VAAL UNIVERSITY OF TECHNOLOGY

Inspiring thought. Shaping talent.

REQUEST FOR BID

TENDER DOCUMENT FOR RENOVATION OF TRANSPORT AND CONCRETE LABS AT BLOCK R

BID/TENDER NO. T01/2025

BID INVITATION DATE	
INVITATION DATE:	**16 March 2025**
COMPULSORY INFORMATION BRIEFING SESSION	
DATE:	**24 March 2025**
TIME:	**11:00am**
VENUE:	**IT Conference Room CW104**
SUBMISSION INFORMATION	
CLOSING DATE:	**31 March 2025**
CLOSING TIME:	**11:00 (noon)**
ADDRESS:	Vaal University of Technology, Andries Potgieter Boulevard, Vanderbijlpark Main Campus, E-Block, **Bid Box in room No. E001**

Registered Name of Tenderer	
Trading Name of Tenderer	
Registration No. of Entity	
Tenderer CIDB Grading	
BBBEE Level	
CSD REG Number	
Contact Person	
Tel No:	Email Address:
Cell No:	Fax No:
Price Offer (Vat Inclusive (15%))	R

I certify that this Bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a Bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this Bid and certify that I am authorised to sign this Bid.	---------- **AUTHORISED SIGNATORY** ---------- **SURNAME AND FULL NAME/S** ---------- **DATE**

IMPORTANT INFORMATION - PLEASE TAKE NOTE:

- Room No. E001 is only open Monday to Friday (08:30 am to 16:00 pm).
- Bid Register in Room E001 must be completed and signed upon submission.
- Courier Services must be made aware of the Bid Register as well as the Bid Number and your Company Name.
- Failure to sign the Bid Register can lead to disqualification.
- The Bidder is responsible for ensuring the employees/courier service locates the Bid Box in Room E001 (E-Block).

1. REQUEST FOR BID SCHEDULE

Interested parties are hereby invited in the manner specified to submit to VUT, a Bid to supply the goods and/or services specified in the RFB complying in all respects with the attached Instructions to Bidders.
The following is information specific to this RFB:

HEADING	CONTENT
RFB Reference No.	See cover page of this RFB.
Closing Date and Time for Submission of Bids	See cover page of this RFB.
Compulsory Information Meeting (if applicable)	See cover page of this RFB.
Public Opening	To be advertised on VUT Website www.vut.ac.za
VUT Representative/s to whom Written Enquiries must be Addressed	Name : Ms. Lebohang Monne Address : Vaal University of Technology Andries Potgieter Boulevard Main Campus Supply Chain Department E-Mail Address : lebohangm2@vut.ac.za. ***All enquiries must be in writing***
Physical Address for Bid Submissions	Address : Vaal University of Technology Andries Potgieter Boulevard Vanderbijlpark, Main Campus, E-Block, Bid Box in Room E001 (Bid Register to be signed on submission) Date & Time **: See "Cover Page)**
FURTHER INSTRUCTIONS: **PLEASE NOTE THE FOLLOWING:**	• **Multiple Bids from the same Bidder is NOT allowed.** • **Account/Income and Expenditure Statements AND NOT OLDER THAN 2023: Declaration from the auditor declaring that the company meets the solvency and liquidity test as prescribed in terms of section 4 of the COMPANY'S ACT (71 of 2008). (5 points for compliance)**
Submission of Bid Documentation and Further Instructions	**2 (TWO) DOCUMENT SUBMISSION must be submitted as follows:** • 1 (one) PDF document with the **Original Bid Document: Cover Page indicating the following**:

(Neglecting to follow these mandatory instructions can lead to disqualification)	• Original Bid Document; • Bid Number; • Bid Description; • Your Company Name. • Include Your Company email address. • 1 (one) PDF document with the **Original Separate Pricing Schedule**: **Cover page indicating the following:** • Original Pricing Schedule; • Bid Number; • Bid Description; • Your Company Name. • Include Your Company email address.
Documentation/Registration Fee	**N/A**
VUT's Banking Details for Payment of Registration or Documentation Fee	**N/A**
Details when Paying at VUT's Cashier for Registration or Documentation Fee	**N/A**
Grounds on which Bids may be Disqualified	Instructions to Bidders for basic grounds set out on the Automatic Disqualification.
Description of Goods/Services to be Procured	See detailed Specifications.
Mandatory Documents to be Submitted together with Bid	See Mandatory Documentation/Requirements.
Criteria for Evaluation of Bids on Functionality and Weight of each Criteria	See Functionality Criteria
Minimum Qualifying Score for Functionality	**60 (Sixty-points)**

Minimum CIDB grading	**3 GB or higher**
Payment Terms	**30** (thirty) days after Statement Date.
Period of Validity of Bids	Initial period of 120 (one hundred and twenty) days from the Closing Date of Bid Submission.

For **Vaal University of Technology** who hereby warrants that s(he) is duly authorised to sign this RFB on its behalf

Full Name(s) .....

Designation .....

BIDDERS FULL NAME/S	**BIDDERS SIGNATURE**	**DATE**

Contents

T1.1: TENDER NOTICE AND INVITATION TO TENDER

The Vaal University of Technology invites experienced and qualified Contractors in terms of the VUT SCM Infrastructure Policy to submit tenders/bids for the RENOVATION OF TRANSPORT AND CONCRETE LABS *BID No. (T01/2025)

Table 1:

Programme	Project No.	Project Description	Type of Project	CIDB Contractor Grading
Deferred Maintenance - Residences	**T01/2025**	RENOVATION OF TRANSPORT AND CONCRETE LABS	**RENOVATION**	**3GB or Higher**

A compulsory tender briefing/clarification meeting on site with representatives of the Employer will take place on Monday, 24th of March 2025 from 11:00am to 12:00pm. Bidders should use the following link to access the information session:

Address: **Vaal University of Technology,**
Andries Potgieter Boulevard, Vanderbijlpark
Main Campus, IT Conference, Room CW104

Bidders are allowed to form Joint Ventures or Consortiums during their submissions.

☒ 80/20 Preference point scoring system

Tender closing date and time: Monday the 31st of March 2025 @ 11:00am.

Only physical submissions will be accepted.

HOW TO SUBMIT YOUR TENDER DOCUMENTS:

Address: Vaal University of Technology,
Andries Potgieter Boulevard, Vanderbijlpark
Main Campus, IT Conference, Room CW104

VUT reserves the right to withdraw any invitation to tender and/or to re-advertise or to reject any tender or to accept a part of it. VUT does not bind itself to accepting the lowest tender. VUT will use objective elimination criteria on all tenderers with a default history/poor performance within VUT projects where the contractor did not complete even after receiving numerous notices of default.

Telegraph, telephone, telex, facsimile and late documents will not be accepted.

Enquiries:

All supply chain and technical enquiries regarding this RFP must be forwarded to: Email: **Ms. Lebohang Monne** at **lebohangm2@vut.ac.za** with the applicable Bid No. as the subject.

T1.2 TENDER DATA

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**		
Tender No:	**T01/2025**		
Invitation date:	16 March 2025	**Closing date:**	31 March 2025
Closing time:	11:00am	**Validity period**	120 Days

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of CIDB Standard for Uniformity in Construction Procurement (August 2019). This standard is issued in terms of sections 4(f), 5(3)(c) and 5(4)(b) of the Construction Industry Development Board Act 38 of 2000 read with Regulation 24 of the Construction Industry Development Regulations, 2004 (as amended) issued in terms of section 33.

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 the tender data 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.

Clause number	
F.1.1	The employer is Vaal University of Technology The sponsor and the employer according to the contract is Vaal University of Technology. The VUT will have the right to directly intervene if the service provider is in default. In the event of such an intervention, the VUT shall assume full accountability and responsibility.
F.1.2	The Tender Documents issued by Vaal University of Technology comprise the following documents: **THE TENDER** **Part T1: Tendering procedures** T1.1 - Tender notice and invitation to tender T1.2 - Tender data **Part T2: Returnable documents** T2.1 - List of returnable documents T2.2 - List of returnable schedules **THE CONTRACT** **Part C1: Agreements and Contract data** C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Form of Guarantee **Part C2: Pricing data** C2.1 - Pricing instructions C2.2 - Bill of Quantities **Part C3: Scope of work** C3.1 - Scope of work C3.2 - Health and Safety Specification' C3.3 - Contractors Reports C3.4 - EPWP Specification **Part C4: Site information** C4.1 - Site information C4.2 - Drawings

F.1.4		Vaal University of Technology Main Campus Andries Potgieter Boulevald Vanderbijlpark 1911
F.1.6.2.1		Vaal University of Technology shall announce the names of the tenderers who make a submission.
F.1.2	Tender documents	The documents issued by the employer for the purpose of a tender offer are listed in the tender data.
.1.3	Interpretation	
F.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."
F.1.4	Communication and Employer's Representative	The employer's representative is **Ms.Lebohang Monne.** Email: **Lebohangm2@vut.ac.za.**
F.1.5	The employer's address for delivery of tender offers and identification details to be shown on each tender offer package are as per Tender Notice and Invitation to Tender T1.1	
F.2.1	Eligibility	All tenderers/bidders who have the required experience, CIDB Registration Category, and capability are eligible to submit tenders. Bidders are allowed to form Joint Venture or Consortium. No bidder/contractor will be appointed where the maximum value of the contract is higher than the value that the contractor is considered capable of performing in accordance with the contractors CIDB grading.
F.2.2	Cost of tendering	No costs will be reimbursed to the tenderers by VUT for any interviews or briefing meetings for this tender.
F.2.3	Check documents	Bidder to check the bid documents on receipt for completeness and notify the employer of any discrepancy or omission.
F.2.4	Confidentiality and copyright	Bidder to treat confidential all matters arising in connection with the bid. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a bid offer in response to the invitation.
F.2.5	Reference documents	• Standard for Uniformity in Construction Procurement (August 2019) • The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations 2014 • VUT SCM Infrastructure Policy
F.2.8	Seek clarification	Tenderers should request clarification of the tender documents, if necessary, by notifying the Employer's Representative indicated in the Tender Notice and Invitation to Tender in writing at least five (5) working days before the closing time stated in the foregoing notice and clause 2.15. The employer has a right to seek clarification and request certain documentation from the Tenderers after the tender closing and during the bid evaluation process where it is deemed as such.
F.2.9	Insurance	VUT accepts that the submission of a Tender/Bid shall be construed as an acknowledgment by the Tenderer/Bidder that she/he will provide her/his own insurance for this contract.
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.2.13 F.2.13.2 F.2.13.4	Submitting a Tender Offer	Each Tenderer/Bidder 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. Parts of each Tender Offer communicated shall be submitted electronically as per the submission guidelines. Add the following to the clause: "Only authorised signatories may sign the all copies of the tender offer require signature on each page of the tender offer or only where signature is required in terms of 2.13.4. If tender offer is not signed, tenderer/Bidder will be disqualified. In the case of a **ONE-PERSON CONCERN** submitting a tender, this shall be clearly stated. 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. 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. In the case of a **PARTNERSHIP** submitting a tender/Bid, **all the partners** shall sign the documents, unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case **proof of such authorisation** shall be included in the Tender. **Accept that failure to submit proof of authorisation to sign the tender/Bid shall result in a Tender Offer being regarded as non-responsive.**
F.2.13.5		The Employer's address for delivery of tender offers:
F.2.13.6		The submission of the tender should be as per the submission instructions,
F.2.14	Information and Data to be completed in all respects	VUT accepts that the Employer is restricted in accordance with clause 4.(4) of the Construction Regulations, 2014, to only appoint a Contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely. **Risk assessment will be conducted for those tenderers that are responsive.**
F.2.15 F.2.15.1	Closing time	The closing time for submission of tender offers is: **Monday the 31st of March 2025 at 11:00am.**
F.2.16 F.2.16.1	Tender Offer validity	**The Tender Offer validity period is 120 Days** "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." The validity period may be extended in writing by the Employer.
F.2.19	Inspections, tests and analysis	The Tenderer must provide access during working hours to his premises for inspections on request.
F.2.24	Canvassing and obtaining of additional information by tenderers	Vaal University accepts that no Tenderer/Bidder shall make any attempt either directly or indirectly to canvass any of the Employer's officials or the Employer's agent in respect of his tender/bid, after the opening of the tenders and prior to the Employer arriving at a decision thereon. No Tenderer/Bidder shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders."

F.2.25	Tax	"Submission of a **Valid Tax Clearance Certificate and/or Tax Compliance Status Pin** is compulsory." "Bidders should note, that in accordance with legislation, no contract may be awarded to a/an person/entity who has failed to submit a Valid Tax Clearance Certificate or Tax Compliance Status Pin from the South African revenue Service (SARS), certifying that the taxes of that person/entity are in order or that suitable arrangements have been made with SARS." In bids where a consortia/ Joint Venture / Sub-Contractors are involved each party **must** submit a separate Valid Tax Clearance Certificate or Tax Compliance Status Pin. Expired Tax Certificate after closing date will not be acceptable. Bidder to provide a Pin issued by SARS in order to verify the status of their status.
F.3.1	Respond to clarification	"Response to a request for clarification should be received up to three calendar days before the tender closing time stated in the tender data and notify all Tenderers/Bidders who drew procurement documents"
F.3.4	Opening of Tender submissions	The name of each tenderer whose tender offer is opened will be announced during the tender opening process. Venue below: Vaal University of Technology, Andries Potgieter Boulevard, Vanderbijlpark Main Campus, E-Block, Bid Box in room No. E001
F.3.11 F.3.11.1	Evaluation of Tenders General	The tender evaluation method to evaluate all responsive tender offers will be Method 1 which is Price and Preference. Apply the 80/20 Preference Point system where a maximum of eighty (80) points will be awarded for price and twenty (20) points will be awarded for B-BBEE. Price and preference will be scored and a risk assessment will be conducted for those tenderers that are responsive. Functionality Scoring for quality will apply for this tender and Risk Assessment will be conducted for all eligible Tenderers, after price and preference evaluation. Risk assessment will be evaluated on the following: - Proposed resources have the relevant experience - Base town or location of the operational office in relation to projects. - Price offered does not pose risk to completion of the project - Current project under construction in relation to workload - Number of previously awarded projects not completed up to works completion whose time has lapsed within VUT. - Contractor refused to get help though a subcontractor/cession contractor to complete the works and the project did not finish on time either by Contractor or Replacement contractor. - Failed to perform on any previous contract and has been given a written notice(s) to this effect for which the contractor did not rectify the situation and/or the tenderer has been terminated by VUT or other employers due to poor performance (SBD 8 to be completed) - Contractor completed the project under dispute and ended up not willing to sign the Final Account due to objections on re-measurement, leading to Final Account submitted and approved without the Contractor's signature. - Where the Contractor failed to submit required COCs and this led to delays in the Final Account and Close Out Reports. As part of risk assessment the Bidders give VUT the right to request for enquiries from previous and/or current employers about bidders performance
F.3.12	Insurance provided by the Employer	The Employer will not take out any insurance.
F.3.13	Acceptance of Tender Offer	"'A Tender Offer will only be accepted on condition that such acceptance is not prohibited in terms of the Treasury Regulations and Competition Act."
F.3.17	Provide Copies of the Contract	One signed copy of contract shall be provided by the Employer to the successful Tenderers/Bidders. For record purposes the contractors should buy a copy of the contract for use as reference during contract administration.

Part T2: Compulsory & Returnable Documents

T.2.1 List of returnable documents

1. **Returnable documents will be used for Functionality Scoring/Risk Assessment (Added after T.2.1.H)**

- T2.1.A: Detailed Programme for the Works (all works to be completed in 4 Months excluding builder's holiday period).
- T2.1.B: Proof of References from previous similar projects completed and stamped by either Principal Agents or Employers.
- T2.1.C: Proof of Working Capital
- T2.1.D: Letter of Credit Reference from Suppliers
- T2.1.E: Proof of Locality (Closest to VUT Site)
- T2.1.F: Technical Approach and Methodology
- T2.1.G: Health and Safety Compliance Documents
- T2.1.H: Proof of Bidders Capacity (Business Entity Organogram, Project Organogram/Team and Specialist Subcontractor's list.

