thereon or on the container the relative item number given in the Bill of Quantities.

MM 12 OFF-LOADING, STACKING AND LIABILITY FOR BREAKAGES

The Contractor will be required at his own expense to make all arrangements for off-loading and carefully stacking all plant delivered under this Contract at the Site of the Works. The off-loading and stacking shall be carried out strictly in accordance with the requirements of the Engineer so as to permit a thorough and careful examination and testing of all items for breakages, fractures, etc. and any routine maintenance during storage.

The Contractor shall be fully responsible for the protection of all plant delivered by him to Site but still in storage, against damage by water, weather, fire and any other interference until such time as it is erected and installed, put into satisfactory operation and accepted by the Employer as complete.

MM 13 STORAGE

Facilities for extended storage at Site for plant may not always be available and the Contractor shall therefore make his own arrangements for any off-site storage which may be required for plant which become available before installation thereof can be commenced. Tenderers shall state in their tenders what the cost of such off-site storage will be.

Should the contractor claim payment of a portion of the value of some of all of the plant held in off-site stores, the items concerned must be clearly marked: "The property of the Department of Rural Development and Land Reform and a certificate to this effect shall accompany his claim detailing the items and serial numbers included in his claim as well as the street address of the store where the plant is held. In addition, a certificate must also be furnished by the company with whom the plant has been insured in terms of the requirements of Clause 17.1 of the General Conditions of Contract, in which it is certified that the plant for which the Contractor is claiming payment is fully covered by the insurance policy concerned while the plant is stored away from the Site (street address of store to be stated).

MM 21 INSPECTION AT SITE

All plant will be carefully examined upon delivery at the Site by the Engineer's representative and all items showing defects or damage of any description shall be laid aside as not being in accordance with the requirements of the contract and these shall be removed and replaced by the Contractor at his own cost.

MM 15 TEMPORARY HOUSING, STORES ETC.

The Contractor shall provide and maintain at his own cost all sheds and housing of a temporary nature necessary for the convenience of his workmen and for the accommodation and proper protection of plant from damage or loss. These are to be erected only on sites which shall have been approved by the Engineer and they shall be removed as soon as their necessity ceases and the site thereof restored to its original condition and the ground left clean and sanitary.

MM 16 INSTALLATION, ADJUSTMENT, TRAINING AND OPERATION

Installation of the plant is to be carried out by skilled artisans, experienced in the type of work

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

to be executed, under the personal supervision of the contractor's Erection Engineer, whose qualifications and experience to supervise this work must be acceptable to the Engineer. The plant, when erected and installed, shall be of neat and workmanlike appearance, solidly and evenly supported, true to line and level, plumb and in proper working order. The methods used and equipment employed will be subject to the approval of the Engineer.

The grouting in of holding down bolts for base plates and bearings, and the caulking in of pipes where these pass through walls, will be carried out by the civil contractor in accordance with the instructions and under the supervision of the contractor under this Contract. All arrangements necessary for carrying out this work must be made directly between the Contractor under this Contract and the civil Contractor, and the Contractor under this contract will be entirely responsible for the soundness of the completed work. This work will be carried out at no cost to the Contractor under this contract but any damage to concrete work which may be caused by the Contractor under this contract in carrying out installation and erection will, however, be repaired at the cost of the Contractor under this contract.

Before handing over the plant, the Contractor is to ensure that every component is operating satisfactorily and the total plant shall be operated for at least one week by the contractor during which time he shall also train the operators in the correct running and maintenance of the plant. The contract will not be deemed to have been completed until the Engineer is fully satisfied in this regard.

Dewatering of structures in which installation of plant is to take place will also be the responsibility of the Contractor and he must either allow therefore in his rates or give a rate for the use of a pump of specified size and pumping capacity in his covering letter.

MM 17 **PROGRAMME OF WORKS**

(Refer to Clause 12 of the General Conditions of Contract)

When the work of necessity must be carried out in conjunction with the work of other contractors or with that of the Employer, it shall be co-coordinated and arranged in such a manner as to interfere as little as possible with the progress of such other work, and so as to offer every reasonable facility to other contractor or to departmental employees of the Employer.

MM 18 **TIME OF DELIVERY AND COMPLETION**

(Refer to Sub-Clause 26 of the Special conditions of Contract)

The Tenderer is to state in the Bill of Quantities:

- (a) The period from the commencement date of the contract, in which he undertakes to effect complete delivery of all plant purchased by the Employer in terms of the contract.
- (b) The period, from the date of notification from the Engineer to proceed, he requires to complete the erection and installation.
- (c) The period, from date of notification from the Engineer to proceed, he requires to complete the putting into operation, testing and handing over to the Employer of the plant in a clean and proper operating condition.

The Contractor must be ready to commence erection and installation within two weeks of notice being given to him by the Engineer that the construction work is sufficiently advanced to enable the erection and installation of the plant to commence, and he shall thereafter carry

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

out erection and installation continuously.

Subject to any requirement in the Specification as to completion of any portion of the Works, a whole Section shall be completed within the times mentioned at the end of the Schedule of Quantities for that Section, subject to any extension of time that may be granted in accordance with the contract.

MM 19 PERFORMANCE TEST

(Refer to Clause 29 of the General Conditions of Contract)

On completion of erection and installation the contractor must carry out the following tests, where applicable, in addition to any other tests which may be specified elsewhere:-

Before commissioning

- (a) Insulation test as required by the Local Authority's By-laws.
- (b) Earth continuity test.
- (c) Tests for correct direction of rotation of motors and reverse if necessary.
- (d) Test for correct operation of control gear, setting of overload protection equipment, etc.
- (e) Test for correct alignment of shaft bearings.

After commissioning

On completion of the installation and putting into proper operation all the plant and equipment, the Contractor will be required to make suitable arrangements for the testing of all plant and equipment supplied under this contract and running the plant for at least one week, during which time he shall also train the operators in the correct running of the plant and acquaint them with the maintenance manuals as set out in Clause A.16.

The entire cost of testing, including supply of test equipment, must be borne by the Contractor and an adequate allowance for such test must be made in the tendered price.

MM 20 COMMISSIONING DATE

The target date for the commissioning of the mechanical equipment under this contract shall rest with the Principal Contractor.