T.2.2 List of compulsory returnable schedules

(Failure to submit/complete the below returnable will result to disqualification)

2. **Returnable schedules that will be used for Risk Assessment:**

- T2.2.A: Record of Addenda to Tender Documents (where Addendi were issued)
- T2.2.B: Compulsory Enterprise Questionnaire (must be fully completed).
- T2.2.C: Proof of authorisation of signatory (must be fully completed otherwise the tender will not be considered)
- T2.2.D: Schedule of Proposed Sub-Contractors.
- T2.2.E: Compulsory briefing meeting: Bidders would be required to complete and sign the attendance register.
- T2.2.F: Additional Particulars Concerning Tenders.
- T2.2.G: Preference schedule: Broad Based Black Economic Empowerment Status
- T2.2.H: Copy of Business Entity Registration (Submission of CIPC Registration) relevant to Public/Private Companies and Closed Corporations. Or, Certified ID Copy/s of Registered Members (Relevant to Sole Proprietaries and Partnerships.
- T2.2.I: Submit valid Certificate of Good Standing with Workman Compensation Commissioner (COIDA) at the time of submission of the bid. Expired COIDA certificates will not be considered.
- T2.2.J: Central Supplier Database Registration Report (Not older than 3 months report).
- T2.2.K: CIDB registration print out (CIDB registration will be verified on the CIDB website).
- SBD 2: Valid Tax Clearance Certificate and/or Tax Compliance Status Pin (Issued by SARS).
- SBD 4: Duly completed and signed Declaration of Interest.
- SBD 8: Declaration of Bidders Past Supply Chain Management Practices.
- SBD 9: Duly completed and signed Certificate of Independent Bid Determination.

3. **Returnable schedules that will be incorporated into the contract:**

- C1.1 Completed and signed Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee or Deduction on Payment (Letter/s of intent from bank/Financial Providers)
- C2.2 Completed Bill of Quantities

NB: Where a bidder has failed to submit any of the required document/s or did not fully complete the document, a bidder will be given a period of three days to submit any such document or to fully complete the document failing which the bidder will be disqualified and not considered further in the bid process. Only the Valid Tax Clearance Certificate and/or Tax Compliance Status Pin (Issued by SARS) will be given a period of seven days to submit.

T2.1. A: Detailed Programme for the Works

(All works to be completed in 4 months including builders holiday period and Contractor to indicate the resources to be deployed to each site to support the programme of the works).

T2.1.B: PROOF OF REFERENCES

- T2.1.B: Proof of References from previous similar projects completed and stamped by either Principal Agents or Employers.

FORM 1
VUT Bid- Resolution to sign on behalf of Business Entity

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 an Bid to Vaal University of Technology in respect of the following :

   .....
   (project description as per RFB Document)

   RFB Number: ..... *(Bid number as per Bid Document)*

2. *Mr/Mrs/Ms.....

   In *his/her capacity as: ..... *(position in the enterprise)*

   And who will sign as follows: .....
   Be and hereby, authorised to sign the BID and any other document and/or correspondence in connection with and relating to the BID, as well as to sign any Contract, and any and all documentation, resulting from the award of any project to the Enterprise mentioned above.

#	NAME	CAPACITY	SIGNATURE
1.			
2.			
3.			
4.			
5.			
6.			

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 numbers of Directors / Members/ Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

ENTERPRISE STAMP

FORM 2
VUT BID – Details of Previous Similar Project Experience

- The respondent must complete part A of this form separately for each project listed on form 3.
- The respondent must forward Part B of this form for completion and signing by Client, then bind signed and stamped form with the submission. The VUT will not give scores for uncompleted forms.
- The reference to please provide a score (0 – poor, 5 – satisfactory, 7 – good, 10 – excellent, intermediate numbers may also be scored) and comment on the Contractor's performance on the listed project.

PART A – To be completed by respondent for BID submission

Business entity name of Respondent:			
Name of completed similar project:			
Name of project client:			
Location of project (town, district municipality, province, country)			
Total project value:		Project start date:	
Value of work under your appointment:		Project finish date:	
Brief description of work done on this project by your firm:			
Was the Projected Completed on Time/Completion Certificate Issued			
Details of client for reference purposes:	Name:		
	Business Entity name:		
	Contact details:		

FORM 3 – Continued

VUT BID – Details of Previous Similar Project Experience

PART B – To be completed by reference and returned to VUT evaluation team

Project Name Completed: …….. Value: R ……

Client Name: …… Year :……..

Please verify that information provided by the respondent in Part A above is correct. Comment alongside if necessary: ☐ No ☐ Yes		Comments
Please score and comment on the attributes listed below	Score out of 10	
Overall Project Planning by Contractor		
Ordering of Materials and Long-Lead Materials		
Compliance with Construction programme		
Application of resources to project		
Site Management and Reporting		
Contractual acumen		
Administration of Subcontractors (Nominated, Selected, Domestic)		
Payment of Subcontractors and Suppliers		
Quality of workmanship and Quality Assurance Testing		
Total Score (sum of all scores)		

Referee name: ..... Referee signature: .....

Designation: ……..

Date: ……..
Tel: …… Business EntityClient Stamp:
……

T2.1.C: PROOF OF WORKING CAPITAL

- T2.1.C: The current annual report to be certified by a registered accountant and indicate at least 5% of the value of the Project available or bank statement stamped by the Bank.

T2.1.D: LETTER OF CREDIT REFERENCE FROM SUPPLIERS

- T2.1.D: Letter of Credit reference from suppliers and credit limits to be stipulated with supporting documents

T2.1.E: PROOF OF BUSINESS LOCALITY

- T2.1.E: Means of verification: Either proof of residence, Utility bill or Lease agreement to the name of the tendering firm.

T2.1.F: TECHNICAL APPROACH AND METHODOLOGY

- T2.1.F: Submit a Methodology relevant to the project, detailing how the tenderer plans to manage the works on site which includes the process of completing all works.

T2.1.G: HEALTH AND SAFETY COMPLIANCE DOCUMENTATION

T2.1.H: PROOF OF BIDDER’S CAPACITY

- Business entity Organogram of Key Support Staff with Title, Name and Number of Year Experience.
- Submission of Projects specific Organogram showing Key Technical Personnel with CV’s and certified qualification certificates
- Proposed relevant Sub-Contractors for this specific Project

Functionality Criteria: see below

A minimum of 60 points for Functionality is required for further evaluation.

Functionality criteria	Weighting Factor
1. Financial Standing	
1.1 Proof of working Capital of at least 5% of the Project Value	
The current annual report to be certified by a registered accountant and indicate at least 5% of the value of the Project available or bank statement stamped by the Bank (Compliance = 5 points)	**5 Points**
1.2 Letter of Credit reference from suppliers and credit limits to be stipulated with supporting documents	
Five (5) different suppliers for different building commodities, e.g. Cement, Paint, Metalwork, Floor Tiles & Credit suppliers of materials (1 point per supplier): *In line with the Project Specification*	**5 Points**
1.3 Locality	
Means of verification: Either proof of residence, Utility bill or Lease agreement to the name of the tendering firm. Vaal Area=**10 Points** Gauteng Province=**5 Points** Other Provinces=**2 Points**	**10 Points**
2. Annual/Audited Financial Statement/Management Account/Income and Expenditure Statements AND NOT OLDER THAN 2023: (5 points for 2024 documentation, (3 points for 2023 documentation)	**5 Points**
3. Experience and Resource Capacity. (Similar value is not less than 80% of the total bid price. Similar nature is for building projects, new or refurbishment)	**25 Points**
3.1 Schedule of similar value and completed Projects in the last 10 years (Letter of award/contract, Completion Certificates and reference letters on official letterheads of reference provided to be submitted) **Note: each project to be supported with proof of appointment letter/contract, completion certificates and contactable references. No points will be allocated if no letter of appointment, no successful completion certificate and no contactable references have been provided.**	
List of different Projects, value, and duration, start date/completion date and Clients/Principal Consultants to be provided. 1. Minimum 5 Projects of similar value and nature **(5 points per project**) And/or 2. Where accumulative value of Projects per year meets the 80% value target stated in point 3. **(5 points per cumulative year will be awarded**) **Note: Projects used in point 1 cannot be used in point 2.**	
4. Detailed schedule of Key support staff resources (Key Support staff would indicate management structure and departments)	**5 Points**
Business Entity Organogram of Key Support Staff with Title, Name and Number of Year Experience. (**One point per management representative by different persons to a maximum of 5 points)**	
5. Schedule of proposed specialist and appropriate skills	**5 Points**
Proposed relevant trade Sub-Contractors for this specific Project. One (1) point per Sub-Contractor. E.g., Electrical, Mechanical, Joinery, Plumbing or Civil (refer to trades in the bill of quantities) (**Motivation for using the same sub-contractor for different trades must be provided)**	

6. Competency and Management Structure	**15 Points**
6.1 Submission of Projects specific Organogram showing Key Technical Personnel with CV's and certified qualification certificates	
Names, titles, and number of years of experience on one page for Project Specific Organogram	
Submit the CVs with references and qualification as per Project Organogram: 6.1.1 Contract Director or similar level – NQF level 6 or higher in Built Environment; and 10 and above Years' experience = **5 points** 7-9 years' experience = **3 points** 5-6 years' experience = **2 points** Less than 5 years = **0 points** 6.1.2 Contracts Manager or similar – NQF Level 6 or higher qualification in Built Environment; and 5 and above Years' experience = **5 points** 3-4 years' experience = **3 points** Less than 3 years = **0 points** 6.1.3 Site Agent or similar - NQF level 6 qualification in Built Environment; and 5 and above Years' experience = **5 points** 3-4 years' experience = **3 points** Less than 3 years = **0 points** 6.1.4 Foreman 5 Years' experience = **2 points** 3-4 years' experience **= 1 point** Less than 3 years = **0 points** (Note: All names and Titles must be clearly indicated as mentioned above)	
7 Technical Approach and Methodology	
7.1 Submission of Project specific Method Statement	**10 Points**
Submit a Methodology relevant to the project, detailing how the tenderer plans to manage the works on site which includes the process of completing all works i.e.: site establishment; risks & OHS site specific compliance; understanding of the Scope of Work; actions required and sequencing of works and trades to complete the works in time: • *Location of Office, Delivery, storage and preparation areas (laydown area)* ***(2 points)*** • *Managing noise, dust, rubble and safety of students and VUT staff around operating spaces* ***(3 points)*** • *Clear indication of the deployment of specific trades involved and the management thereof* ***(3 points)*** • *Sequencing of works* ***(2 points)***	
7.2 Submission of detailed Programme including how time will be managed	**5 Points**
Submit detailed Programme: 1. **Critical Path** indicating: • Project start and end date = 1 **points** • Sequence of activities (including expected deployment of trades indicated) = **3 points** • Long-lead time items = 1 **points (long-lead items are items not available immediately and have to be ordered in advance)**	
7.3 Health and Safety Compliance **Health and Safety Compliance** **Health and Safety Officer:** . At least a Diploma at NQF Level 6 and provide professional registration certificate with SAIOSH, NOSA or SACPCMP. Submit the CV'(s) with a certified copy of qualification certificate.	**10 Points**
Total	**100**

T 2.2.A - Record of Addenda to tender documents

We confirm that the following communications received from VUT before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer: Addenda to be attached with tender documents is **compulsory.**		
	Date	**Title or Details**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

Signed ---------- Date _____

Name ---------- Position _____

Enterprise name ----------

T.2.2. B - 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

Business Entity registration number . . . .

Close corporation number . . . .

Tax reference number . . . .

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a business entity or close corporation is currently or has been within the last 12 months in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

Name of spouse, child or parent	**Name of institution, public office, board or organ of state and position held**	**Status of service (tick appropriate column)**	
		Current	**Within last 12 months**

*insert separate page if necessary

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

i) authorizes Vaal University of Technology 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;

iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;

iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and

iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed ---------- Date _____

Name ---------- Position _____

Enterprise name ----------

T.2.2.C: SIGNATORY AUTHORISATION

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No:	**T01/2025**

A: CERTIFICATE OF AUTHORITY FOR SIGNATORY (COMPULSORY FOR COMPLETION)

Signatory for business entity confirms his/her authority hereto by attaching a duly signed formal document indicating authorisation by the business entity to enter into this bidding process on behalf of the said business entity.

An example is given below:

"By resolution of the board of directors passed at a meeting held on _____

Mr/Ms_____, whose signature appears below, has been duly authorised to

sign all documents in connection with the tender for Bid/Tender No. **……..**

and any Contract which may arise there from on behalf of (Block Capitals) _____

_____

_____

SIGNED ON BEHALF OF THE BUSINESS ENTITY: _____

IN HIS/HER CAPACITY AS: _____

DATE:_____

SIGNATURE OF SIGNATORY: _____

WITNESSES:

1._____ SIGNATURE: _____

2. _____ SIGNATURE: _____

T.2.2.D: 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.

Contractor is required not to subcontract more than 30% of the work and the contractor has to attach subcontractor BBBEE & CK documents.

	Name and address of proposed Subcontractor	**Nature and extent of work**	**Previous experience with Subcontractor.**
1.			
2.			
3.			
4.			
5.			
6.			

Signed ---------- Date _____

Name Position

---------- _____

Enterprise name ----------

T.2.2.E: Compulsory Briefing Meeting – Confirmation to be done at the briefing session, bidders required to insert their business entities name and email address in MS Teams chat box.

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No:	T01/2025

I/We have attended the briefing meeting for the above-mentioned works at the date specified below.

I/We have thoroughly studied the Bills of Quantities, plans and contract documents and I/We have brought myself/ourselves fully conversant with all aspects which could possibly influence the construction of the works.

I/We further certify that I/We am/are satisfied with the description of the works and the explanation given to me/us by the Representative/Agent at the briefing meeting and I/We fully understand the extent of the work to be done as specified and implied for the execution of this contract.

Date of Briefing meeting:

Time of meeting:

_____
Full Name of Tenderer

_____

Signature of Tenderer

_____
Full Name of Representative/Agent

_____
Signature of Representative/Agent

_____
Date

T.2.2.F: ADDITIONAL PARTICULARS CONCERNING TENDERERS

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No:	T01/2025

SURETIES AS SECURITY

Since I/we propose to furnish one sureties as security, the following particulars are provided:

1.1 Name of surety:
……

……

Address of surety:
……

……

……

Bank of surety:
……

….

Branch:
……

……

COMPANIES

If the tenderer is a company, a certified copy of the resolution of the board of directors (personally signed by the chairman of the board) authorizing the person who signs this tender to do so, as well as to sign any contract resulting from this tender and any other documents and correspondence in connection with this tender and/or contract on behalf of the company, must be submitted with this tender.

PARTNERSHIPS

The following particulars in respect of every partner must be furnished and signed by every partner:

Full name of partner	Resident address	Signature
……	……	……
……	……	……
……	……	……
……	……	……
……	……	……

We, the undersigned partners, in the business trading as

…… hereby authorize

……
to sign this tender as well as any contract resulting from the tender and any other documents and correspondence in connection with this tender and/or contract on our behalf.

……..	……..	……...
Signature	Signature	Signature
Date: ……..	Date: ……..	Date: ……...

ONE-MAN BUSINESS

I, the undersigned

……

hereby confirm that I am the sole owner of the business trading as

……..

……..	……...
Signature	Date

WORK CAPACITY

The tenderer is requested to furnish the following particulars. Failure to do so may result in the tender being disregarded.

Skilled artisans employed. State categories and furnish numbers:

……

……

……

……

……

……

Unskilled labour employed. State categories and furnish numbers:

……

……

……

……

……

Full particulars of machinery, plant and workshops:

……

……

……

……

……

Particulars of commitments on which the tenderer is at present engaged:

A. PRIVATE

	Project	Place	Contract sum
1.	……	……	……
2.	……	……	……
3.	……	……	……
4.	……	……	……
5.	……	……	……
6.	……	……	……
7.	……	……	……
8.	……	……	……

	Contract period	Commencing date	Expected completion date
1.	……	……	……
2.	……	……	……
3.	……	……	……
4.	……	……	……
5.	……	……	……
6.	……	……	……
7.	……	……	……
8.	……	……	……

B. GOVERNMENT (including provincial administrations and autonomous Government bodies)

	Project	Place	Contract sum
1.	……	……	……
2.	……	……	……
3.	……	……	……
4.	……	……	……
5.	……	……	……
6.	……	……	……
7.	……	……	……
8.	……	……	……

Contract period		Commencing date	Expected completion date
1.	……	……	……
2.	……	……	……
3.	……	……	……
4.	……	……	……
5.	……	……	……
6.	……	……	……
7.	……	……	……
8.	……	……	……

Particulars of projects which tenderer has already –

a) Completed

	Project	Place	Contract sum
1.	……	……	……
2.	……	……	……
3.	……	……	……
4.	……	……	……
5.	……	……	……
6.	……	……	……
7.	……	……	……
8.	……	……	……

b) Completed for other departments (including provincial administration and autonomous Government bodies):

	Project	Place	Contract sum
1.	……	……	……
2.	……	……	……
3.	……	……	……
4.	……	……	……
5.	……	……	……
6.	……	……	……
7.	……	……	……
8.	……	……	……

CONTACTABLE REFERENCES

	Business Entity	Contact Person	Contract Name	Contact Tel No.
1.	……	……	……	……
2.	……	……	……	……
3.	……	……	……	……
4.	……	……	……	……
5.	……	……	……	……
6.	……	……	……	……
7.	……	……	……	……
8.	……	……	……	……

…… ……
Signature Date

T2.2.G: Preference schedule: Broad Based Black Economic Empowerment Status (Certified BEE Certificate or a sworn affidavit stating the BBBEE status in case of Exempted Micro Enterprise and Qualifying Small Enterprise)

Preamble

Section 10(b) of the Broad-Based Black Economic Empowerment Act of 2003 (Act No. 53 of 2003) states that "*Every organ of state and public entity must take into account and as far as is reasonably possible apply any* ***relevant code of good practice*** *issued in terms of this Act in developing and implementing a preferential procurement policy:"*

A number of codes of good practice have been issued in terms of Section 9(1) of the B-BBEE Act of 2003 including a generic code of good practice and various sector codes. The sector codes vary the metrics, weightings and targets used in the generic code of good practice to establish the overall performance of an entity and its B-BBBEE status. The B-BBEE status needs to be assessed in accordance with the applicable code.

Conditions associated with the granting of preferences

Tenderers who claim a preference shall provide sufficient evidence of their B-BBEE Status in accordance with the requirements of section 2 in respect of the applicable code as at the closing time for submissions, failing which their claims for preferences will be rejected.

2 Sufficient evidences of qualification

2.1 Exempted micro enterprises

Sufficient evidence of qualification as an Exempted Micro-Enterprise is a:

a) a registered auditor's certificate or similar certificate issued by an accounting officer as contemplated in the Close Corporation Act of 1984 in respect of the entity's last financial year or a 12-month period which overlaps with its current financial year; or a certificate issued by a verification agency and which is valid as at the closing date for submissions; or.

b) a sworn affidavit - B-BBEE Exempted Micro Enterprise (see www.thedti.gov.za/gazzettes/Affidavit_EME.pdf

2.2 Enterprises other than micro exempted enterprises

Sufficient evidence of B-BBEE Status is:

a) an original or certified copy of the certificate issued by a verification agency accredited by the South African National Accreditation System (SANAS) or.

b) a sworn affidavit – B-BBEE Qualifying Small Enterprise (see www.thedti.gov.za/gazzettes/BBEE_QUALIFYING_SMALL_ENTERPRISE.pdf)

3 Tender preferences claimed

The scoring shall be as follows:

B-BBEE status determined in accordance with the preference schedule for Broad-Based Black Economic Empowerment	% max points for preference	Actual B-BBEE preference points
Form not completed or no-complaint contributor	0	0
Level 8 contributor	10	2
Level 7 contributor	20	4
Level 6 contributor	30	6
Level 5 contributor	40	8
Level 4 contributor	50	10
Level 3 contributor	80	16
Level 2 or contributor	90	18
Level 1 contributor	100	20

4 Declaration

The tenderer declares that

a) the tendering entity is a level contributor as stated in the submitted evidence of qualification as at the closing date for submissions

b) the tendering entity has been measured in terms of the following code *(tick applicable box)*

□ Generic code of good practice

□ Other – specify . . . . . .

c) the contents of the declarations made in terms of a) and b) above are within my personal knowledge and are to the best of my belief both true and correct

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the tenderer confirms that he / she understands the conditions under which such preferences are granted and confirms that the tenderer satisfies the conditions pertaining to the granting of tender preferences.

Signature : .....

Name : .....

Duly authorised to sign on behalf of : .....

Telephone : .....

Fax: ..... Date : .....

Name of witness . . . . . Signature of witness . . . . . .

Note: 1) Failure to complete the declaration will lead to the rejection of a claim for a preference

2) Supporting documentation of the abovementioned claim for a preference must be submitted with the tender submission to be eligible for a preference

T2.2.I: Certificate of Good Standing with Workman's Compensation Commissioner (COIDA)

(Validity of certificate will be verified online)

T2.2.J: Central Supplier Database (CSD) Registration Report.

(Not Older than three months' report and Validity of report will be verified online)

T2.2. K: Copy of CIDB print-out

(CIDB registration will be verified on the CIDB website on the day of BEC and BAC seating).

SBD2: TAX CLEARANCE CERTIFICATE REQUIREMENTS

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

1 The valid Tax Clearance Certificate and Tax Compliance Status Pin must be submitted together with the bid. Failure to submit the valid Tax Clearance Certificate or Tax Compliance Status Pin will result in the invalidation of the bid.

SBD4: Declaration of Interest

DECLARATION OF INTEREST

1. Any legal person, including persons employed by the state[1], 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 an advertised competitive bid, a limited bid, a proposal or written price quotation). 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 Business entity (director, trustee, shareholder[2]):

……..

2.4 Registration number of company, enterprise, close corporation, partnership agreement

or trust……..……..……

2.5 Tax Reference Number: ……..……..……

2.6 VAT Registration Number: ……..…...

2.7

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.

[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.

2.7 Are you or any person connected with the bidder presently employed by the state? **YES / NO**

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: ……
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 attach 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**.**

……
……
……

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 Income Tax Reference Number**	**State Employee Number / Personnel Number**

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 CONDIDTIONS OF CONTRACT SHOULD THIS DECLARATION PROVE TO BE FALSE.

…….. ……
Signature Date

…….. ……
Position Name of bidder

SBD 6.1: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

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	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
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;

(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**

$$Ps = 80\left(1 - \frac{Pt - P\min}{P\min}\right) \quad \text{or} \quad Ps = 90\left(1 - \frac{Pt - P\min}{P\min}\right)$$

Where

Ps = Points scored for price of bid under consideration

Pt = Price of bid under consideration

Pmin = 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	14
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: . = 20 (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 Will any portion of the contract be sub-contracted?

(***Tick applicable box***)

YES		NO	

7.1.1 If yes, indicate:

i) What percentage of the contract will be subcontracted.....……..……%
ii) The name of the sub-contractor……...
iii) The B-BBEE status level of the sub-contractor.....……..
iv) Whether the sub-contractor is an EME or QSE
(Tick applicable box)

YES		NO	

v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations,2017:

Designated Group: An EME or QSE which is at last 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		

Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

8. **DECLARATION WITH REGARD TO BUSINESS ENTITY/FIRM**

8.1 Name of business entity/firm:……

8.2 VAT registration number:……

8.3 Business entity registration number:……

8.4 TYPE OF BUSINESS ENTITY/ 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 BUSINESS ENTITY CLASSIFICATION

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

[*TICK APPLICABLE BOX*]

8.7 Total number of years the business entity/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 …….. …….. ……..

SBD 6.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

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

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

1. General Conditions

1.1. Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.

1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.

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

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

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

LC = [1 - x / y] * 100

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

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

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

1.6 A bid may be disqualified if –

(a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and

(b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

2.1. **"bid"** includes written price quotations, advertised competitive bids or proposals;

2.2. **"bid price"** price offered by the bidder, excluding value added tax (VAT);

2.3. **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;

2.4. **"designated sector"** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;

2.5. **"duly sign"** means a Declaration Certificate for Local Content that has been signed by the 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).

2.6. **"imported content"** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour or intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;

2.7. **"local content"** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;

2.8. **"stipulated minimum threshold"** means that portion of local production and content as determined by the Department of Trade and Industry; and

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

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

Description of services, works or goods	Stipulated minimum threshold
_____	_____%
_____	_____%
_____	_____%

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

YES		NO	

4.1 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.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct? (***Tick applicable box***)

YES		NO	

5.1. If yes, provide the following particulars:

(a) Full name of auditor: ……
(b) Practice number: ……..
(c) Telephone and cell number: ……..
(d) Email address: ……..

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

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

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

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

IN RESPECT OF BID NO. .....

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

(ii) the declaration templates have been audited and certified to be correct.

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

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

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

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

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____ **DATE:** _____

WITNESS No. 1 _____ **DATE:** _____

WITNESS No. 2 _____ **DATE:** _____

SBD8: Declaration of Bidder's Past Supply Chain Management Practices

1 This Standard Bidding Document must form part of all bids invited.

2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-

a. abused the institution's supply chain management system;
b. committed fraud or any other improper conduct in relation to such system; or
c. failed to perform on any previous contract.

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

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

CERTIFICATION

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

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

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

SBD9: Certificate of Independent Bid Determination

1 This Standard Bidding Document (SBD) must form part of all bids[1] 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 *pe 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.

SBD9: 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 of: _____that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:

    (a) has been requested to submit a bid in response to this bid invitation;

    (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and

    (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

SBD 9

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 consortium[3] will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
    (a) prices;
    (b) geographical area where product or service will be rendered (market allocation)
    (c) methods, factors or formulas used to calculate prices;
    (d) the intention or decision to submit or not to submit, a bid;
    (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
    (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
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.

SBD 9

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
……..	……
Position	Name of Bidder

Part C1: Agreement and Contract Data

C1.1 Form of Offer and Acceptance

1.1: FORM OF OFFER AND ACCEPTANCE (JBCC 2000, Edition 6.2, May 2018) Clause 3.0

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No:	T01/2025
Campus:	**VUT -Main Campus at Vanderbijlpark.**

OFFER

The Implementing Agent, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of: **RENOVATION OF TRANSPORT AND CONCRETE LABS.**

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

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

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

Rands (in words)	…… …… …… ……
Rand in figures	R ……

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/Tenderer before the end of the period of validity stated in the tender data, whereupon the Bidder/Tenderer becomes the party named as the Contractor in the conditions of contract identified in the contract data.

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

Company or Close Corporation: …… …… And: Whose Registration Number is: …… And: Whose Income Tax Reference Number is: ……	OR	Natural Person or Partnership: …… …… Whose Identity Number(s) is/are: …… Whose Income Tax Reference Number is/are: ……

AND WHO IS (if applicable):
Trading under the name and style of:

……

AND WHO IS:

Represented herein, and who is duly authorised to do so, by:
Mr/Mrs/Ms:

……
In his/her capacity as:

……

Note:

A Resolution / Power of Attorney, signed by all the Directors / Members / Partners of the Legal Entity must accompany this Offer, authorising the Representative to make this offer.

SIGNED FOR THE TENDERER:

Name of Representative	Signature	Date

WITNESSED BY:

Name of Witness	Signature	Date

This Offer is in respect of: (Please indicate with an "X" in the appropriate block)
The official documents…… ☐
The official alternative…… ☐
Own alternative (only if documentation makes provision therefore) …….. ☐

SECURITY OFFERED:

a) the Tenderer accepts that in respect of contracts above R1 million, a fixed construction guarantee equal in value to 10% of the contact value (excluding VAT) will be applicable and supplied to the Employer in terms of the applicable conditions of contract. Such security shall be provided to the employer within twenty-one (21) calendar days of written acceptance of the contractor's tender. Yes ☐ No ☐

or

b) in respect of contracts above R1 million, the Tenderer offers to provide security as indicated below:

i. payment reduction of 10% of the value certified in the payment certificate. Yes ☐ No ☐

c) in respect of contracts above R1 million, the Tenderer offers to provide security as indicated below:

i. 5% Fixed plus a payment reduction of 10% of the value certified in the payment certificate to a maximum of 10% of the Contract Value for a combined guarantee. Yes ☐ No ☐

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

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

……

……

Other Contact Details of the Tenderer are:

Telephone No.…… Cellular Phone No. ……

Fax No ……

Postal address ……..

Banker …… Branch ……..

Branch Code …… Account number ……..

Registration No of Bidder/Tenderer at Department of Labour ……..

CIDB Registration Number: ……

ACCEPTANCE

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

The terms of the contract, are contained in:

Part 1 Agreement and contract data, (which includes this agreement)
Part 2 Pricing data
Part 3 Scope of work.
Part 4 Site information and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

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

The Tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the contract data) to arrange the delivery of any 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, if delivered by hand on the day of delivery, or if delivered by courier within two working days after submission by the Employer to the courier services for a door-to-door delivery to the Bidder/Tenderer, provided that the Employer notifies the Bidder/Tenderer of the tracking number within 24 hours of such submission. Unless the Bidder/Tenderer (now Contractor) within seven working days of the date of such submission notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

FOR THE EMPLOYER:

Name of Signatory	Signature	Date

Name of Organisation:	**Vaal University of Technology**
Address of Organisation	VUT Main Campus Andries Potgieter Boulevald Vanderbijlpark 1911

W**ITNESSED BY:**

Name of Witness	Signature	Date

SCHEDULE OF DEVIATIONS:

1.1.1. Subject:
Detail:

1.1.2. Subject:
Detail:

1.1.3. Subject:
Detail:

1.1.4. Subject:
Detail:

1.1.5. Subject:
Detail:

1.1.6. Subject:
Detail:

By the duly authorised representatives signing this agreement, the Employer and the Bidder/Tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data

and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Bidder/Tenderer and the Employer during this process of offer and acceptance.

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

C1.2 Contract Data

C1.2 : CONTRACT DATA :

The Conditions of Contract are clauses 1 to 41 of the **JBCC Series 2000 Principal Building Agreement (Edition 6.2, May 2018)** published by the Joint Building Contracts Committee.

Copies of these conditions of contract may be obtained from the Association of South African Quantity Surveyors (011-3154140), Master Builders Association (011-205-9000; 057-3526269) South African Association of Consulting Engineers (011-4632022) or South African Institute of Architects (051-4474909; 011-4860684; 053-8312003;)

The JBCC Principal Building Agreement makes several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the JBCC Principal Building Agreement.

Each item of data given below is cross-referenced to the clause in the JBCC Principal Building Agreement to which it mainly applies.

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No:	T01/2025

	CONTRACT VARIABLES **THE SCHEDULE**

The Agreement	**Part 1: Contract Data completed by the Employer**

The Agreement	**CONTRACTING AND OTHER PARTIES**
1.1	**Employer:** Vaal University of Technology **Postal address:** Private Bag X021 Vanderbijlpark 1911 **Tel:** 016 950 9644 **Physical address:** VUT Main Campus Andries Potgieter Boulevald Vanderbijlpark 1911

	CONTRACT DETAILS
	Works description: Refer to document C3 – Scope of Work.
	Site description: Refer to document C4 – Site Information.
[	Specific options that are applicable to a State organ only Where so :
[27.1.2	1) Interest rate legislation:

	(a) in respect of interest owed by the **employer**, the interest rate as determined by the Minister of Justice and Constitutional Development from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No. 55 of 1975), will apply; and Yes ☒ No ☐ (b) in respect of interest owed to the **employer**, the interest rate as determined by the Minister of Finance, from time to time, Yes ☒ No ☐ 2) Lateral support insurance to be effected by the **contractor**: Yes ☐ No ☒
[10.1.4.#]	3) No Payment will be made for materials and goods in transit:
[25.4.#]	4) Dispute resolution by Settlement by Parties/Adjudication
[30.0.#]	5) Extended **defects** liability period applicable to the following elements: None
[22.0#]	
12.1.5	Add, Period for the commencement of the **works** after the **contractor** takes possession of the **site**: Fourteen (14) working days.
19.0 [24.0]	For the **works** as a whole: The date for **practical completion** shall be 4 months from the **commencement date** and the penalty per calendar day shall be *R1000* **per calendar day.**
12.1.1	The Employer (Vaal University of Technology) does not provide a Guarantee for Payment as contemplated in the clause 11.5. The Employer is a government institution.

10	INSURANCES
10.1	Contract **works** insurance to be effected by the **contractor**
10.1.2	Supplementary insurance is required: **Yes** **No** ☒
10.1.3	Public liability insurance to be effected by the **contractor** ☒ For the sum of R 5 million With a deductible not exceeding 5% of each and every claim

5.0	DOCUMENTS
	Bills of quantities drawn up in accordance with: ASAQS Standard System of Measuring Building Works
	JBCC Preliminaries (May 2018) **JBCC** Principal Building Agreement (May 2018) are to be included in the contract documents for use with the **JBCC** Nominated/selected Subcontract Agreement.

26.9.6	The **contract value** is to be adjusted using **CPAP** indices: **Yes** **No** ☒ Alternative Indices: **Not Applicable**
	Details of changes made to the provisions of JBCC standard documentation: **Clause** 1.1 **COMMENCEMENT DATE** – means the date of issue of the Letter of Acceptance or any such other date as may be specified in the Letter of Acceptance, whichever is the later, provided always that any such other date so specified shall not be more than FOURTEEN (14) days after the date of the Letter of Appointment. **CONSTRUCTION GUARANTEE** – means a guarantee at call obtained by the **contractor** from an institution approved by the **employer** in terms of the **employer's construction guarantee** form as selected in the **schedule.** **CONSTRUCTION PERIOD** – means the period commencing on the **commencement date** and ending on the date of **practical completion.**

CORRUPT PRACTICE – means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

FRAUDULENT PRACTICE – means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any tenderer, and includes collusive practice among tenderers (prior to and after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition.

INTEREST – the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be in terms of the legislation of the Republic of South Africa, and in particular:

(a) in respect of interest owed by the **employer**, the interest rate as determined by the Minister of Justice and Constitutional Development from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No. 55 of 1975), will apply; and

(b) in respect of interest owed to the **employer**, the interest rate as determined by the Minister of Finance, from time to time, will apply

SECURITY – means the form of **security** provided by the **contractor**, as stated in the **schedule**, from which the **employer** may recover expenses or loss.