MM 21 DEFECTS LIABILITY PERIOD

(Refer to Clause 33 of the General Conditions of Contract)

During this period the Contractor must visit the Site at least three times, say 1, 6 and 12 months respectively after the commissioning Date, to inspect and check all the plant supplied and installed by him for proper operation and to adjust where necessary, and to satisfy himself that the regular maintenance of the plant is being carried out correctly and in accordance with the

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

written instructions supplied by him. The contractor must give the Engineer at least one week's written notice prior to such visits being undertaken.

These visits shall be deemed to be included in the tendered rates of the Mechanical equipment.

MM 22 OPERATING AND MAINTENANCE INSTRUCTIONS

(Refer to Clause 5.6 of the General Conditions of Contract)

Before completion of the testing of the plant, the Contractor shall provide the Employer with adequate and complete working, operating and maintenance instructions in triplicate, with the necessary drawings and diagrams clarifying the instructions.

Instructions are to be made up in book form and particular reference is to be made to:

- (a) Maintenance of all equipment supplied and installed under this contract.
- (b) Types of lubricants to be used;
- (c) Bearings and moving parts which require particular attention, including a spare part list and drawing showing the individual items;
- (d) Frequency of lubrication services;
- (e) Precautions to be taken in running the plant;
- (f) Changing of any recording charts;
- (g) Maintenance of speed reducers / increasers;
- (h) All instruments and components must be fully described in data sheets supplied by the relevant suppliers;
- (i) Wiring diagrams of the complete electrical installation.

The manual must be specific for the plant supplied and all extraneous material not connected with the relevant plant shall be deleted, leaving the manual as a comprehensive coherent document, bound in a professional way such that it may be used frequently without falling apart. Standard pamphlets may be supplied as addendums, bound separately in a good quality file to serve as reference but will not be allowed as part of the main manual.

The prices tendered in the Bill of Quantities will be held to include for the supply of these operating and maintenance instructions.

MM 23 SPARES AND SPECIAL TOOLS

Tenderers shall submit on the appropriate Schedules annexed to this document a list of spare parts and special tools which is recommended and should be kept by the Employer for maintenance of the plant. Spares which the Employer decides to order must be manufactured simultaneously with the rest of the equipment and be subjected to the same test for

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

dimensions, tolerances, strength, etc. All spares and special tools must be packed separately and the cases appropriately marked. All spares and special tools must be new and unused and where possible should be standard to all sections of the plan

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PART C: ELECTRICAL SPECIFICATION

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PART C4 SITE INFORMATION

C4.1 SITE LOCALITY PLAN

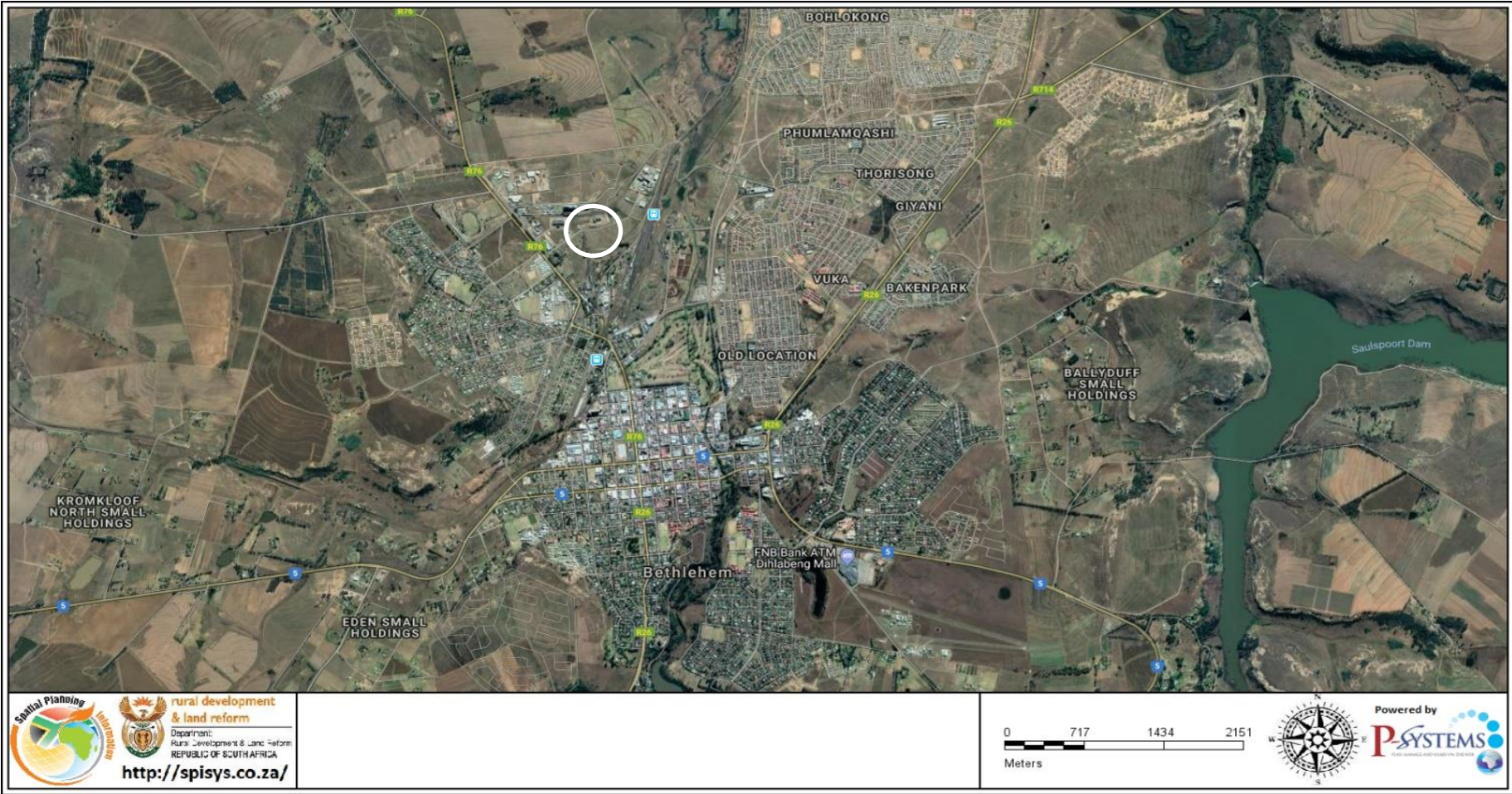


Figure 1: Locality image of the Boiketlong Community Hall.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C4.2 PROJECT LOCALITY PLAN



Figure 2: Project image of the proposed Boiketlong Community Hall.