2.4 Any notice given may be delivered by hand, sent by prepaid registered post or telefax. Notice shall be presumed to have been given when:

"11.1 A **construction guarantee** in terms of 11.0, where so elected in his/her tender."

5.7 Add at the end thereof:

"The **contractor** shall supply and keep a copy of the JBCC applicable to this contract on **site,** to which the **employer, principal agent** and **agents** shall have access to at all times."

6.0 Replace the second reference to "**principal agent**" with the word "**employer**" when the project is managed by the Employer and no Principal Agent.

8.0 Add the following as 8.0:

"**Damage to the works**

a) Without in any way limiting the **contractor's** obligations in terms of the contract, the **contractor** shall bear the full risk of damage to and/or destruction of the **works** by whatever cause during construction of the **works** and hereby indemnifies and holds harmless the **employer** against any such damage. The **contractor** shall take such precautions and **security** measures and other steps for the protection and **security** of the **works** as the **contractor** may deem necessary

b) The **contractor** shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the **works** and to rebuild, restore, replace and/or repair the **works**

c) The **employer** shall carry the risk of damage to or destruction of the **works** and materials paid for by the **employer** that is the result of the excepted risks

d) Where the **employer** bears the risk in terms of this contract, the **contractor** shall, if requested to do so, reinstate any damage or destroyed portions of the **works** and the costs of such reinstatement shall be measured and valued."

9.0 Add the following as 9.0:

"Injury to Persons or loss of or damage to Properties

a) The **contractor** shall be liable for and hereby indemnifies the **employer** against any liability, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or

caused by the execution of the **works** unless due to any act or neglect of any person for whose actions the **employer** is legally liable

b) The **contractor** shall be liable for and hereby indemnifies the **employer** against any liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable or personal property or property contiguous to the **site**, whether belonging to or under the control of the **employer** or any other body or person, arising out of or in the course of or by reason of the execution of the **works** unless due to any act or neglect of any person for whose actions the **employer** is legally liable

c) The **contractor** shall upon receiving a contract instruction from the **principal agent** cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the **employer** shall be entitled to cause it to be made good and to recover the cost thereof from the **contractor** or to deduct the same from amounts due to the **contractor**.

d) The **contractor** shall be responsible for the protection and safety of such portions of the premises placed under his control by the **employer** for the purpose of executing the **works** until the issue of the **certificate of practical completion.**

e) Where the execution of the **works** involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the **contractor**, shall and will remain adequately insured or insured against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the **works** has been completed

f) The **contractor** shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the **works"**

9.1.4 Add the following as 9.1.4:

"**HIGH RISK INSURANCE**

In the event of the project being executed in a geological area classified as a "High Risk Area", that is an area which is subject to highly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or do line formation the following will apply:

9.1.4.1 **Damage to the works**

The **contractor** shall, from the **commencement date** of the **works** until the date of the **certificate of practical completion**, bear the full risk of and hereby indemnifies and holds harmless the **employer** against any damage to and/or destruction of the **works** consequent upon a catastrophic ground movement as mentioned above. The **contractor s**hall take such precautions and **security** measures and other steps for the protection of the **works** as he may deem necessary

When so instructed to do so by the **principal agent**, the **contractor** shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the **works** and to rebuild, restore, replace and/or repair the **works**, at the **contractor's** own costs

9.1.4.2 **Injury to persons or loss of or damage to property**

The **contractor** shall be liable for and hereby indemnifies and holds harmless the **employer** against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground movement as mentioned above

The **contractor** shall be liable for and hereby indemnifies the **employer** against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the **employer** or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract

9.1.4.3 It is the responsibility of the **contractor** to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2. Without limiting the **contractor's** obligations in terms of the contract, the **contractor** shall, within twenty one (21) calendar days of the **commencement date**

	but before commencement of the **works**, submit to the **employer** proof of such insurance policy, if requested to do so 9.1.4.4 The **employer** shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the **contractor's** default of his obligations as set out in 9.1.4.1; 9.1.4.2 and 9.1.4.3. Such losses or damages may be recovered from the **contractor** or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the **employer** and the **contractor** and for this purpose all these contracts shall be considered one indivisible whole." 11. Expand the entire clause 11.0 with the following: "11.0 **SECURITY** 11.1.1 The **security** to be submitted by the **contractor** to the **employer** will be a **Construction Guarantee of 10% of the contract value** or as **a payment reduction of up to ten per cent (10%)** of the value certified in the **payment certificate or a 5% fixed plus payment of 10% reduction of the value certified in the payment certificate up to a maximum of 10% of contract value, combined** (excluding VAT) 11.1.1 The payment reduction of the value certified in a **payment certificate** shall be mutatis mutandi in terms of 31.8(A) 11.1.2 The **employer** shall be entitled to recover expense and loss from the payment reduction in terms of 27.2 provided that the **employer** complies with the provisions of 27.2 in which event the **employer's** entitlement shall take precedence over his obligations to refund the payment reduction **security** or portions thereof to the **contractor** 11.2 Where **security** as a payment reduction of ten per cent (10%) or Five Per Cent (5%) of the value certified in the **payment certificate** (excluding VAT) has been selected: 11.2.1 The payment reduction of the value certified in a **payment certificate** shall be mutatis mutandi in terms of 25.3.3 14.2.2 The **employer** shall be entitled to recover expense and loss from the payment reduction in terms of 27.2 provided that the **employer** complies with the provisions of 27.2 in which event the **employer's** entitlement shall take precedence over his obligations to refund the payment reduction or portions thereof to the **contractor."** 2.0 Add 2.5 as follows: "An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within fourteen (14) calendar days of **commencement date. This should also cover the full COVID 19 Protocols as required and determined by the Disaster Management regulations and pronounced by the Minister from time to time."** 11.0 Security adjustments 11.4.3 Add as follows: "11.10 The contractor shall waive his lien or rights of continuing possession of the works, however the employer does not provide the Guarantee of Payment as per revised clause on securities." 25.12 Where a **security** is selected in terms of 11.1; the value of the **works** in terms of 11.2 and of the **materials and goods** in terms of 25.3.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments: 25.12.1 Ninety-five per cent (95%) of such value in interim **payment certificates** issued up to the date of **practical completion** 25.12.2Ninety-seven per cent (97.5%) of such value in interim **payment certificates** issued on the date of **practical completion** and up to but excluding the date of **final completion** 25.12.3 Ninety-nine per cent (99%) of such value in interim **payment certificates** issued on the date of **final completion** and up to but excluding the final **payment certificate**

	25.12.4 One hundred per cent (100%) of such value in the final **payment certificate** in terms of 26.13 except where the amount certified is in favour of the **employer**. In such an event the payment reduction shall remain at the adjustment level applicable to the final **payment certificate**. 26.5 Add the following: "26.5.1 Where a contract instruction was issued due to no fault of the **contractor.** 26.5.2 Where expense was caused by a Direct Contractor due to no fault of the **contractor.** 26.5.3 Where default or insolvency of a nominated subcontractor due to no fault of the **contractor.**" 27.2 Add the following clauses 27.2.10 to 27.2.14.: "27.2.10 the **contractor's** failure or neglect to commence with the **works** on the dates prescribed in the contract 27.2.11 the **contractor's** failure or neglect to proceed with the **works** in terms of the contract 27.2.12 the **contractor's** failure or neglect for any reason to complete the **works** in accordance with the contract 27.2.13 the **contractor's** refusal or neglect to comply strictly with any of the conditions of contract or any contract instructions and/or orders in writing given in terms of the contract 27.2.14 the **contractor's** estate being sequestrated; liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa." 25.18 Add the following: "25.18 Where the final payment reflects and amount in favour of the employer, the Contractor shall pay the amount certified within twenty-one (21) calendar days of the issue of the final payment certificate." 29.29 Add the following: "Notwithstanding any clause to the contrary, on cancellation of this agreement either by the **employer** or the **contractor**; or for any reason and whatsoever, the **contractor** shall on written instruction, discontinue with the **works** on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the **works** on the grounds of any lien or right of retention or on the grounds of any other right whatsoever"

42.0	**Part 2: Contract Data provided by the Contractor:**
	POST-TENDER INFORMATION
42.5	**CONTRACT DETAILS**
42.5.1	**Contractor**: Postal address: …… …… …… Tel: …… Fax: …… E-mail: …… TAX / VAT Registration No: …… Physical address: …… …… ……
42.5.2	The accepted **contract sum/s** inclusive of value added tax is: **Bid No.: ……** R…… (Figures) (…… …… ……(Words)
11.1	The **security** to be provided by the **contractor**: (a) in respect of contracts above R1 million, the **contractor** will provide **security** in terms of 11.1 (1) The **security** to be submitted by the **contractor** to the **employer** will be a **Construction Guarantee of 10% of the contract value** **Yes** ☐ **or** (2) Payment reduction of 10% of the value certified in the **payment certificate** **Yes** ☐ **or** (3) 5% Fixed plus a payment reduction of 10% of the value certified in the payment certificate to a maximum of 10% the Contract Value, combined guarantee **Yes** ☐

42.7	**SIGNATURES OF THE CONTRACTING PARTIES**
	Thus done and signed at _____ on _____ _____ _____ Name of signatory for and behalf of the **Employer** who by signature hereof warrants authorization hereto _____ _____ Capacity of signatory as Witness Thus done and signed at _____ on _____ _____ _____ Name of signatory for and behalf of the **Contractor** who by signature hereof warrants authorization hereto _____ _____ Capacity of signatory as Witness

C1.3 Form of Guarantee

C 1.3: FIXED CONSTRUCTION GUARANTEE - JBCC Series 2000 Principal Building Agreement (Edition 6.2 May 2018)

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No:	**T01/2025**

1. With reference to the contract between _____

_____ (hereinafter referred to as the "**contractor**") and Vaal University of Technology (hereinafter referred to as the **employer**"). Tender No: T01/2025 for the **RENOVATION OF TRANSPORT AND CONCRETE LABS (**Herein after referred to as the "contract") in the amount of

R _____**,**

_____ **(in words),** (hereinafter referred to as the **contract sum.)**

I/We, _____

in my/our capacity as _____ and hereby

representing _____ (hereinafter referred to as the **guarantor"**) advise that the **guarantor** hold at the **employer's** disposal the sum of

R _____**,**

_____**,** (**in words)**

being **10**% of the **contract sum** (excluding VAT), for the due fulfilment of the contract.

2. The **guarantor** hereby renounces the benefits of the exceptions *non numeratae pecunia, non causa debiti; excussionis et divisionis*; and all other exceptions which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof i/we declare myself/ourselves to be conversant, and undertake to pay the **employer** the amount guaranteed, during the period when the claim is received by the **guarantor**, on receipt of a written demand from the **employer** to do so, and which demand the **employer** may make if the **employer** has a right of recovery against the **contractor** in terms of 33.0 of the contract.

3. Subject to the above, but without in any way detracting from the **employer's** rights to adopt any of the procedures provided for in the contract, the said demand can be made by the **employer**, at any stage prior to the expiry of this guarantee.

4. The amount paid by the **guarantor** in terms of this guarantee may be retained by the **employer** on condition that upon the issue of the last final **payment certificate**, the **employer** shall account to the **guarantor** showing how this amount has been expended and refund any balance due to the **guarantor.**

5. The **employer** shall have the absolute right to arrange his affairs with the **contractor** in any manner which the **employer** deems fit and the **guarantor** shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the **guarantor.** Without derogating from the a foregoing, any compromise, extension of the **construction period**, indulgence, release or variation of the **contractor's** obligation shall not affect the validity of this guarantee.

6. This undertaking is neither negotiable nor transferable, and

a) must be surrendered to the **guarantor** at the time when the **employer** accounts to the **guarantor** in terms of clause 4 above, or
b) shall lapse on the date of the last **certificate of practical completion;** and
c) shall not be interpreted as extending the **guarantor's** liability to anything more than payment of the amount guaranteed.

SIGNED AT _____ **ON THIS** _____**DAY OF** _____ **20**__

AS WITNESS

1. _____

2. _____

_____
By and on behalf of

_____

_____

_____
(insert the name and physical address of the guarantor)

NAME: _____

CAPACITY: _____
(duly authorized thereto by resolution attached marked Annexure A)

DATE: _____

A. No alterations and/or additions of the wording of this form will be accepted.

B. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor's *domicilium citandi et executandi,* for all purposes arising from this guarantee.

C. This GUARANTEE must be returned to:

_____

_____

_____

Part C2: PRICING DATA

C2.1: PRICING INSTRUCTIONS

C2.1: PRICING INSTRUCTIONS

1. The Bills of Quantities have been drawn up in accordance with the latest edition of Standard System of Measuring Building Work published and issued by the Association of South African Quantity Surveyors and, where applicable, the:

   a) civil engineering work has been drawn up in accordance with the provisions of the latest edition of SANS 1200 Standardized Specifications for Civil Engineering Works.
   b) electrical work has been drawn up in accordance with the provisions of the Model Bills of Quantities for Electrical Work, published by the South African Association of Quantity Surveyors, (July, 2005).

2. The agreement is based on the JBCC Series 2000 Principal Building Agreement Edition 6.2 (March 2018), prepared by the Joint Building Contracts Committee. The additions, deletions and alterations to the JBCC Principal Building Agreement as well as the contract specific variables are as stated in the Contract Data. Only the headings and clause numbers for which allowance must be made in the Bills of Quantities are recited.

3. Preliminary and general requirements are based on JBCC Preliminaries (May 2018).

4. It will be assumed that prices included in the Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards).

5. The drawings listed in the Scope of Works used for the setting up of these Bills of Quantities are kept by the Principal Agent and can be viewed at any time during office hours up until the completion of the works.

6. Reference to any particular trademark, name, patent, design, type, specific origin or producer is purely to establish a standard for requirements. Products or articles of an equivalent standard may be substituted.

7. Where any item is not relevant to this specific contract, such item is marked N/A (signifying “not applicable”)

8. The Contract Data and the standard form of contract referenced therein must be studied for the full extent and meaning of each and every clause set out in Section 1 (Preliminaries) of the Bills of Quantities

9. The Bills of Quantities is not intended for the ordering of materials. Any ordering of materials, based on the Bills of Quantities, is at the Contractor’s risk.

10. The amount of the Preliminaries to be included in each monthly payment certificate shall be assessed as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the total of prices excluding any contingency sum, the amount for the Preliminaries and any amount in respect of contract price adjustment provided for in the contract.

11. Where the initial contract period is extended, the monthly charge shall be calculated on the basis as set out in 10 but taking into account the revised period for completing the works.

12. The amount or items of the Preliminaries shall be adjusted to take account of the theoretical financial effect which changes in time or value (or both) have on this section. Such adjustments shall be based on adjustments in the following categories as recorded in the Bills of Quantities:

    a) an amount which is not to be varied, namely Fixed (F)
    b) an amount which is to be varied in proportion to the contract value, namely Value Related (V); and

c) an amount which is to be varied in proportion to the contract period as compared to the initial construction period excluding revisions to the construction period for which no adjustment to the contractor is not entitled to in terms of the contract, namely Time Related (T).

13. Where no provision is made in the Bills of Quantities to indicate which of the three categories in 12 apply or where no selection is made, the adjustments shall be based on the following breakdown:

a) 10 percent is Fixed;
b) 15 percent is Value Related
c) 75 percent is Time Related.

14. The adjustment of the Preliminaries shall apply notwithstanding the actual employment of resources in the execution of the works. The contract value used for the adjustment of the Preliminaries shall exclude any contingency sum, the amount for the Preliminaries and any amount in respect of contract price adjustment provided for in the contract. Adjustments in respect of any staged or sectional completion shall be prorated to the value of each section.

C2.2: BILL OF QUANTITIES

The priced Bill of Quantities (BOQ's), following hereafter will form an integral part of the "Contract" between the successful appointed Contractor and the Employer.

See the attached separate Bill of Quantities file

Part C3: SCOPE OF WORK

C3.1: SCOPE OF WORK

Project title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No:	**T01/2025**

Renovation to the Transport and Concrete Labs include:

1. Lab R011 – Water Laboratory
    - Breaking up and removing installations
    - Prepare walls and screeds for plaster and screeds
    - Aluminium partitioning
    - Replace existing geyser with new 100 Liter geyser
    - Replace electrical plugs with waterproofing type
    - Repaint walls and ceilings

2. Upgrading Yard behind the Laboratories
    - Breaking and removing installations
    - Earthworks
    - New reinforced surface beds
    - New steel roof
    - New concrete: Plinths; Water baths; & Workbenches
    - Plumbing
    - Metalwork
    - Electrical works

3. Lab R010 – Aggregate and Bitumin Laboratories

    - Breaking and removing
    - Masonry
    - Plumbing
    - Electrical works
    - Repaint walls & ceilings

4. Lab R107 & R109

    - Repaint walls & ceilings

5. Room DE003

    - Repaint walls & ceilings

C3.2: SPECIFICATIONS

C3.2.1: HEALTH AND SAFETY SPECIFICATION

OCCUPATIONAL HEALTH AND SAFETY

HEALTH & SAFETY SPECIFICATIONS

FOR

VAAL UNIVERSITY OF TECHNOLOGY

(CLIENT)

PROJECT NAME: RENOVATIONS OF ABLUTIONS

CAMPUS NAME: MAIN CAMPUS VANDERBIJLPARK

MUNICIPAL AREA: EMFULENI.

SUPERVISION BY THE PRINCIPAL CONTRACTOR:

PRINCIPAL CONTRACTOR _____

_____

Mr /Mrs/Ms **DIRECTOR (16.1)**

_____

_____

Mr /Mrs/Ms **CHIEF EXECUTIVE OFFICER (16.2)**

_____

_____

Mr /Mrs/Ms **HEALTH & SAFETY OFFICER (8.1)**

_____

_____

Mr /Mrs/Ms **HEALTH & SAFETY OFFICER (8.2)**

_____

_____

Mr /Mrs/Ms **HEALTH & SAFETY OFFICER (8.5)**

_____

_____

Mr /Mrs/Ms **CONSTRUCTION SUPERVISOR/S (CR 8.7)**

_____

_____

Mr /Mrs/Ms **CONSTRUCTION SUPERVISOR/S (CR 8.8)**

_____

_____

CONTENTS

1. PREAMBLE

In terms of Construction Regulation 5(1) (a) and (b) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), Vaal University of Technology, as the Client and/or its Agent on its behalf, shall be responsible to prepare Health & Safety Specifications for any intended construction project and provide any Principal Contractor who is making a bid or appointed to perform construction work for the Client and/or its Agent on its behalf with the same.

The Client's further duties are as described in The Act and the Regulations made there-under. The Principal Contractor shall be responsible for the Health & Safety Policy for the site in terms of Section 7 of the Act and in line with Construction Regulation 5 as well as the Health and Safety Plan for the project.

This 'Health and Safety Specifications' document is governed by the Construction Regulations and Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as 'The Act'. Notwithstanding this, cognisance should be taken of the fact that no single Act or its set of Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a documented specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is required that the entire scope of the Labour legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this requirement is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. Despite the foregoing it is reiterated that environmental management shall receive due attention.

Due to the wide scope and definition of construction work, every construction activity and site will be different, and circumstances and conditions may change even on a daily basis. Therefore, due caution is to be taken by the Principal Contractor when drafting the Health and Safety Plan based on these Health and Safety Specifications. Prior to drafting the Health and Safety Plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to identify and determine the scope and details of any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard. *This Risk Assessment and the steps identified will be the basis or point of departure for the Health and Safety Plan.* The Health and Safety Plan shall include documented 'Methods of Statement' (see definitions under Construction Regulations) detailing the key activities to be performed in order to reduce as far as practicable, the hazards identified in the Risk Assessment.

In this a high premium is to be placed on the health and safety of the most valuable assets of the Vaal University of Technology. These are its personnel, the personnel of its Clients and the physical assets of which it is the custodian and may also include the public as well. The responsibilities the Client and relevant stakeholders have toward its employees and other people present in the facilities or on the sites are captured further in this specification document. These responsibilities stem from both moral, civil and a variety of legal obligations. The Principal Contractor is to take due cognisance of the above statement.

Every effort has been made to ensure that this specification document is accurate and adequate in all respects. Should it however, contain any errors or omissions they may not be considered as grounds for claims under the contract for additional reimbursement or extension of time, or relieve the Principal Contractor from his responsibilities and accountability in respect of the project to which this specification document pertains. Any such inaccuracies, inconsistencies and/or inadequacies must immediately be brought to the attention of the Agent and/or Client.

2. SCOPE OF HEALTH AND SAFETY SPECIFICATION DOCUMENT

The Health and Safety Specifications pertaining to the project cover the subjects contained in the index and is intended to outline the normal as well as any special requirements of the Municipal area pertaining to the health and safety matters (including the environment) applicable to the project in question. These Specifications should be read in conjunction with the Act, the Construction Regulations and all other Regulations and Safety Standards which were or will be promulgated under the Act or incorporated into the Act and be in force or come into force during the effective duration of the project. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the Act, Regulations and Safety Standards which are promulgated under, or incorporated into the Act.

3. PURPOSE

Vaal University of Technology is obligated to implement measures to ensure the health and safety of all people and the community affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications. **(*All references to the singular shall also be regarded as references to the plural*)**

The purpose of this specification document is to provide the relevant Principal Contractor (and his /her contractor) with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work for Vaal University of Technology. The Principal Contractor (and his /her contractor/s) is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

a) Safety considerations affecting the site of the project and its environment;
b) Health and safety aspects of the associated structures and equipment;
c) Submissions on health and safety documentation required from the Principal Contractor (and his /her contractor); and
d) The Principal Contractor's (and his /her contractor) health & safety plan.

To serve to ensure that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

To inform the Principal Contractor that the Occupational Health and Safety Act, 1993 (Act 85 of 1993) in its entirety shall apply to the contract to which this specification document applies. The Construction Regulations promulgated on 07 February 2014 and incorporated into the above Act by Government Notice R 1010, published in Government Gazette 25207 shall apply to any person involved in construction work pertaining to this project, as will the Act.

4. DEFINITIONS - The most important definitions in the Act and Regulations pertaining to this specification document are hereby extracted.

"Purpose of the Act" –

To provide for the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

"Agent" –

means any person who acts as a representative for a client;

"Client" –

means any person for whom construction work is performed;

''Construction Work'' is defined as any work in connection with –

(a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
(b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;
(c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
(d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

"Contractor" –

means an employer, as defined in Section 1 of the Act, who performs construction work and includes Principal Contractors;

"Health and Safety File" –

means a file, or other record in permanent form, containing the information required a contemplated in the regulations;

"Health and Safety Plan" –

means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified;

"Health and Safety Specification" –

means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons;

"Method Statement" –

means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment;

"Principal Contractor" –

means an employer, as defined in section 1 of the Act who performs construction work and is appointed by the client to be in overall control and management of a part of or the whole of a construction site;

"Risk Assessment" –

means a program to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

5. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT

5.1 Structure and Organization of OH&S Responsibilities

5.1.1. *Overall Supervision and Responsibility for OH&S*

* The Client and/or its Agent on its behalf to ensure that the Principal Contractor, appointed in terms of Construction Regulation 5(1)(k), implements and maintains the agreed and approved H&S Plan. Failure on the part of the Client or Agent to comply with this requirement will not relieve the Principal Contractor from any one or more of his/her duties under the Act and Regulations.

* The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act to ensure that the Employer (as defined in the Act) complies with the Act. The pro forma Legal Compliance Audit may be used for this purpose by the Principal Contractor or his/her appointed contractor.

* All OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her/their respective appointment forms to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).

* The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 8 to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).

* All Health and Safety Representatives (SHE-Reps) shall act and report as per Section 18 of the Act.

5.1.2. ***Further (Specific) Supervision Responsibilities for OH&S***

Several appointments or designations of responsible and /or competent people in specific areas of construction work are required by the Act and Regulations. The following competent appointments, where applicable, in terms of the Construction Regulations are required to ensure compliance to the Act, Regulations and Safety Standards.

Required appointments as per the Construction Regulations:-

Item	Regulation	Appointment	Responsible Person
1.	5(1)(c)	Principal contractor for each phase or project	Client
2.	5.(1)(k)	Contractor	Principal Contractor
3.	5(11)	Contractor	Contractor
4.	8(7)	Construction supervisor	Contractor
5.	8(8)	Construction supervisor sub-ordinates	Contractor
6.	8(5)	Construction Safety Officer	Contractor
7.	9(1)	Person to carry out risk assessment	Contractor
8.	10(1)	Person to carry out fall protection plan	Contractor
8.	7(4)	Trainer/Instructor	Contractor
9.	26 (a)	Stacking and storage supervisor	Contractor
10.	27 (h)	Fire equipment inspector	Contractor

This list may be used as a reference or tool to determine which components of the Act and Regulations would be applicable to a particular site, as was intended under paragraph 3 & 4 of the Chapter "Preamble" (page 4) above. This list must not be assumed to be exclusive or comprehensive.

5.2 ***Communication & Liaison***

5.2.1 OH&S Liaison between the Employer, the Principal Contractor, the other Contractors, the Designer and other concerned parties shall be through the H&S Committee as per the procedures determined by the H&S Committee.

5.2.2 In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

5.2.3 Consultation with the workforce on OH&S matters will be through their Supervisors and H&S Representatives ('SHE – Reps')

5.2.4 The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and/or its Agent on its behalf and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

6. INTERPRETATION

(i) The Occupational Health and Safety Act and all its Regulations, with the exception of the Construction Regulations, distinguish between the roles, responsibilities and functions of employers and employees respectively. It views consultants and contractors as employees of the "owner" of a construction or operational project, the "owner" being regarded as the employer. Only if formally agreed to by way of the written agreement in this regard between the "owner(s)" and consultant and /or between the "owner(s)" and the contractor(s), will these assumptions be relinquished in favour of the position agreed upon between the relevant parties.

(ii) The position taken by the Construction Regulations is that the "owner", in terms of its instructions, operates (has to operate) in the role of client as per relevant definition. The contractors working for the "client" are seen to be in two categories, i.e. the Principal Contractor and Contractors. The Principal Contractor has to take full responsibility for the health and safety on the site of the relevant project / contract. This includes monitoring health and safety conditions and overseeing administrative measures required by the Construction Regulations from all contractors on the project site. (Ordinary / sub) Contractors are required to operate under the scrutiny and control (in terms of all health and safety measures which are covered in the Construction Regulations) of the Principal Contractor. Where, for the work the Principal Contractor will have to execute himself, practical health and safety measures are applicable, he will also be subject to the relevant requirements with which (ordinary / sub) Contractors have to comply. The Principal Contractor will, however, not have to actually fulfill such requirements in respect of any of the work / functions of any (ordinary / sub) Contractors on the site for which he has been appointed as Principal Contractor. However, he has to monitor / oversee such processes, ensuring that the requirements are complied with and that the required appointments / evaluations / inspections / assessments and tests are done and that the records are duly generated and kept as prescribed in the Construction Regulations. This has to feature clearly in the Principal Contractor's Health and Safety Plan.

7. RESPONSIBILITIES

7.1 Client

7.1.1 The Client or his appointed Agent on his behalf will appoint each Principal Contractor for this project or phase/section of the project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations and determined by the Bills of Quantities.

7.1.2 The Client or his appointed Agent on his behalf shall discuss and negotiate with the Principal Contractor the contents of the health and safety plan of the both Principal Contractor and Contractor for approval.

7.1.3 The Client or his appointed Agent on his behalf will take reasonable steps to ensure that the health and safety plan of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month.

7.1.4 The Client or his appointed Agent on his behalf will prevent the Principal Contractor and /or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:

- have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;

- have failed to implement or maintain their health and safety plan;

- have executed construction work which is not in accordance with their health and safety plan; or

- act in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.

7.2 **Principal Contractor**

7.2.1 The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 4 of the Construction Regulations. Annexure B of this Specification contains a "Notification of Construction Work" form. The Principal Contractor shall submit the notification in writing prior to commencement of work and inform the Client or his Agent accordingly.

7.2.2 The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation. This Specification is not intended to supersede the Act nor the Construction Regulations or any part of either. Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Principal Contractor in terms of this contract (entirely or in part) will continue to be legally required of the Principal Contractor to comply with. The Principal Contractor will in no manner or means be absolved from the responsibility to comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract.

7.2.3 The Principal Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented health and safety plan based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all Sub-contractors for which he has to take responsibility in terms of this contract.

7.2.4 **The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works.**

7.2.5 The Potential Principal Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and Construction Regulations. (Note: This shall have to be contained in the conditions of tender upon which a tenderer's offer is based.)

7.2.6 The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations.

7.2.7 The Principal Contractor shall ensure that a copy of his health and safety plan is available on site and is presented upon request to the Client, an Inspector, Employee or Sub-contractor.

7.2.8 The Principal Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Client or Inspector upon request. Upon

completion of the works, the Principal Contractor shall hand over a consolidated health and safety file to the Client.

7.2.9 The Principal Contractor shall, throughout execution of the contract, ensure that all conditions imposed on his Sub-contractors in terms of the Act and the Construction Regulations are complied with as if they were the Principal Contractor.

7.2.10 The Principal Contractor shall from time to time evaluate the relevance of the Health and Safety Plan and revise the same as required, following which revised plan shall be submitted to the Client and/or his/her Agent for approval.

7.3 **Contractor** (Responsibilities of …… in terms of this contract and health and safety specification)

As per 7.2 above, as and where applicable or as indicated in the letter of appointment.

8. SCOPE OF WORK

These specifications are applicable to the specific scope of work pertaining to the above-mentioned project as detailed in the tender documents for:

- *Site clearance*
- *Site Establishment*
- *Demolition Works*
- *New Steel Roof Structure*
- *New external reinforced Surface bed*
- *New internal partitions*
- *New concrete water retaining structures for curing concrete cubes*
- *Replacing electrical plugs at work benches*
- *Repainting walls and ceilings*
- *Site rehabilitation*
- *De-establishment*

(Elaborate sufficiently and provide adequate information to give full understanding of all work to be done)

N.B Construction Regulation 5(1)(g) determines that potential contractors submitting tenders have made provision for the cost of health and safety measures during the construction process. The Principal Contractor shall on tendering make provision for the cost of health and safety measures in terms of his/her documented Health and Safety Plan and measures based on these Health and Safety Specifications during the period of the project. The cost shall be duly quantified and clearly identified for such identifiable purpose.

THE HEALTH AND SAFETY STANDARDISED PLAN IS THEREFORE TO BE INCLUDED WITH THE TENDER DOCUMENTS WHEN TENDERS ARE INVITED FOR THE PROJECT.

9. HEALTH AND SAFETY FILE

The Principal Contractor must, in terms of Construction Regulation 7(1)(b), keep a Health & Safety File on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done. A more detailed list of documents and other legal requirements that must be kept in the Health and Safety File is attached as an addendum to this document.

IMPORTANT:

The Health and Safety File will remain the property of the Client and/or its Agent on its behalf throughout the period of the project and shall be consolidated and handed over to the Client and/or its Agent on its behalf at the time of completion of the project.

10. OH&S GOALS AND OBJECTIVES AND ARRANGEMENTS FOR MONITORING AND REVIEWING OH&S PERFORMANCE

The Principal Contractor is required to maintain an acceptable disabling incident frequency rate (DIFR) and report on this to the Client and/or its Agent on its behalf on a monthly basis.

11. IDENTIFICATION OF HAZARDS AND DEVELOPMENT OF RISK ASSESSMENTS, STANDARD WORKING PROCEDURES (SWP) AND METHOD STATEMENTS

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project (see 4. below "Project/Site Specific Requirements")

The identification of hazards is over and above the hazards identification programme and those hazards identified during the drafting of the Health and Safety Plan.

12. ARRANGEMENTS FOR MONITORING AND REVIEW

12.1 Monthly Audit by Client and or its Agent on its behalf

The Client and/or its Agent on its behalf will be conducting Periodic Audits at times agreed with the Principal Contractor Audit to comply with Construction Regulation 5(1)(*o*) to ensure that the principal Contractor has implemented, is adhering to and is maintaining the agreed and approved OH&S Plan.

12.2 Other audits and inspections by client and/or its agent on its behalf.

The Client and/or its Agent on its behalf reserves the right to conduct any other ad hoc audits and inspections as it and/or its Agent on its behalf deem necessary.

A representative of the Principal Contractor and the relevant Health and Safety Representative(s) (SHE-Reps) must accompany the Client and/or its Agent on its behalf on all Audits and Inspections and may conduct their own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results. The Client and/or its Agent on its behalf may require to be handed a copy of the minutes of the previous Health and Safety Committee meeting reflecting possible recommendations made by that committee to the Employer for reference purposes.

12.3 Reports

12.3.1 The Principal Contractor shall report all incidents where an employee is injured on duty to the extent that he/she:

* dies
* becomes unconscious
* loses a limb or part of a limb
* is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

* a major incident occurred
* the health or safety of any person was endangered
* where a dangerous substance was spilled
* the uncontrolled release of any substance under pressure took place
* machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
* machinery ran out of control,

to the Provincial Director of the Department of Labour within seven days and at the same time to the Client and/or its Agent on its behalf.

Refer in this regard to Section 24 of the Act & General Administrative Regulation 8.

12.3.2 The Principal Contractor is required to provide the Client and/or its Agent on its behalf with copies of all statutory reports required in terms of the Act and the Regulations.

12.3.3 The Principal Contractor is required to provide the Client and/or its Agent on its behalf with a monthly "SHE Risk Management Report".