C4.3 ACCESS TO SITE

The Contractor shall not have sole access to the site during construction, but must make allowance to accommodate the movement of community. Areas to be shut down and barricaded for construction purposes will be identified and notice given to the local farmers prior to any works being carried out.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PART C5

ANNEXURES

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

THE CONTRACT PART C5: ANNEXURES

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- C5.2 ENVIRONMENTAL MANAGEMENT PLAN (EMP)
- C5.3 TENDER PHOTOS
- C5.4 DRAWINGS

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C5.1 PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

1. PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

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Employer

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

1. INTRODUCTION AND BACKGROUND

1.1. Background to the Pre-construction Health and Safety Specification

The Construction Regulations (July 2003) place the onus on the Client to prepare a pre-construction health & safety specification, highlighting all risks not successfully eliminated during design.

The client has prepared a comprehensive health and safety plan, which must be adhered to by all contractors and sub-contractors. The following pre-construction health and safety plan gives an outline of the more comprehensive health and safety plan implemented by the client. Contractors will be provided with a copy of the client's health and safety plan, in electronic format, on request.

1.2. Purpose of the Pre-construction Health and Safety Specification

To assist in achieving compliance with the Occupational Health & Safety Act 85/1993 and the now promulgated Construction Regulations (July 2003) in order to reduce incidents and injuries. This pre-construction specification shall act as the basis for the drafting of the construction phase health & safety plan.

The pre-construction specification sets out the requirements to be followed by the Principal Contractor and other Contractors so that the health & safety of all persons potentially at risk may receive the same priority as other facets of the project e.g. cost, programme, environment, etc.

1.3. Implementation of the Pre-construction Health and Safety Specification

This specification forms an integral part of the contract, and the Contractor is required to use it at pre-tender phase when drawing up its project-specific construction phase health & safety plan. The Principal Contractor shall forward a copy of this specification to all Contractors at their bidding stage so that they can in turn prepare health & safety plans relating to their operations.

2. PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

2.1 Scope

This Specification covers the requirements for eliminating and mitigating incidents and injuries on the particular project. The scope also addresses legal compliance, hazard identification and risk assessment, risk control, and promoting a health and safety culture amongst those working on the project. The specification also makes provision for the protection of those persons other than employees.

2.2 Interpretations

2.2.1 Application

This specification is a compliance document drawn up in terms of South African legislation and is therefore binding. It shall be read in conjunction with relevant legislation as noted previously.

2.2.2 Definitions

The definitions as listed in the Occupational Health & Safety Act 85/1993 and Construction Regulations (July 2003) shall apply.

2.3 Minimum Administrative Requirements

2.3.1 Notification of Intention to Commence Construction Work

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall notify the Provincial Director of the Department of Labour in writing before construction work commences. A copy of this notification shall be forwarded to the Client on appointment.

2.3.2 Assignment of Contractor's Responsible Persons to Supervise Health and Safety on Site.

The Contractor shall submit supervisory appointments as well as any relevant appointments in writing (as stipulated by the OHSA and Construction Regulations), prior to commencement of work. Proof of competency shall be included. See Annexure B.

2.3.3 Competency for Contractor's Appointed Competent Persons

Contractors' competent persons for the various risk management portfolios shall fulfil the criteria as stipulated under the definition of Competent in accordance with the Construction Regulations (July 2003). Proof of competence for the various appointments shall be included.

2.3.4 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The Principal Contractor shall submit a letter of good standing with its Compensation Insurer to the Client as proof of registration. Contractors shall submit proof of registration to the Principal Contractor before they commence work on site.

2.3.5 Occupational Health and Safety Policy

The Principal Contractor and all Contractors shall submit a Health and Safety Policy signed by their Chief Executive Officer. The Policy shall outline objectives and how they will be achieved and implemented by the Company/Contractor.

2.3.6 Health and Safety Organogram

The Principal Contractor and all Contractors shall submit an organogram, outlining the Health and Safety Site Management Structure including the relevant appointments/competent persons. In cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram shall be updated when there are any changes in the Site Management Structure.

2.3.7 Preliminary Hazard Identification and Risk Assessment and Progress Hazard Identification and Risk Assessment.

The Contractor shall cause a hazard identification to be performed by a competent person before commencement of construction work, and the assessed risks shall form part of the construction phase health and safety plan submitted for approval by the Client. The risk assessment shall include:

- A list of hazards identified as well as potentially hazardous tasks;
- A documented risk assessment based on the list of hazards and tasks;
- A set of safe working procedures (method statements) to eliminate, reduce and/or control the risks assessed;
- A monitoring and review procedure of the risks assessment as the risks change.

The Principal Contractor shall ensure that all Contractors are informed, instructed and trained by a competent person regarding any hazards, risks and related safe work procedures before any work commences and thereafter at regular intervals as the risks change and as new risks develop.

The Principal Contractor and relevant Contractors shall be responsible for ensuring that all persons who could be negatively affected by its operations are informed and trained according to the hazards and risks and are conversant with the safe work procedures, control measures and other related rules (tool box talk strategy to be implemented).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.3.8 Health and Safety Representative(s)

The Principal Contractor and relevant Contractors shall ensure that Health and Safety Representative(s) are appointed under consultation and trained to carry out their functions. The appointment shall be in writing. The Health and Safety Representative shall carry out regular inspections, keep records and report all findings to the Responsible Person forthwith and at health & safety meetings.

2.3.9 Health and Safety Committees

The Principal Contractor shall ensure that project health and safety meetings are held monthly and minutes are kept on record. Meetings shall be organised and chaired by the Principal Contractor's Responsible Person. All Contractors' Responsible Persons and Health & Safety Representatives shall attend the monthly health & safety meetings. Contractors shall also have their own internal health & safety committees in accordance with the OHS Act 85/1993 and minutes of their meetings shall be forwarded to the Principal Contractor on a monthly basis.

2.3.10 Health and Safety Training

2.3.10.1 Induction

The Principal Contractor and relevant Contractors shall ensure that all site personnel undergo a risk-specific health & safety induction training session before starting work. A record of attendance shall be kept in the health & safety file.