12.3.4 The Principal Contractor is required to provide a.s.a.p. the Client and/or its Agent on its behalf with copies of all internal and external accident/incident investigation reports including the reports contemplated in 12.7, 12.8.2, 15, 16, 17, 21 and 22 below. As soon as the occurrence of any accident/incident of whatever nature comes to the notice of the Principal Contractor, it shall be reported immediately to any of the following:

12.4 Review

The Principal Contractor is to review the Hazard Identification, Risk Assessments and Standard Work Processes at each Production Planning and Progress Report meeting as the construction work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client and/or its Agent on its behalf, other Contractors and all other concerned parties with copies of any changes, alterations or amendments as contemplated in the above paragraph.

12.5 Site Rules and other Restrictions

12.5.1 *Site OH&S Rules*

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the Health and Safety Plan and associated aspects of the construction.

When required for a site by law, visitors and non-employees upon entering the site shall be issued with the proper Personal Protective Equipment (PPE) as and when necessary.

12.5.2 *Security Arrangements*

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees shall at all times be provided with fulltime supervision while on site.

The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period.

If not already tasked to the H&S Officer appointed in terms of Construction Regulation 8(5), the Principal Contractor must appoint a competent Emergency Controller who must develop contingency plans for any emergency that may arise on site as indicated by the risk assessments. These must include a monthly practice/testing programme for the plans e.g. January: trench collapse, February: flooding etc. and practiced/tested with all persons on site at the time, participating.

12.6 Training

The contents and syllabus of all training required by the Act and Regulations including any other related or relevant training as required must be included in the Principal Contractor's Health and Safety Plan and Health and Safety File.

12.6.1 *General Induction Training*

All employees of the Principal and other Contractors must be in possession of proof of General Induction training

12.6.2 *Site Specific Induction Training*

All employees of the Principal and other Contractors must be in possession of Site Specific Occupational Health and Safety Induction or other qualifying training.

12.6.3 *Other Training*

All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations must be in possession of valid proof of training as follows:

Occupational Health and Safety Training Requirements: (as required by the Construction Regulations and as indicated by the Health and Safety Specification Document & the Risk Assessment/s and recommendations by the Health and Safety Committee):

* General Induction (Section 8 of the Act)
* Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
* Site/Project Manager
* Construction Supervisor
* OH&S Representatives (Section 18 (3) of the Act)
* Training of the Appointees indicated in 12.6.1 & 12.6.2 above
* Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 23)
* Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction Regulation 29)
* As a minimum basic First Aid to be upgraded when necessary (General Safety Regulations 3)
* Storekeeping Methods & Safe Stacking (Construction Regulation 28)
* Emergency, Security and Fire Co-ordinator

12.7 Accident and Incident Investigation

The Principal Contractor is responsible to oversee the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to receive first aid or be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9)

The results of the investigation to be entered into the Accident/Incident Register listed above. (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar incidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

Notwithstanding the requirements of Section 24 of the Act, ALL incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

12.8 H&S Representatives (SHE-Reps – ‘safety, health & environment’) and H&S Committees

12.8.1 *Designation of H&S Representatives ('SHE – Reps')*

Where the Principal Contractor employs more that 20 persons (including the employees of other Contractors (sub-contractors) he has to appoint one H&S Representatives for every 50 employees or part thereof. (Section 17 of the Act and General Administrative Regulation 6. & 7.)

H&S Representatives have to be designated in writing and the designation shall be in accordance with the Collective Agreement as concluded between the parties as is required in terms of General Administration Regulation 6.

12.8.2 *Duties and Functions of the H&S Representatives*

The Principal Contractor must ensure that the designated H&S Representatives conduct at least a weekly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor, after which these reports shall be consolidated for submission to the Health and Safety Committee.

H&S Representatives must be included in and be part of accident/incident investigations.

H&S Representatives shall be members of at least one H&S Committee and must attend all meetings of that H&S committee.

12.8.3 *Establishment of H&S Committee(s)*

The Principal Contractor must establish H&S Committees consisting of designated H&S Representatives together with a number of Employers Representatives appointed as per Section 19(3) that are not allowed to exceed the number of H&S Representatives on the committee. The persons nominated by the employer on a H&S Committee must be designated in writing for such period as may be determined by him. The H&S Committee shall co-opt advisory (temporary) members and determine the procedures of the meetings including the chairmanship.

The H&S Committee must meet minimum monthly and consider, at least, the following Agenda for the first meeting. Thereafter the H&S Committee shall determine its own procedures as per the previous paragraph.

***Agenda*:**

1) Opening and determining of chairmanship (only when necessary)
2) Minutes of Previous Minutes
3) Observations
4) Program and Safety considerations
5) Hygiene
6) Housekeeping improvement
7) Incidents & Accidents / Injuries
8) Registers:
    a H&S Rep. Inspections
    b. Matters of First Aid
    c. Ladders
    d. Portable Electric Equipment
    e. Fire Equipment
    f. Explosive Power Tools

g. Power Hand tools
h. Incident! Report Investigation
i. Personal Protective Equipment

9) Safety performance Evaluations
10) Education & Safety promotion program
11) First Aid Officials and training in First Aid
12) Demarcation of work- /hazardous-/safe areas/walkways
13) Posters and signage
14) Environmental preservation and conservation
15) Specific training programmes
16) General
17) Date of Next Meeting
18) Closing

13. PROJECT/SITE SPECIFIC REQUIREMENTS

The following is a list of specific activities and considerations that have been identified for the project and site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) have to be developed by the Principal Contractor:

* Site Establishment including:
  - Office/s
  - Secure/Safe Storage and storage areas for materials, plant & equipment
  - Ablution facilities
  - Vehicle access to the site
* Boundary & Access control/Public Liability Exposures (Remember: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)
* Health risks arising from neighboring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning, allergies etc.
* Exposure to Noise
* Exposure to Vibration
* Protection against dehydration and heat exhaustion
* Protection from wet & cold conditions
* Dealing with Covid-19 requirements
* Dealing with HIV/Aids and other diseases as per specific programme provided by the client and/or its Agent on its behalf
* Use of Portable Electrical Equipment including:
  - Angle grinder
  - Electrical Drilling machine
  - Skill saw
* Welding including:
  - Arc Welding
  - Gas welding
  - Flame Cutting
  - Use of Gas torches and appliances
* Loading & Offloading of Trucks
* Aggregate/Sand and other Materials Delivery
* Manual and Mechanical Handling

* Lifting and Lowering Operations
* Use and Storage of Flammable Liquids and other Hazardous Substances – the client and/or its Agent on its behalf to be informed of this prior to commencing of the project
* As discovered by the Principal Contractor's hazard identification exercise
* As discovered from any inspections and audits conducted by the Client and/or its Agent on its behalf or by the Principal Contractor or any other Contractor on site
* As discovered from any accident/incident investigation.

13.1 The following are in particular requirements which will form basis for compliance on/ during Audits

1. Administrative & Legal Requirements
2. Education, Training & Promotion
3. Public Safety & Emergency Preparedness
4. Personal Protective Equipment
5. Housekeeping
6. Ladders
7. Electrical Safeguarding
8. Emergency/Fire Prevention & Protection
9. Excavations & Demolition
10. Tools
11. Transport & Materials Handling
12. Site Plant & Machinery
13. Plant & Storage Yards/Site Workshops Specifics
14. Health & Hygiene
15. Economics

14. OUTLINED DATA, REFERENCES AND INFORMATION ON CERTAIN AND/OR SPECIFIC OBLIGATORY REQUIREMENTS TO ENSURE COMPLIANCE

14.1 Administrative & Legal Requirements

OHS Act Section/ Regulation	**Subject**	**Requirements**
Construction. Regulation 4	**Notice of carrying out Construction work**	Department of Labour notified Copy of Notice available on Site
General Admin. Regulation 4	***Copy of OH&S Act (Act 85 of 1993)**	Updated copy of Act & Regulations on site. Readily available for perusal by employees.
COID Act Section 80	***Registration with Compens. Insurer**	Written proof of registration/Letter of good standing available on Site
Construction. Regulation 5(1)(b)	**H&S Specification & Programme**	H&S Spec received from Client and/or its Agent on its behalf OH&S programme developed & Updated regularly
Section 8(2)(d) Construction. Regulation 9	***Hazard Identification & Risk Assessment**	Hazard Identification carried out/Recorded Risk Assessment and – Plan drawn up/Updated RA Plan available on Site Employees/Sub-Contractors informed/trained
Section 16(2)	***Assigned duties (Managers)**	Responsibility of complying with the OH&S Act assigned to other person/s by CEO.
Construction. Regulation 8(7)	**Designation of Person Responsible on Site**	Competent person appointed in writing as Construction Supervisor with job description
Construction. Regulation 8(8)	**Designation of Assistant for above**	Competent person appointed in writing as Assistant Construction Supervisor with job description
Section 17 & 18 General Administrative Regulations 6 & 7	***Designation of Health & Safety Representatives**	More than 20 employees – one competent H&S Representative, one additional H&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified in terms of GAR 6 & 7 Meaningful H&S Rep. reports. Reports actioned by Management.
Section 19 & 20 General Administrative Regulations 5	***Health & Safety Committee/s**	H&S Committee/s established. All H&S Reps shall be members of H&S Committees Additional members are appointed in writing. Meetings held monthly, Minutes kept. Actioned by Management.
Section 37(1) & (2)	***Agreement with Mandataries/ (Sub-)Contractors**	Written agreement with (Sub-)Contractors List of (Sub-)Contractors displayed. Proof of Registration with Compensation Insurer/Letter of Good Standing Construction Supervisor designated

		Written arrangements re. H&S Reps & H&S Committee Written arrangements re. First Aid
Section 24 & General Admin. Regulation 8 COID Act Sect.38, 39 & 41	***Reporting of Incidents (Dept. of Labour)**	Incident Reporting Procedure displayed. All incidents in terms of Sect. 24 reported to the Provincial Director, Department of Labour, within 3 days. (Annexure 1?)(WCL 1 or 2) and to the Client and/or its Agent on its behalf Cases of Occupational Disease Reported Copies of Reports available on Site Record of First Aid injuries kept
General Admin. Regulation 9	***Investigation and Recording of Incidents**	All injuries which resulted in the person receiving medical treatment other than first aid, recorded and investigated by investigator designated in writing. Copies of Reports (Annexure 1) available on Site Tabled at H&S Committee meeting Action taken by Site Management.
Construction. Regulation 16	**Scaffolding**	Competent persons appointed in writing to: - erect scaffolding (Scaffold Erector/s) - act as Scaffold Team Leaders - inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Copy of SABS 085 available on Site Risk Assessment carried out Inspected weekly/after bad weather. Inspection register/s kept
Construction. Regulation 22/ Driven Machinery Regulations 18 & 19	**Cranes & Lifting Machines Equipment**	Competent person appointed in writing to inspect Cranes, Lifting Machines & Equipment Written Proof of Competence of above appointee available on Site. Cranes & Lifting tackle identified/numbered Register kept for Lifting Tackle Log Book kept for each individual Crane Inspection: - All cranes - **daily by operator** - Tower Crane/s - **after erection/6monthly** - Other cranes - **annually by comp. person** - Lifting tackle(slings/ropes/chain slings etc.) - daily or before every new application
Construction. Regulation 24/Electrical Machinery Regulations 9 & 10/ Electrical Installation Regulations	***Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)**	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections: - Electrical Installation & equipment inspected after installation, after alterations and quarterly. Inspection Registers kept Portable electric tools, electric lights and extension leads must be uniquely identified/numbered.

		Weekly visual inspection by User/Issuer/Storeman. Register kept.
Construction. Regulation 29/ Environmental Regulation 9	***Designation of a Person to Co-ordinate Emergency Planning And Fire Protection**	Person/s with specific knowledge and experience designated to co-ordinate emergency contingency planning and execution and fire prevention measures Emergency Evacuation Plan developed: - Drilled/Practiced - Plan & Records of Drills/Practices available on Site Fire Risk Assessment carried out All Fire Extinguishing Equipment identified and on ***register***. Inspected weekly. Inspection Register kept Serviced annually
General Safety Regulation 3	***First Aid**	Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed) First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) List of First Aid Officials and Certificates Name of person/s in charge of First Aid box/es displayed. Location of First Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries
General Safety Regulation 2	**Personal Safety Equipment (PSE)**	PSE Risk Assessment carried out Items of PSE prescribed/use enforced Records of Issue kept Undertaking by Employee to use/wear PSE PSE remain property of Employer, not to be removed from premises GSR 2(4)
General Safety Regulation 9	***Inspection & Use of Welding/Flame Cutting Equipment**	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site All new vessels checked for leaks, leaking vessels NOT taken into stock but returned to supplier immediately Equipment identified/numbered and entered into a register Equipment inspected weekly. Inspection Register kept Separate, purpose made storage available for full and empty vessels
Hazardous Chemical Substances **(HCS)** Regulations	***Control of Storage & Usage of HCS and Flammables**	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of **HCS** (including Flammables) Written Proof of Competence of above appointee

		available on Site Risk Assessment carried out Register of HCS kept/used on Site Separate, purpose made storage available for full and empty containers
General Safety Regulation 13A	***Inspection of Ladders**	Competent person appointed in writing to inspect Ladders Ladders inspected at arrival on site and weekly there after. Inspections register kept Application of the types of ladders (wooden, aluminium etc.) regulated by training and inspections and noted in register

14.2 Education, Training and Medical Examination (Employees)

Subject	Requirement
*****Company OH&S Policy Section 7(1)	Policy signed by CEO and published/Circulated to Employees Policy displayed on Employee Notice Boards Management and employees committed.
*****Company/Site OH&S Rules (Section 13(a)	Rules published Rules displayed on Employee Notice Boards Rules issued and employees effectively informed or trained: written proof Follow-up to ensure employees understand/adhere to the policy and rules.
*****Induction & Task Safety Training (Section 13(a)	All new employees receive OH&S Induction Training. Training includes Task Safety Instructions. Employees acknowledge receipt of training. Follow-up to ensure employees understand/adhere to instructions.
*****General OH&S Training (Section 13(a)	All current employees receive specified OH&S training: written proof Operators of Plant & Equipment receive specified training Follow-up to ensure employees understand/adhere to instructions.
*****Occupational Health & Safety Promotion	<u>Incident Experience Board indicating e.g.</u> * No. of hours worked without an Injury * No. of days worked without an Injury Mission, Vision and Goal Star Grading - Board kept up to date. Safety Posters displayed & changed regularly Employee Notice Board for OH&S Notices. Site OH&S Competition. Company OH&S Competition. Participation in Regional OH&S Competition Suggestion scheme.
*Medicals Examination	All Employees must undergo medical check up before their engagement on this project, as required by law.

14.3 Public Safety, Security Measures & Emergency Preparedness

Subject	Requirement
*****Notices &Signs	Notices & Signs at entrances / along perimeters indicating **"No Unauthorised Entry".** Notices & Signs at entrance instructing visitors and non - employees what to do, where to go and where to report on entering the site/yard with directional signs. e.g. **"Visitors to report to the Site Office"** Notices & Signs posted to warn of overhead work and other hazardous activities. e.g. **General Warning Signs** Construction Notice Board, showing project professional team, client, etc.
Site Safeguarding	Nets, Canopies, Platforms, Fans etc. to protect members of the public passing / entering the site.
*****Emergency Preparedness	Emergency contact numbers displayed and made available to Security & Guard Emergency Evacuation instructions posted up on all notice boards (including employees' notice boards) Emergency contingency plan available on site/in yard Doors open outwards/unobstructed Emergency alarm audible all over (including in toilets)
***Emergency Drill & Evacuation**	Adequate No. of employees trained to use Fire Fighting Equipment. Emergency Evacuation Plan available, displayed and practiced. **(See Section 1 for Designation & Register)**

14.4 Personal Protective Equipment

Subject	Requirement
*****PPE needs analysis	Need for PPE identified and prescribed in writing. PPE remain property of Employer, not to be removed from premises GSR 2(4)
*****Head Protection	All persons on site wearing Safety Helmets including Sub-contractors and Visitors (where prescribed)
*****Foot Protection	All employees on site wearing Safety Footwear including Gumboots for concrete / wet work and non-slip shoes for roof work. Visitors to wear same upon request or where prescribed
*****Eye and Face Protection	Eye and Face (also Hand and Body) Protection (Goggles, Face Shields, Welding Helmets etc.) used when operating the following: * Jack/ Kango Hammers * Angle / Bench Grinders * Electric Drills (Overhead work into concrete / cement / bricks * Explosive Powered tools * Concrete Vibrators / Pokers * Hammers & Chisels * Cutting / Welding Torches * Cutting Tools and Equipment * Guillotines and Benders * Shears * Sanders and Sanding Machines * CO2 and Arc Welding Equipment * Skill / Bench Saws * Spray Painting Equipment etc.