2.3.10.2 Awareness

The Principal Contractor and relevant Contractors shall ensure that, on site, periodic toolbox talks take place at least once per fortnight. These talks should deal with risks relevant to the Construction work at hand. A record of attendance shall be kept in the health & safety file. All Contractors shall comply with this minimum requirement.

2.3.10.3 Competency

All competent persons shall have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out. This will have to be assessed on regular basis e.g. periodic audits by the Client, progress meetings, etc. The Principal Contractor shall ensure that competent Contractors are appointed to carry out construction work.

2.3.11 General Record Keeping

The Principal Contractor and relevant Contractors shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993; and with the Construction Regulations (July 2003). The Principal Contractor shall ensure that all records of incidents/accidents, training, inspections, audits, etc. are kept in a health & safety file held in the site office. The Principal Contractor shall ensure that every Contractor opens its own health & safety file, maintains the file and makes it available on request.

2.3.12 Health & Safety Audits, Monitoring and Reporting

The Client shall conduct monthly health & safety audits of the work operations which may include a full audit of physical site activities as well as an audit of the administration of health & safety. The Principal Contractor shall conduct similar audits on all Contractors appointed by it. Detailed reports of the audit findings and results shall be reported on at all levels of project management meetings/forums. Copies of the Client audit

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

reports shall be kept in the Primary Project Health & Safety File while the Principal Contractor audit reports shall be kept in their file, a copy being forwarded to the Client. Contractors have to audit their sub-contractors and keep records of these audits in their health & safety files, available on request.

2.3.13 Emergency Procedures

The Principal Contractor shall submit a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following key elements:

- List of key competent personnel;
- Details of emergency services;
- Actions or steps to be taken in the event of the specific types of emergencies;
- Information on hazardous material/situations.

Emergency procedure(s) shall include, but not be limited to, fire, spills, falls, accidents to employees, use of hazardous substances, major incidents/accidents, etc. The Principal Contractor shall advise the Client in writing forthwith, of any emergencies, together with a record of action taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc) shall be maintained and available to site personnel.

2.3.21 First Aid Boxes and First Aid Equipment

The Principal Contractor and relevant Contractors shall appoint in writing First Aider(s). The appointed First Aider(s) shall have received or be sent for accredited first aid training. Valid certificates are to be kept on site. The Principal Contractor shall provide an on-site First Aid Station with first aid facilities, including first aid boxes adequately stocked at all times. All Contractors with more than 5 employees shall supply their own first aid box. Contractors with more than 10 employees shall have a trained, certified first aider on site at all times.

2.3.15 Accident/Incident Reporting and Investigation

Injuries are to be categorised into first aid; medical; disabling; and fatal. The Principal Contractor shall stipulate in its construction phase health & safety plan how it will handle each of these categories. When reporting injuries to the Client, these categories shall be used. All injuries shall be investigated by the Principal Contractor, with a report being forwarded to the Client forthwith. All Contractors shall report on the 4 categories of injuries to the Principal Contractor at least monthly. The Principal Contractor shall report all injuries to the Client in the form of a detailed injury report at least monthly.

2.3.16 Hazards and Potentially Hazardous Situations

The Principal Contractor shall immediately notify other Contractors as well as the Client of any hazardous or potentially hazardous situations that may arise during performance of construction activities.

2.3.17 Personal Protective Equipment (PPE) and Clothing

The Principal Contractor shall ensure that all workers are issued and wear hard hats (where applicable), safe footwear and overalls. The Principal Contractor and all Contractors shall make provision and keep adequate quantities of SABS approved PPE on site at all times. The Principal Contractor shall clearly outline procedures to be taken when PPE or Clothing is:

- Lost or stolen;
- Worn out or damaged.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The above procedure also applies to Contractors and their Sub-contractors, they are all Employers in their own right.

2.3.18 Occupational Health and Safety Signage

The Principal Contractor shall provide adequate on-site OHS signage. Including but not limited to: 'no unauthorised entry', 'report to site office', 'site office', 'beware of overhead work', 'hard hat area'. Signage shall be posted up at all entrances to site as well as on site in strategic locations e.g. access routes, stairways, entrances to structures and buildings, scaffolding, and other potential risk areas/operations.

2.3.19 Permits

Permits may include the following:

- Use of Explosives and Blasting
- Work for which a fall prevention plan is required
- Use of cradles

2.3.20 Contractors and Sub-contractors

The Principal Contractor shall ensure that all Contractors under its control comply with this Specification, the OHS Act 85/1993, Construction Regulations (July 2003), and all other relevant legislation that may relate to the activities directly or indirectly. The Contractor, when appointing other Contractors as 'Sub-contractors', shall mutatis mutandis ensure compliance.

2.4 Physical Requirements

2.4.1 Demolition Work

Prior to any demolition work being carried out, the Principal Contractor shall submit a safe working procedure for approval by the Client. Acceptance will then be issued to the Principal Contractor to proceed with the demolition work. The Principal Contractor shall ensure that demolition work complies with the Construction Regulations (July 2003).

2.4.2 Excavations, Shoring, Dewatering or Drainage

The Principal Contractor and any relevant Contractors shall make provision in their tender for shoring, dewatering or drainage of any excavation as per this specification. The Contractor shall make sure that:

- The excavations are inspected before every shift and a record is kept;
- Safe work procedures have been communicated to the workers;
- The safe work procedures are enforced and maintained by the Contractor's Responsible Persons at all times;
- The requirements as per section 11 of the Construction Regulations are adhered to.

2.4.3 Edge Protection and Penetrations

The Principal Contractor shall ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. The Principal Contractor's risk assessment shall include these items. E.g. protection of decking edges, finished floor slab edges, stairways, floor penetrations, lift shafts, and all other openings and areas where a person may fall.

2.4.4 Explosives and Blasting

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The Principal Contractor shall ensure that the use of explosives and blasting (where required) is undertaken by a competent Contractor. A Safe Work Procedure (SW P) shall be submitted to the Client for approval before commencement of blasting work. The Client will issue a permit to authorise the operation.

2.4.5 Piling

The Principal Contractor shall ensure that piling is undertaken by a competent Contractor. A SWP shall be submitted to the Client for approval before commencement of this work.

2.4.6 Stacking of Materials

The Principal Contractor and other relevant Contractors shall ensure that there is an appointed stacking supervisor and all materials, formwork and equipment is stacked and stored safely.

2.4.7 Speed Restrictions and Protection

The Principal Contractor shall ensure that all persons in its employ, all Contractors, and all those that are visiting the site are aware of and comply with any site speed restriction(s). Where necessary separate vehicle and pedestrian access routes should be provided, maintained, controlled, and enforced.

2.4.8 Hazardous Chemical Substances (HCS)

The Principal Contractor and other relevant Contractors shall provide the necessary training and information regarding the use, transport, and storage of HCS. The Principal Contractor and relevant Contractors shall ensure that the use, transport, and storage of HCS is carried out as prescribed by the HCS Regulations. The Principal Contractor shall ensure that all hazardous chemicals on site have a Material Safety Data Sheet (MSDS) on site and the users are made aware of the hazards and precautions that need to be taken when using the chemicals. The First Aiders shall be made aware of the MSDS and how to treat HCS incidents appropriately.

2.5 Equipment and Machinery

2.5.1 Construction Equipment

"Construction Equipment" includes all types of equipment including but not limited to, cranes, piling rigs, earth moving equipment, concrete mixers, road making equipment, road vehicles, and all lifting equipment.

The Principal Contractor and relevant Contractors shall ensure that all such equipment complies with the requirements of the OHS Act 85/1993 and Construction Regulations (July 2003). The Principal Contractor and all relevant Contractors shall inspect and keep records of inspections of the construction plant used on site. Only authorised/competent persons are to use machinery under proper supervision. Appropriate PPE and clothing shall be provided and maintained in good condition at all times.

2.5.2 Vessels under Pressure (VuP) and Gas Bottles

The Principal Contractor and all relevant Contractors shall comply with the Vessels under Pressure Regulations, including:

Providing competency and awareness training to the operators;
Providing PPE or clothing;
Inspect equipment regularly and keep records of inspections;
Providing appropriate firefighting equipment (Fire Extinguishers) on hand.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.5.3 Fire Extinguishers and Fire Fighting Equipment

The Principal Contractor and relevant Contractors shall provide adequate, regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs shall be posted up as required.

2.5.4 Hired Equipment and Machinery

The Principal Contractor and relevant Contractors shall ensure that any hired equipment and machinery used on site is safe for use. The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (July 2003) shall apply. The Principal Contractor and relevant Contractors shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health & safety file.

2.5.5 Scaffolding/ Working at Heights

Working at heights includes any work that takes place in an elevated position. The Principal Contractor and relevant Contractors shall submit a risk-specific fall prevention plan in accordance with the Construction Regulations (July 2003) before this work is undertaken. The fall prevention plan must be approved by the Client before work may commence, and approval to operate will be issued.

2.5.6 Formwork and Support work for Structures

The Principal Contractor and relevant Contractors shall ensure that the provisions of section 10 of the Construction Regulations (July 2003) are adhered to. These provisions shall include but not be limited to ensuring that all equipment used is examined for suitability before use; that all formwork and support work is inspected by a competent person immediately before, during and after placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work has been removed. Records of all inspections shall be kept in a register on site.

2.5.7 Lifting Machines and Tackle

The Principal Contractor and all Contractors shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (section 20). There must be a competent lifting machinery and tackle inspector who must inspect the equipment daily or before use, to ensure that:

- All lifting machinery and tackle has a safe working load clearly indicated;
- Regular inspection and servicing is carried out;
- Records are kept of inspections and of service certificates;
- There is proper supervision in terms of guiding the loads that includes a trained banksman to direct lifting operations and check lifting tackle;
- The tower crane bases have been approved by an engineer;
- The operators are competent as well as physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

2.5.8 Ladders and Ladder Work

The Principal Contractor and relevant Contractors shall ensure that all ladders are inspected monthly, are in good safe working order are the correct height for the task, extend at least 1 m above the landing, fastened and secured, and at a safe angle. Records of inspections shall be kept in a register on site.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.5.9 General Machinery

The Principal Contractor and relevant Contractors shall ensure compliance with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing, and training those who use machinery

2.5.10 Portable Electrical Tools and Explosive Powered Tools

The Contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation. The Contractor shall ensure that all electrical tools, electrical distribution boards, extension leads, and plugs are kept in safe working order. Regular inspections and toolbox talks must be conducted to make workers aware of the dangers and control measures to be implemented e.g. personal protection equipment, guards, etc.

The Contractor shall consider the following:

- A competent person undertakes routine inspections and records are kept;
- Only authorised trained persons use the tools;
- The safe working procedures apply;
- Awareness training is carried out and compliance is enforced at all times; and
- PPE and clothing is provided and maintained.
- A register indicating the issue and return of all explosive round;
- Signs to be posted up in the areas where explosive powered tools are being used

2.5.11 High Voltage Electrical Equipment

The location of any high voltage electrical equipment on, under or above the construction area shall be clearly identified, and the Principal Contractor and relevant Contractors shall ensure that every person working close to or under high voltage electrical equipment is made aware of the dangers likely to arise.

2.5.12 Public and Site Visitor Health & Safety

The Principal Contractor and relevant Contractors shall ensure that every person working on or visiting the site, as well as the public in general, is made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimise those dangers. Appropriate health and safety notices and signs shall be posted up, but shall not be the only measure taken.

Both the Client and the Principal Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities.

Site visitors must be briefed on the hazards and risks they may be exposed to and what measures are in place or should be taken to control these hazards and risks. A record of these 'inductions' must be kept on site in accordance with the Construction Regulations.

2.5.13 Night Work

The Principal Contractor and relevant Contractors shall ensure that adequate lighting is provided to allow for work to be carried out safely.

2.5.21 Transport of Workers

The Principal Contractor and relevant Contractors shall not transport persons together with goods or tools unless there is an appropriate area or section to store them.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.6 Occupational Health

2.6.1 Occupational Hygiene

Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and all Contractors shall ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, absorption, and noise induction. Generic site-specific health risks are tabled in Annexure C e.g. cement dust, wet cement, wood-dust, noise, etc.

2.6.2 Alcohol and other Drugs

No alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription drugs must inform his/her superior; who shall in turn report this to the Principal Contractor forthwith any person suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suspected of being under the influence of alcohol or other drugs shall be sent off site immediately.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION (HSS)

PROJECT:

ANNEXURE A

The Principal Contractor and Contractors shall submit proof of compliance with Annexure A with the construction phase H&S plan where applicable.