*****Hearing Protection	Hearing Protectors (Muffs, Plugs etc.) used when operating the following: * Jack / Kango Hammers * Explosive Powered Tools * Wood/Aluminium Working Machines e.g. saws, planers, routers
*****Hand Protection	Protective Gloves worn by employees handling / using: * Cement / Bricks / Steel / Chemicals * Welding Equipment * Hammers & Chisels * Jack / Kango Hammers etc.
*****Respiratory Protection	Suitable/efficient prescribed Respirators worn correctly by employees handling / using: * Dry cement * Dusty areas * Hazardous chemicals * Angle Grinders * Spray Painting etc.
*****Protective Clothing	All jobs requiring protective clothing (Overalls, Rain Wear, Welding Aprons etc.) Identified and clothing worn.
*****PPE Issue & Control	Identified Equipment issued free of charge. All PPE maintained in good condition. (Regular checks). Workers instructed in the proper use & maintenance of PPE. Commitment obtained from wearer accepting conditions and to wear the PPE. Record of PPE issued kept on H&S File. PPE remain property of Employer, not to be removed from premises GSR 2(4)

14.5 Housekeeping

Subject	Requirement
*Scrap Removal System	All items of Scrap/Unusable Off-cuts/Rubble and redundant material removed from working areas on a regular basis. (Daily) Scrap/Waste removal from heights by chute/hoist/crane. Nothing thrown/swept over sides. Scrap disposed of in designated containers/areas Removal from site/yard on a regular basis.
Stacking & Storage **(See Section 1 for Designation & Register)**	Stacking: * Stable, on firm level surface/base. * Prevent leaning/collapsing * Irregular shapes bonded * Not exceeding 3x the base * Stacks accessible * Removal from top only. Storage: * Adequate storage areas provided. * Functional – e.g. demarcated storage areas/racks/bins etc. * Special areas identified and demarcated e.g. flammable gas, cement etc. * Neat, safe, stable and square. * Store/storage areas clear of superfluous material. * Storage behind sheds etc. neat/under control.

	* Storage areas free from weeds, litter etc.
*Waste Control/Reclamation	Re-usable off-cuts and other re-usable material removed daily and kept to a minimum in the work areas. All re-usable materials neatly stacked/stored in designated areas. (Nails removed/bent over in re-usable timber). Issue of hardware/nails/screws/cartridges etc. controlled and return of unused items monitored.
Sub-contractors (Housekeeping)	Sub-contractors are required to comply with Housekeeping requirements.

14.6 Ladders

Subject	Requirement
*****Physical Condition / Use & Storage	Stepladders - hinges/stays/braces/stiles in order. Extension ladders - ropes/rungs/stiles/safety latch/hook in order. Extension / Straight ladders secured or tied at the bottom / top. No joined ladders used Wooden ladders are never painted except with varnish Aluminium ladders NOT to be used with electrical work All ladders stored on hooks / racks and not on ground. Ladders protrude 900 mm above landings / platforms / roof. Fixed ladders higher than 5 m have cages/Fall arrest system

14.7 Electricity (as part of, or additional to the manual "Safety & Switching Procedures for Electrical Installations"- see attached document)

Subject	Requirement
*****Electrical Distribution Boards & Earth Leakage	Colour coded / numbered / symbolic sign displayed. Area in front kept clear and unobstructed. Fitted with inside cover plate / openings blanked off / no exposed "live" conductors / terminals/Door kept close Switches / circuit breakers identified. Earth leakage protection unit fitted and operating. Tested with instrument: Test results within 15 – 30 milliamps Aperture/Opening/s provided for the plugging in and removal of extension leads without the need to open the door Apertures and openings used for extension leads to be protected against the elements and especially rain
*****Physical condition of Electrical Appliances & Tools	<u>Electrical Equipment and Tools:</u> (includes all items plugging in to a 16 Amp supply socket) Insulation / casing in good condition. Earth wire connected/intact where not of double insulated design Double insulation mark indicates that no earth wire is to be connected. Cord in good condition/no bare wires/secured to machine & plug. Plug in good condition, connected correctly and correct polarity.

14.8 Emergency and Fire Prevention and Protection

Subject	Requirement
*****Fire Extinguishing Equipment and Positioning	Fire Risks Identified and on record The correct and adequate Fire Extinguishing Equipment available for: * Offices * General Stores * Flammable Store * Fuel Storage Tank/s and catchment well * Gas Welding / Cutting operations * Where flammable substances are being used / applied. * Equipment Easily Accessible
*****Maintenance	Fire equipment checked minimum monthly, serviced yearly
*****Location & Signs	Fire Extinguishing Equipment: * Clearly visible * Unobstructed * Signs posted including "No Smoking" / "No Naked Lights" where required. (Flammable store, Gas store, Fuel tanks etc.)
***** Storage Issue & Control of Flammables (incl. Gas cylinders	Storage Area provided for flammables with suitable doors, ventilation, bund etc. Flammable store neat / tidy and no Class A combustibles. Decanting of flammable substances carried out in ignition free and adequately ventilated area. Container bonding principles applied Only sufficient quantities issued for one task or one day's usage Separate, special gas cylinder store/storage area. Gas Cylinders stored / used / transported upright and secured in trolley/cradle/structure and ventilated. Types of Gas Cylinders clearly identified as well as the storage area and stored separately. Full cylinders stored separately from empty cylinders. All valves, gauges, connections, threads of all vessels to be checked regularly for leaks. Leaking acetylene vessels to be returned to the supplier **IMMEDIATELY**.
*****Storage, Issue & Control of Hazardous Chemical Substances (HCS)	HCS storage principles applied: products segregated Only approved, non-expired HCS to be used Only the prescribed PPE shall be used as the minimum protection Provision made for leakage/spillage containment and ventilation Emergency showers/eye wash facilities provided HCS under lock & key controlled by designated person Decanted/issued in containers as prescribed with information/warning labels Disposal of unwanted HCS by accredited disposal agent No dumping or disposal of any HCS on or inside the storage area or anywhere else on the project site All vessels or containers to be regularly checked for leaks

14.9 Tools

Subject	Requirement
*****Hand Tools	Shovels / Spades / Picks: * Handles free from cracks and splinters * Handles fit securely * Working end sharp and true Hammers: * Good quality handles, no pipe or reinforcing steel handles. * Handles free from cracks and splinters Handles fit securely Chisels: * No mushroomed heads / heads chamfered * Not hardened * Cutting edge sharp and square Saws: * Teeth sharp and set correctly * Correct saw used for the job
*****Explosive Powered Tools.	Only used by trained / authorised personnel. Prescribed warning signs placed / displayed where tool is in use. Work area must be properly isolated/demarcated during use of tool. Inspected at least monthly by competent person and results recorded. Issue and return recorded including cartridges / nails and unused cartridges / nails / empty shells recorded. Cleaned daily after use.

14.10 Site Plant and Machinery

Subject	Requirement
Brick Cutting Machine	Operator Trained. Only authorised persons use the machine. Emergency stop switch clearly marked and accessible. Area around the machine dry and slip/trip free/clear of off-cuts All moving drive parts guarded/electrical supply cable protected Operator using correct PPE - eye/face/hearing/foot/hands/body.
*****Electric Arc Welder	Welder Trained. Only authorised / trained persons use welder. Earth cable adequately earthed to work. Electrode holder in good condition/safe Cables, clamps & lugs/connectors in good condition. Area in which welding machine is used is dry/protected from wet. Welder using correct PPE - eye/ face/foot/body/respirator. Correct transparent screens & warning signs placed
*****Compressors	Relief valves correctly set and locked / sealed. Maximum Safe Working Pressure (MSWP) indicated on face of pressure gauge: not on glass cover. All drives adequately guarded. Receiver/lines drained daily Hoses good condition/clamped, not wired Compressed air NEITHER used to dust off clothing/PPE/ and work areas NOR on bare skin

*****Gas Welding / Flame Cutting Equipment	Only authorised/trained persons use the equipment. Torches and gauges in good condition. Flashback arrestors fitted at cylinders and gauges. Hoses in good condition/correct type/all connections with clamps Cylinders stored, used and transported in upright position, secured in trolley / cradle / to structure. All cylinders regularly checked for leaks, leaking cylinders returned immediately Fire prevention/control methods applied/hot work permits

14.11 Workplace Environment, Health and Hygiene

Subject	Requirement
*****Lighting	Adequate lighting in places where work is being executed e.g. stairwells and basements. Light fittings placed / installed causing no irritating/blinding glare. Stroboscopic effect eliminated (not only reduced) where moving objects or machinery is used
*****Ventilation	Adequate ventilation / extraction / exhausting in hazardous areas e.g. chemicals / adhesives / welding / petrol or diesel/ motors running and in confined spaces / basements.
*****Noise	Tasks identified where noise levels exceed 85 dB at any one time. All reasonable steps taken to reduce noise levels at the source. Hearing protection used where noise levels could not be reduced to below 85 dB.
*****Heat Stress	Measures in place to prevent heat exhaustion in heat stress problem areas e.g. steel decks, when the WBGT index reaches 30. (See Environmental Regulation 4) Cold drinking water readily available at all times.
*****Ablutions	Sufficient hygiene facilities provided - 1 toilet per 30 employees (National Building Regulations prescribe chemical toilets for Construction sites) Toilet paper available. Sufficient showers provided. Facilities for washing hands provided Soap/cleaning agent available for washing hands Means of drying hands available Lock-up changing facilities / area provided. Ablution facilities kept hygienic and clean.
*****Pollution of Environment	Measures in place to minimize dust generation. Accumulation or littering of empty cement pockets, plastic wrapping / bags, packing materials etc. prevented. Spillage / discarding of oil, chemicals and dieseline into storm water and other drains or into existing or newly dug holes/cavities on site expressly prohibited.
*****Hazardous Chemical Substances	All substances identified and list available e.g. acids, flammables, poisons etc. Material Safety Data Sheets (MSDS) indicating hazardous properties and emergency procedures in case of incident on file and readily available. Substances stored safely. Expiry dates meticulously checked where applicable

15. THE PRINCIPAL CONTRACTOR'S GENERAL DUTIES

The Principal Contractor shall at all times ensure his status of an "employer" as referred to in the Act, and will abide by his/her responsibilities, duties and functions as per the requirements of the Act and Regulations with specific reference to Section 8 of the Act.

The Principal Contractor shall keep, and on demand make available, a copy of the Act on site at all times and in addition to that he/she will introduce and maintain a file titled "Health and Safety File", or other record in permanent form, which shall contain all relevant aspects and information as contemplated in the Construction Regulations. He/she will make this file available to the client or his representative whenever necessary or on request to an interested party.

16. THE PRINCIPAL CONTRACTOR'S SPECIFIC DUTIES

The Principal Contractor's specific duties in terms of these specifications are detailed in the Construction Regulations as published under government notice No. R1010 dated 18 July 2003.

The Principal Contractor is specifically referred to the following elements of the Construction Regulations:

Regulation No. 1	- Definitions
Regulation No. 2	- Scope of application
Regulation No. 3	- Notification of construction work
Regulation No. 5	- Principal Contractor and Contractor
Regulation No. 6	- Supervision of construction work
Regulation No. 7	- Risk Assessment
Regulation No. 26	- Stacking & Storage on construction sites
Regulation No. 28	- Construction welfare facilities
Regulation No. 29	- Approved Inspection authorities
Regulation No. 30	- Offences and penalties

This list must not be taken to be exclusive or exhaustive!

The Principal Contractor shall ensure compliance to the Act and its Regulations and specifically to the above regulations, and document each record in the Health and Safety File.

17. THE PRINCIPAL CONTRACTOR'S SPECIFIC RESPONSIBILITIES WITH REGARD TO HAZARDOUS ACTIVITIES

The following activities are identifiable as hazardous in terms of the Construction Regulations.

The contractor shall execute the activities in accordance with the following Construction Regulations and other applicable regulations of the Act:

Regulation No. 24	- Electrical installations and machinery on construction sites

Regulation No. 25	- Use and temporary storage of flammable liquids on construction sites
Regulation No. 26	- Water environments
Regulation No. 27	- Housekeeping on construction sites
Regulation No. 29	- Fire precautions on construction sites.

This list must not be taken to be exclusive or exhaustive!

All of the above requirements will be read in conjunction with the relevant regulations and health and safety standards as required by the Act. All documents and records required by the Construction Regulations will be kept in the Health and Safety File and will be made available at any time when required by the client or his representative, or on request to an interested party.

18. GENERAL NOTES TO THE PRINCIPAL CONTRACTOR

Legal Framework

Part of legal obligations

The more important Acts and relevant subordinate/secondary legislation as well as other (inter alia Local Government) legislation that also apply to the State as well as to State owned buildings and premises: -

(i) The latest issue of SABS 0142: "Code of Practice for the Wiring of Premises"
(ii) The Local Government Ordinance 1939 (Ordinance 17 of 1939) as amended and the municipal by-laws and any special requirements of the local supply authority
(iii) The Fire Brigade Services Act 1987, Act 99 of 1987 as amended
(iv) The National Building Regulations and Building Standards Act 1977 (Act 103 of 1977) as amended and relevant proclaimed Regulations (SABS 0400)
(v) The Post Office Act 1958 (Act 44 of 1958) as amended
(vi) The Electricity Act 1984, Act 41 of 1984
(vii) The Regulations of Local Gas Board(s), including Publications of the SABS Standards and Codes of Practice, with specific reference to GNR 17468 dated 4th October 1997
(viii) Legislation pertaining to water usage and the environment
(ix) Legislation governing the use of equipment, which may emit radiation (e.g. X-Rays etc.)
(x) Common Law

Legal Liabilities

Common Law and Legislation

Based on two main criteria –

- Would the reasonable person have foreseen the hazard?
  That is a reasonable person in that specific position, taking experience, qualifications, authority, position in the organization etc. into consideration

- Would the reasonable person have taken precautionary measures (action) to prevent or limit the hazard?

Negligence can be proven on failure on **any** or **both** of the above criteria

(There may not necessarily be a relationship between criminal and civil liability!)

19. HOUSE KEEPING

Good housekeeping will be maintained at all times as per Construction Regulation 27. Poor housekeeping contributes to three major problems, namely, costly or increased accidents, fire or fire hazards and reduction in production. Good housekeeping will enhance production time.

Particular emphasis is to be placed on the following crucial elements of a construction site:

- Phase priorities and production/plant layout
- Enclosures
- Storage facilities
- Effective, sufficient and maintained lighting or illumination
- Principal sources of injuries e.g. stairways, runways, ramps, loose building material
- Oil, grease, water, waste, rubble, glass, storm water
- Colour coding
- Demarcations
- Pollution
- Waste disposal
- Ablution and hygiene facilities
- First aid

This list must not be taken to be exclusive or exhaustive!

In promotion of environmental control all waste, rubble, scrap etc, will be disposed of at a registered dump site and records will be maintained. Where it is found to be impractical to use a registered dump site or it is not available, the Principal Contractor will ensure that the matter is brought to record with the client or his representative, after which suitable, acceptable alternatives will be sought and applied.

Dross and refuse from metals, and waste matters or by-products whose nature is such that they are poisonous or capable of fermentation, putrefaction or constituting a nuisance shall be treated or disposed of by methods approved of by an inspector.

NOTE: No employer (Principal Contractor) shall require or permit any person to work at night or after hours unless there is adequate, suitable artificial lighting including support services in respect of Health and Safety.

20. LOCKOUT SYSTEMS - *ELECTRICAL!*

A system of control shall be established in order that no unauthorized person can energize a circuit, open a valve, or activate a machine on which people are working or doing maintenance, even if equipment, plant or machinery is out of commission for any period, thus eliminating injuries and damage to people and equipment as far as is reasonably practicable.

Physical/mechanical lock-out systems shall be part of the safety system and included in training. Lockouts shall be tagged and the system tested before commencing with any work or repairs.

21. INCIDENT INVESTIGATION

Inspection and reporting is the best way in which a responsible contractor can control his area of responsibility. All incidents therefore, irrespective of whether it gave rise to loss, injury, damage or not, shall be investigated and the results recorded in the Health and Safety File. (attached GAR 9)

22. PENALTIES

Should, at any time, the works or part of the works, be stopped due to unsafe acts or non-compliance with the Client or Principal Contractor (PC) nor any other Contractor or SMME shall have a claim for extension of time or any other compensation.