HSS Item No.	Requirement	OHS Act Requirement	Submission Date
2.3.1	Notification of intention to commence construction/ building work	Complete Schedule 1 (Construction Regulations)	Before commencement on site
2.3.2	Assignment of responsible person to supervise construction work	All relevant appointments as per OHS Act and Construction Regulations	Before commencement on site
2.3.3	Competence of responsible person	Client requirement and OHS Act	Together with H&S Plan
2.3.4	Compensation of Occupational Injuries and Diseases Act (COIDA) 130 of 1993	COIDA requirement	Together with H&S Plan
2.3.5	Occupational Health and Safety policy	OHS Act	Together with H&S Plan
2.3.6	Health and Safety organogram	Client requirement	Together with H&S Plan
2.3.7	Initial hazard identification and risk assessment based on the client's assessment	Construction regulations	Together with H&S Plan
2.3.8	Health and Safety representative	OHS Act	Submit as soon as there are more than 20 employees on site

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

ASSIGNMENT OF PRINCIPAL CONTRACTOR'S RESPONSIBLE PERSONS

PROJECT:

ANNEXURE B

The Principal Contractor shall make the following appointments according to the initial risk assessment: (further appointments could become necessary as project progresses)

Note: Depending on the scale of the project the same person may take on multiple appointments

E.g. The Construction Supervisor could also be the First Aider, the Scaffolding Supervisor and the Earthworks Supervisor etc.

APPOINTMENT	OHSa REFERENCE	REQUIREMENT
CEO Assignee	Section 16(2)	A competent person to assist with the on-site H & S overall responsibility - Contractor's Responsible Person
Construction Work Supervisor	CR 6.1	A competent person to supervise and be responsible of Health & Safety related issues on site. The person is appointed to assist the CEO with his/her overall duties.
Subordinate Construction Work Supervisors	CR 6.2	A competent person to assist with daily supervision of construction/building work. The person assists the Construction Work Supervisor.
Health & Safety Representative(s)	Section 17	A competent person(s) to inspect H & S in reference to plant, machinery & Health & Safety of persons in the workplace.
Health & Safety Committee Member(s)	Section 19	A competent person(s) representing the employer to assist with the onsite Health & Safety matters.
Incident Investigator	GAR 8	A competent person to investigate incidents/accidents on site & could be: <ul style="list-style-type: none"> • The employer • H & S Representative • Designated person • Member of the H & S Committee.
Risk assessment co-ordinator	CR 7	A competent person to co-ordinate all risk assessments on behalf of the Principal Contractor and relevant Contractors.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

APPOINTMENT	OHSA REFERENCE	REQUIREMENT
Fall protection plan co-ordinator	CR 8	A competent person to prepare & amend the fall protection plan.
First Aiders	GSR 3	A qualified person to address all on site first aid cases.
Machinery Inspector	GSR 2.1	A competent person to supervise machinery.
Lifting machine & equipment inspector	DMR 18	A competent person to inspect lifting machines, equipment & tackle.
Scaffolding Inspector	SABS 085	A competent person to inspect scaffolding before use and every time after bad weather, etc.
Scaffolding erector	GSR 13D	A competent person to erect scaffolding.
Scaffolding supervisor	SABS 085	A competent person to supervise scaffolding.
Formwork & support work inspector	CR 10	A competent person to inspect formwork & support work.
Excavation Inspector	CR 11	A competent person to inspect excavation work and ensure that approved safe working procedures are followed at all times.
Ladder Inspector	GSR 13A	A competent person to inspect ladders daily and ensure they are safe for use, keeping monthly record.
Stacking Supervisor	CR 26	A competent person to supervise all stacking and storage operations.
Explosive powered tools inspector/supervisor	CR 19	A competent person to inspect & clean the tool daily and controlling all operations thereof.
Temporary electrical installations supervisor	CR 22	A competent person to control all temporary electrical installations.
Fire-fighting equipment inspector	CR 27	A competent person to inspect fire-fighting equipment.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

OTHER REQUIREMENTS**PROJECT:****ANNEXURE C**

The Principal Contractor shall comply with but not be limited to the following requirements: report on these to the Client at progress meetings or at least monthly whichever is sooner.

WHAT	WHEN	OUTPUT	ACCEPTED BY CLIENT & DATE
Induction training	Every worker before he/she starts work.	Attendance registers	
Awareness Training (Tool Box Talks)	At least weekly	Attendance registers	
Health & Safety Reports	Monthly	Report covering: <ul style="list-style-type: none"> • Incidents/accidents & investigations • Non-conformances by employees & contractors • Internal & External H & S audit reports. 	
Emergency procedures	Ongoing evaluation of procedure.	Table procedure in writing as well as tel. Numbers.	
Risk assessment	Updated & signed off at least monthly	Documented risk assessment.	
Safe work procedures	Drawn up before workers are exposed to new risks	Documented set of safe work procedures (method statements) updated & signed off.	
General Inspections	Weekly & daily	Report OHS Act compliance: <ul style="list-style-type: none"> • Scaffolding • Excavations • Formwork & support work • Explosive tools 	
General Inspections	Monthly	Firefighting equipment Portable electrical equip. Ladders Lifting equipment/slings	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

WHAT	WHEN	OUTPUT	ACCEPTED BY CLIENT & DATE
List of Contractors	List to be updated weekly	Table list, number of workers and Company tel. Numbers.	
Workman's Compensation	Ongoing	Table a list of Contractor's workman's compensation proof of good standing.	
Construction site rules & Section 37.2 Mandatary Agreement	Ongoing	Table a report of all signed up Mandataries.	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ACKNOWLEDGEMENT OF RECEIPT

PROJECT:

ANNEXURE D

I, _____representing,

Principal Contractor / Contractor / Employer

Have satisfied myself with the content of the Pre-construction Health and Safety Specification and shall ensure that the Principal Contractor / Contractor and its personnel comply with all obligations / requirements in respect thereof.

Signature of Principal Contractor / Contractor

Date

Signature of Client / Client's Agent

Date

Comments

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C5.2 ENVIRONMENTAL MANAGEMENT PLAN

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Table 1	Mechanism that Cause Environmental Impacts during Construction Activities

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C1001 SCOPE

This environmental management programme (EMP) sets out the methods by which proper environmental controls are to be implemented by the contractor. The duration over which the contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract, and the project specifications, as the defects liability period (maintenance period).

The provisions of this EMP are binding on the contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract.

The EMP is a dynamic document subject to similar influences and changes as are wrought by variations to the provisions of the project specification. Any substantial changes shall be submitted to the Employer in writing for approval.

The EMP identifies the following:

Construction activities that will impact on the environment
Specifications with which the contractor shall comply in order to protect the environment from the identified impacts
Actions that shall be taken in the event of non-compliance

C1002 DEFINITIONS

Alien Vegetation: alien vegetation is defined as undesirable plant growth which shall include, but not be limited to, all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area.

Construction Activity: a construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process.

Environment: environment means the surroundings within which humans exist and that could be made up of –

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being

Environmental Aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental Impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity within the road width and between the limits that define the construction site. An impact may be the direct or indirect consequence of a construction activity.

Road Reserve: the road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Road Width: for the purposes, of the EMP, the road width is defined as the area within the road reserve i.e. fence line to fence line, but also includes all areas beyond the road reserve that are affected by the continuous presence of the road, e.g. a reach of a water course.

C1003 IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- storm water discharge
- emission of pollutants into the atmosphere
- chemical use operations
- energy use operations
- water use operations
- use of natural resources

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified and the activity planned so as to prevent any impact from happening. If prevention is not practical or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he is capable of carrying out any repair and reinstatement of the damaged environment. These requirements shall be concurrent with the time constraints to produce an approved construction programme according to clause 15 of the general conditions of contract and clause B1204 of these project specifications.

Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

Pollution of atmosphere, soil or water
Destruction or removal of fauna and flora and effect on biological diversity
Deformation of the landscape
Soil erosion
Destruction of historical/heritage sites
Effect on the built environment
Effect on agricultural land and wetlands

General good construction practise will play an important role in avoiding the occurrence of an Impact. The contractor's attention is drawn, in this regard, to C1008. Environmental Management of Construction Activities.

C1004 LEGAL REQUIREMENTS

a) General

Construction will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

- b) Statutory and other applicable legislation

It is expected that the contractor is conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

C1005 ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

- a) Appointment of a Designated Environmental Officer (DEO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the DEO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved he/she shall be the DEO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions of the contractor where environmental considerations call for action to be taken. The DEO shall submit regular written reports to the engineer, but not less frequently than once a month.

The engineer shall have the authority to instruct the contractor to replace the DEO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

There shall be an approved DEO on the site at all times.

- b) Administration

Before the contractor begins each construction activity the DEO shall give to the engineer a written statement setting out the following:

The type of construction activity
Locality where the activity will take place
Identification of the environmental aspects and impacts that might result from the activity
Methodology for impact prevention for each activity or aspect
Methodology for impact containment for each activity or aspect
Emergency/disaster incident and reaction procedures
Treatment and continued maintenance of impacted environment

The contractor may provide such information in advance for any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the DEO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

c) Good Housekeeping

The Contractor shall undertake “good housekeeping” practices during construction. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

C1006 TRAINING

The designated environmental officer (DEO) must be appropriately trained in environmental management and must possess skills necessary to impart environmental management skills to all personnel involved in the contract.

The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies
- The environmental impacts, actual or potential, of their work activities
- The environmental benefits of improved personal performance
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency’s environmental management systems, including emergency preparedness and response requirements
- The potential consequences of departure from specified operating procedures
- The mitigation measures required to be implemented when carrying out their work activities

In the case of permanent staff the contractor shall provide evidence that such induction causes have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how it intends concluding its environmental training obligations.

C1007 ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 7/1: Aspects or Activities that Cause Environmental Impacts during Construction Activities, which is to be found at the end of this section. This list is not exhaustive, and shall be used for guideline purposes only.

C1008 ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

a) Site Establishment

i) Site Plan

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.

The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course as possible. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site.

ii) Vegetation

The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.

The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, same specie indigenous trees as were occurring, shall be re-established.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

iii) Rehabilitation

The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract.

iv) Water for Human Consumption

Water for human consumption shall be available at the site offices and at other convenient locations on site.

All effluent water from the camp/office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc.). Only domestic type wastewater shall be allowed to enter this drain.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

v) Cooking Fuel

The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

b) Sewage Treatment

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as “enviro loos”, or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 meters from any natural water course or water retention system. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the engineer.

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.

Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the engineer.

c) Waste Management

The contractor's intended methods for waste management and waste minimisation shall be implemented at the outset of the contract. All personnel shall be instructed to dispose of all waste in the proper manner.

i) Solid Waste

Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection and disposal. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a Department of Water Affairs and Forestry (DWAF) licensed landfill site or at a site approved by DWAF in the event that an existing operating landfill site is not within reasonable distance from the site offices and staff accommodation. No waste shall be burned or buried at or near the site offices, nor anywhere else on the site, including the approved solid waste disposal site.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ii) Litter

No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter.

Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work the contractor shall provide litter collection facilities for later safe disposal at approved sites.

iii) Hazardous Waste

Hazardous waste such as bitumen, tar, oils, etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care shall be taken to avoid spillage of tar or bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

Under no circumstances shall the spoiling of tar or bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. No spillage of tar or bituminous products shall be allowed on site. Affected areas shall be promptly reinstated to the satisfaction of the engineer.

d) Control at the Workshop

The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).

i) Safety

All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.

ii) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials, e.g. tar or bitumen binders shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of tar or bituminous products shall only take place using suitable containers to the approval of the engineer.

The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.

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iii) Fuel and Gas Storage

Fuel should be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. Leakage of fuel shall be avoided. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any spillage or overflow from these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil.

Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

iv) Oil and Lubricant Waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.

e) Clearing the Site

In all areas where the contractor intends to, or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the engineer for his approval.

The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.

The contractor shall be held responsible for re-establishment of grass within the road reserve boundaries for all areas disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the defects liability period.

f) Soil Management

i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and

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windrows shall be maintained throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved Department of Water Affairs and Forestry waste disposal site. The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer than 6 months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.

The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may have been affected by such negligence.

ii) Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used for road building. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation purposes.

g) Drainage

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion, direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products.

The contractor shall submit to the engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.

h) Earthworks and Layer works

This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the

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commencement of construction, the contractor shall have complied with the requirements of sections C1008 (e) and C1008 (g). In addition, the contractor shall take cognisance of the requirements set out below.

i) Quarries and borrow pits

The contractor's attention is drawn to the requirement of the Department of Minerals and Energy that before entry into any quarry or borrow pit, an EMP for the establishment, operation and closure of the quarry or borrow pit shall have been approved by the Department. It is the responsibility of the contractor to ensure that he obtains from the engineer, a copy of the approved EMP prior to entry into the quarry or borrow pit. The conditions imposed by the relevant EMP are legally binding on the contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific EMP and these specifications the former shall apply. The cost of complying with the requirements shall be deemed to be included in existing rates in the Schedule of Quantities

ii) Excavation, hauling and placement

The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil and sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when there is no construction activity.

iii) Spoil sites

The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects liability period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after revegetation.

The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.

Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio. Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor. This will include both strip and full sodding. The contractor may motivate to the engineer for other acceptable stabilizing methods. The engineer may only

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approve a completed spoil site at the end of the defects liability period upon receipt from the contractor of a landowner's clearance notice and an engineer's certificate certifying slope stability. The contractor's costs incurred in obtaining the necessary certification for opening and closing of spoil sites shall be deemed to be included in the tendered rates for spoiling.

iv) Stockpiles

The contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the engineer for his approval, together with the contractor's proposed measures for prevention, containment and rehabilitation against environmental damage.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the contractor shall at all times ensure that they are:

- Positioned and sloped to create the least visual impact;
- Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment; and
- Kept free from all alien/undesirable vegetation.

After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated / deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the contractor's cost until clearance from the engineer is received.

Material milled from the existing road surface that is temporarily stockpiled in areas approved by the engineer within the road reserve, shall be subject to the same condition as other stockpiled materials. Excess materials from windrows, in situ milling or any detritus of material from road construction activities may not be swept off the road and left unless specifically instructed to do so in the contract drawing or under instruction from the engineer

In all cases, the engineer shall approve the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their clause only when they have been satisfactorily rehabilitated.

v) Blasting activities

Wherever blasting activity is required on the site (including quarries and/or borrow pits) the contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives. In addition, the contractor shall, prior to any drilling of holes in preparation for blasting, supply the engineer with a locality plan of the blast site on which shall be shown the zones of influence of the ground and air shock-waves and expected limits of fly-rock. The plan shall show each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields. The submission of such a plan shall not in any way absolve the contractor from his responsibilities in this regard.

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The contractor shall also indicate to the engineer the manner in which he intends to advertise to the adjacent communities and/or road users the time and delays to be expected for each individual blast.

i) Batching sites

Asphalt plants are considered scheduled processes listed in the second schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). Should the use of an asphalt plant be considered on site, the contractor shall be responsible to obtain the necessary permit from the Department of Environmental Affairs and Tourism, regardless of where they are sited.

Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the Department of Minerals and Energy legislation as well as the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relevant authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1008(h)(iii), with the exception that the contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the contractor shall provide plans that take into account such additional measures as concrete floors, bonded storage facilities, linings to drainage channels and settlement dams. Ultimate approval of these measures shall be from the relevant national authority, as shall approval of closure. The engineer will assist the contractor in his submissions to the relevant authority.

Effluent from concrete batch plants and crusher plants shall be treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the engineer for approval.

The contractor shall invite the relevant department to inspect the site within 2 months after any plant is commissioned and at regular intervals thereafter, not exceeding 12 months apart

j) Spillages

Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and tar or bituminous products. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her DEO or to the engineer. The Designated Environmental Officer will assess the situation in consultation with the engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the DEO and the engineer. Areas cleared of hazardous waste shall be revegetated according to the engineer's instructions.

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input

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shall be agreed with the engineer. The costs of containment and rehabilitation shall be for the contractor's account, including the costs of specialist input.

k) Areas of Specific Importance

Any area, as determined and identified within the project document as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to tender. The discovery of other sites with archaeological or historical interest that have not been identified shall require ad hoc treatment.

i) Archaeological Sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the engineer of such discovery. The National Monuments Council is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist

ii) Graves and maddens

If a grave or madden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the graves/maddens shall be stopped and the engineer informed of the discovery. The National Monuments Council should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with the National Monuments Council, be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred.

l) Noise Control

The contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during daylight hours. Compliance with the appropriate legislation with respect to noise, shall be mandatory.

Should noise generating activities have to occur at night the people in the vicinity of the drilling shall be warned about the noise well in advance and the activities kept to a minimum.

m) Dust Control

Dust caused by strong winds shall be controlled by means of water spray vehicles. Dust omission from batching plants shall be subject to the relevant legislation and shall be the subject of inspection by the relevant Department of Minerals and Energy.

n) Alien Vegetation

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The contractor shall be held responsible for the removal of alien vegetation within the road reserve disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily or otherwise within the road reserve. This responsibility shall extend for the duration of the defects liability period.

C1009 RECORD KEEPING

The engineer and the DEO to the contractor will continuously monitor the contractor's adherence to the approved impact prevention procedures and shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The DEO should document the nature and magnitude of the non-conformance in a designated register, the action taken to discontinue the non-conformance, the action taken to mitigate its effects and the results of the actions. The non-conformance shall be documented and reported to the engineer in the monthly report.

Copies of any record of decision or EMP's for specific borrow pits or quarries used on the project shall be kept on site and made available for inspection by visiting officials from the employer or relevant environmental departments.

C1010 COMPLIANCE

The contractor shall act immediately when such notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and a verbal report given at the monthly site meetings.

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Table 1: Mechanisms that Cause Environmental Impacts during Construction Activities

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
Camp Establishment	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Housing, Offices and laboratories	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Accommodation of Traffic	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Overhaul	Spillage Storage Noise/lights Dust control Exhaust fumes Washing waste	Turning circles Parking areas	Restrict access to sensitive areas	Protection of indigenous vegetation Preserve topsoil	

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CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
Clearing and grubbing	Waste treatment Hazardous waste Water supply Noise /lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Protection of indigenous vegetation Preserve topsoil	
Drainage	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Borrow pits	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Stockpiling	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Mass Earthworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

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CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
Pavement layers	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Asphalt works / sealing operations	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control Smoke control Storage of materials	Selection of site Preserve indigenous vegetation Preserve topsoil Turning circles Parking areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil	
Ancillary road works	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

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CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
Structures	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Concrete pavements etc.	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

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