In cases of repetitive non-conformances, the non-conforming party shall be penalized as per the table below:

The following constitute examples of the types of non-conformances that will attract penalties:

Minor: **Fine: R50 / count**	**Medium:** **Fine: R500 / count and non-conformance**	**Severe:** **Fine: R5000 / count, a non-conformance and or activity stoppage**
Non-use of basic PPE supplied (e.g. Overalls, Safety Shoes, Hardhats, Dust Masks etc) per person	Toilets not supplied or regularly serviced as per the specification and lack of pure drinking water	Contractor working without OHS Plan being Approved
Non-completion of registers for plant, equipment and machinery	Contractors not audited	Workers transported in contravention of the OHS Plan or legal requirements
Lack of OHS signage at work areas	Working without training or appropriate OHS Method Statement / SWP / HIRA	Invalid or expired letter of good standing with licensed Compensation Insurer
Tools and equipment identified in poor condition during inspections or audits	Non-conformances identified during the previous audit and not addressed within the agreed time frame	Allow people to work at heights without proper training and PPE
	No internal monthly audit and report in the file	Fall arrest harness not tied off or worn when a risk of falling exist
	No medical certificates of fitness done by an Occupational Health Practitioner	Threat to the OHS of persons
	Unsafe work on excavations	3rd Offence on Unsafe Work on Excavations
	Poor housekeeping	Failure to submit SHE report, DIFR and relevant documents monthly

23. IMPORTANT LISTS AND RECORDS TO BE KEPT

The following are lists of several records that are to be kept in terms of the Construction Regulations. The lists are:

1 List of appointments
2 List of record keeping responsibilities
3 Inspection checklist

These lists and documents are to be used as a point of reference to determine which components of the Act would be applicable to a particular site or task or project, as was intended under paragraph 1 ("Preamble") above.

1. LIST OF APPOINTMENTS

ITEM	**REGULATION**	**APPOINTMENT**	**RESPONSIBLE PERSON**
1.	5(1)(k)	Principal contractor for each phase or project	Client
2.	7(1)(c)	Contractor	Principal Contractor
3.	7(1)(v)	Contractor	Contractor
4.	8(7)	Construction supervisor	Contractor
5.	8(8)	Construction supervisor sub-ordinates	Contractor
6.	8(5)	Health and Safety Officer	Contractor
7.	9(1)	Person to Carry Out Risk Assessment	Contractor
8.	9(3)	Trainer/Instructor	Contractor
9.	29 (h)	Fire Equipment Inspector	Contractor

LIST OF RECORD KEEPING RESPONSIBILITIES

ITEM	*CR*	*RECORD TO BE KEPT*	**RESPONSIBLE PERSON**
1.	4(1)	Notification to Provincial Director – Annexure A Available on site	Principal Contractor
2.	5(3)	Copy of Principal Contractor's Health & Safety Plan Available on request	Client
3.	5(6)	Copy of Principal Contractor's Health & Safety Plan As well as each Contractor's Health & Safety Plan Available on request	Principal Contractor
4.	5(7)	Health and Safety File opened and kept on site (including all documentation required i.t.o. OHSA & Regulations Available on request	Every Contractor
5.	5(8)	Consolidated Health and Safety File handed to Client on completion of Construction work. To include all documentation required i.t.o. OHSA & Regulations and records of all drawings, designs, materials used and similar information on the structure	Principal Contractor

6.	5(9)	Comprehensive and Updated List of all Contractors on site, the agreements between the parties and the work being done Included in Health and Safety file and available on request	Principal Contractor
7.	8(7)	Keep record on the Health and Safety File of the input by Construction Safety Officer [CR 8 (7)] at design stage or on the Health and Safety Plan	Contractor
8.	9(2)	Risk Assessment - Available on site for inspection	Contractor
9.	9(9)	Proof of Health and Safety Induction Training	Every Employee on site
10.	9(2)(b)	Inform contractor in writing of dangers and hazards relating to construction work	Designer of Structure
11.	27(*l*)	Fire Evacuation Plan	Contractor

INSPECTION CHECKLIST

Employer Particulars	
Employer:	
Registered Name of Enterprise:	
Trade Name of Enterprise:	
Business entity Registration No.:	
SARS Registration No.:	
UIF Registration No.:	
COIDA Registration No.:	
Relevant SETA for EEA purposes:	
Industry Sector:	
Bargaining Council:	
Contact Person:	
Address of Premises:	
Postal Address:	
Telephone Number:	
Fax Number:	
E-mail Address:	
Chief Executive Officer:	
Chief Executive Officer Address:	
Competent Person:	
Maximum power demand: in KW	
Health and Safety Representatives:	
Activities, products manufactured and/ services rendered:	
Raw materials, materials and chemical/ biological substances:	
Total Number of Employees:	Male: Female:

Contractor Particulars	
Contractors:	
Site Address:	
Contracts Manager:	
Managing Director:	
Competent Persons:	
CR16: SCAFFOLDING:	
CR10(1)(a): FALL PROTECTION:	
CR13(1)(1): EXCAVATION WORK:	
CR28(a): STACKING	

24. IMPORTANT CONTACT DETAILS

The contractor is to add all the important contact information about essentials services, support and assistance.

SERVICE	NUMBER	CONTACT PERSON
Hospital/ Near By Clinic		

Ambulance		

Water		
Electricity		

Police		

Fire Brigade		

Engineer		
SHE Agent		
Client		

25. PRELIMINARY RISK ASSESSMENT

ACTIVITY	HAZARD	CONTROL MEASURE
Existing services and environmental concerns	Damaging to existing structures Damaging existing water pipes Damaging to existing electrical cables and connections Damage to environmental matters i.e. spillages, graves, trees etc	Appointment of safety officer and site supervisor
Site Clearance and Establishment	Moving plant/machinery striking persons, moving of material by employees, noise and dust	Appointment of construction site supervisor
Demolition of the structure by manual or machinery	• Inhalation of dust • Falling of material	• Filling of mobile plant registers or checklist regularly • Toolbox talks sessions will be conducted prior commencement of the activity to all employees on site
House keeping	slips, trips and falls	• appointment of a person responsible to supervise housekeeping • housekeeping registers be filled regularly on a daily basis
Use of ladders and trestle ladders	• Collapse of structure • Fall of employees from ladder, trestle or scaffold • Fall of material • Fall of ladder, trestle or scaffold	• Appointment of ladder, trestle or scaffold supervisor • Employees working on scaffold, ladders or trestle be deemed fit to work at heights • Daily filling of registers • Areas be barricaded

Storage and Staking	Collapse of stack material and falling to people	Appointment of stacking and storage supervisor to supervise this work. The supervisor will ensure: Stacks are built only on dry, level and firm ground, the height of stack will not be more than three times the width of the base on its narrowest side, stacks will be bonded, no stack will obstruct exists routes or signs nor fire fighting equipment
Hazardous Chemical Substances	Burning of employees, employees infected by chemicals	Appointment storage and stacking supervisor, chemicals to be stored as per its requirements, chemicals have to be placed categorically
Disposal of unwanted or useless Material	Grabble will be disposed in an area that has been designated to dispose such material. Letter from the authority allowing that should be presented by the Contractor.	Site Supervisor to manage this activity and a letter to dispose material from authorities be acquired.
Social welfare facilities	Dehydration, diarrhoea etc	Provide clean drinking water and toilets for male and females

26. THE CONTRACTOR SHALL MEET THESE REQUIREMENTS PRIOR TO HEALTH AND SAFETY FILE APPROVAL AND COMMENCEMENT WITH CONSTRUCTION WORKS

1. Letter of good standing (valid)
2. Report to DOL of the intention to commence with construction works
3. Provide health and safety policies and sign off by Business entity CEO
4. Provide a health and safety plan and signed for
5. Provide legal appointment letters and sign off and accepted by appointees
6. Provide risk assessment and sign off
7. Provide safe working procedures and sign off
8. Provide fall protection plan and sign off
9. Provide competencies of appointed personnel

10. Appointment of a full time or part-time safety officer and its full details including CV or Company Profiles and qualifications
11. Provide incident, evacuation and flammables plan and sign off
12. Provide emergency telephone numbers
13. Provide registers or checklists
14. Provide incident forms
15. Proof of training of safety representatives and first aiders by an accredited institution
16. Provide health and safety populated Organogram
17. Provide Medicals for all employees done by Occupational Health Practitioner

27. THE FOLLOWING EQUIPMENT SHOULD BE ON SITE AT ALL TIMES

1. FIRST AID BOX
2. FIRST AID CERTIFICATE SHOULD BE DISPLAYED AT THE SITE OFFICE
3. SAFETY REPRESENTATIVE CERTIFICATE SHOULD BE DISPLAYED AT THE SITE OFFICE AT ALL TIMES
4. EMERGENCY TELEPHONE NUMBERS TO BE DISPLAYED AT THE SITE OFFICE AT ALL TIMES
5. FIRE EXTINGUISHER (4.5 OR 9 KG-VALID) TO BE ON SITE AT ALL TIMES
6. HEALTH AND SAFETY WALL CHART (OHS ACT NO.85 OF 1993) TO BE DISPLAYED ON SITE AT ALL TIMES
7. DRAWINGS OF THE STRUCTURE TO BE DISPLAYED ON SITE AT ALL TIMES
8. PROGRAMME OF WORKS TO BE DISPLAYED ON SITE AT ALL TIMES
9. HEALTH AND SAFETY SIGN BOARDS TO BE DISPLAYED AT STRATEGIC PLACES ON SITE i.e. SITE OFFICE, VISITORS TO REPORT TO SITE OFFICE, STOREROOM etc

28. EXPECTATIONS BY THE CLIENT FROM THE PRINCIPAL CONTRACTOR

1. The Principal Contractor will be required to price for all health and safety costs for the relevant requirements when submitting the Tender Document
2. The Principal Contractor shall appoint a Competent Safety Officer with Samtrac / Shemtrac / Nebosh / 3 Weeks Indepth Training/s will be acceptable and costs shall form part of all health and safety costs which include site visit, attending progress meetings, updating health and safety file monthly etc
3. The Principal Contractor shall also submit monthly health and safety reports to the Client or Client's Agent
4. The Principal Contractor shall also include the pricing of Personal Protective Equipment for its employees
5. The Principal Contractor shall include pricing for safety representatives and first aiders
6. The Principal Contractor shall include health and safety file costs in the bill of quantities.

It is under these requirements that seek to enforce health and safety acts and regulations that the Client has developed this health and safety specification to ensure that it (H & S spec) acts as the guideline in assisting the Principal Contractor to formulate health and safety plan. The Client therefore, make a point that the Principal Contractor abides by all that has been entailed in this Specification and no compromises will be made that will be in violation of this specification. The Client shall ensure that the Principal Contractor has appointed a Safety Officer to manage its health and safety on site and the costs thereof shall be added by the Principal Contractor in his Bid document.

After reading all of the aforementioned requirements, the Tenderer (Principal) when submitting his Tender Document shall sign underneath as having read and accepting all the requirements mentioned, and by so doing, the Tenderer (Principal) shall be held accountable and responsible for all health and safety practices on site once appointed.

I, ...representing

..... (Tenderer's Name) as the Director or Managing Member or a Member of the Company hereby abide myself to act fully as the OHS Act No. 85 of 1993 and Construction Regulations requires me to do in ensuring health and safety compliance in my awarded project as paramount. I also surrender myself to be held accountable and responsible for any ignorance and misrepresentation of these Acts and Regulations and required actions shall be placed upon me.

_____ DATE: / /
SIGNATURE THE TENDERER (PRINCIPAL)

C3.2.2: WET SERVICES SPECIFICATIONS

VAAL UNIVERSITY OF TECHNOLOGY: RENOVATION OF TRANSPORT AND CONCRETE LABS AT BLOCK R GENERAL TECHNICAL SPECIFICATION FOR PLUMBING/ DRAINAGE

DATE: MARCH 2025

CLAUSE PAGE NUMBERS

1. GENERAL

The standard specifications included define the standard of equipment and materials, as well as the quality of the services required for the various sections of the installation. Not all the clauses in this section of the standard specification shall necessarily be applicable on the contract. Refer to the detailed or material specification for materials and equipment to be used.

1.1 The contractor shall, at all times, adhere to this specification, unless otherwise specified on the drawings and / or in the detailed specifications.

1.2 The Engineers' drawings show broad principles of design, general layouts, schematic arrangements and when read together with the specifications and the drawings of other disciplines and other contractors, they carry sufficient information to enable the contractor to determine how the installation is to be installed, operated, serviced and maintained.

1.3 Pipe sizes and possible positions are shown on the Engineers' drawings. Fittings, valves, strainers, etc., must adapt to these pipe sizes.

1.4 The contractor shall submit workshop drawings, samples, catalogues, performance characteristics, etc., on all equipment, except when specifically included by the Engineer.

1.5 The contractor shall take in situ measurements for installation of the equipment of the system and produce complete workshop drawings for fabrication and installation. These drawings shall be co-ordinated by the contractor with all other relevant equipment and services. Dimensions given on the Engineers' drawings are only a guide and should be adapted to suit the relevant measurements of the specific fittings and / or equipment.

2. DEFINITIONS AND ABBREVIATIONS

2.1 Definitions of terms used herein:

:	to supply, install and connect up, complete and ready for safe and regular operation particular work referred to, unless specifically indicated or specified otherwise. to erect, mount and connect complete with all related accessories. to purchase, procure, acquire and deliver complete with all related	
"Install"	:	
"Supply"	:	
accessories.		
		all labour, materials, equipment, apparatus, controls, accessories and other items required for proper and complete installation.
"Work"	:	embedded in masonry or other construction, installed in furred spaces within double partitions or hung ceiling, in trenches, in crawl spaces or
Concealed :		
in enclosures.		
"Exposed" :	not installed underground or "concealed" as defined above.	
"Indicated", "Shown" or "Noted"	:	as indicated, shown or noted on drawings and / or specifications.

"Similar" or "Equal" :	of approved manufacture, equal in materials, weight, size, design and efficiency of specified product.	
"Approved", "Satisfactory", "Accepted" or "Directed"		
:	as approved, satisfactory, accepted or directed	

by the Engineer.

2.2 Abbreviations:

"SABS" : The South African Bureau of Standards and the number following shall refer to the latest amendment of the relevant specification or Code of Practice as the case may be.

SANS	:	South African National Standard
"BSS"	:	British Standard Specifications.
"NB"	:	Nominal Bore.
"WWP"	:	Water Working Pressure.
"WOG"	:	Water, Oil, Gas.
"PB"	:	Polished Brass.
"CP"	:	Chromium Plated

"**PIRB"**	: Plumbing Industry Registration Board.
"CKS"	: Co-ordinating Specifications issued by the Central Co-ordinating Committee under the auspices of the South African Bureau of Standards.
"CSIR"	: Council for Scientific and Industrial Research.

2.3 Diameters of Pipes:

All diameters of pipes given are the nominal bore or external diameters in accordance with the normal conventions of the materials being used.

3. CODES OF PRACTICE, LAWS AND STANDARDS

All workmanship and materials used in the execution of the works shall be of the highest class and, where not fully covered by the Specification, shall be carried out in conformity with best modern practice, as determined by the National Building Regulations & Compulsory National Water Act standards or otherwise rationalised by the Engineer.

It shall be the contractor's responsibility to ensure that the entire installation fully complying with all relevant requirements of governmental and Local Authorities whose jurisdiction embraces the location of the Site of the Works and the equipment provided for those installations which shall comply in every respect with the National Building Regulations and Building Standards Act, Act 103 of 2010 and the Occupational Safety Act, Act No. 6, both as amended to date, excepting only where exemption from any such regulations has first been obtained in writing from the said authorities, provided that the approval of the Engineer has been given prior to application for any exemption.

All materials and equipment supplied and installed shall carry the SABS mark of approval, as well as Jaswic registered unless otherwise specified or agreed to in writing by the Engineer. Where alternatives are offered, the submission is to include full details of the item, together with tests and compliances with any other standards.

All electrical wiring shall comply with the latest edition of the Standard Regulations for the wiring of Premises, SANS 0142 and the additional requirements of any local authority who

has jurisdiction over the Site of Works, as well as being in accordance with best modern practice.

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Wherever relevant, the Specification shall be understood to be amplified to embrace Codes of Practice, Regulations and Standards promulgated by Government & recognised authorities in the field of Plumbing and Drainage Technology and all other branches of engineering science applicable to this project.

It shall be assumed that the contractor is conversant with the abovementioned requirements. He/she shall be in ownership of such documentation. Should any requirement, bye-law, or regulation, which contradicts the requirements of this document, apply or become applicable during the erection of the installation, such requirement, byelaw, or regulation shall overrule this document and the contractor shall immediately inform the Engineer of such a contradiction. Under no circumstances shall the contractor carry out any variations to the installation in terms of such contradictions without obtaining written permission to do so from the Engineer.

It shall be the responsibility of the contractor to make the necessary arrangements at his own expense with the local supply authority and to supply the labour, equipment and means to inspect, test, commission and to hand over the installation.

The Sub-contractor shall supply and install all Notices and Warning signs that are required by the appropriate laws, regulations and / or by this document.

4. ORGANISATION AND STAFF CONTRACT

In addition to the site supervisor and / or foreman, the contractor shall employ as many competent and experienced persons as may be necessary for the purpose of the contract and shall be bound to remove from the contract works any person to whom the employer or his agent or the principal contractor may reasonably object by reason of any failure, neglect, incompetence or substandard work execution by or under the supervision of such person. PIRB membership is recommended.

The duties and responsibilities of the contractor's management staff shall include, but not be limited to the following:

Selections of equipment and components into working assemblies for conformance with the design concept in the sub-contract specification.

Submissions of equipment and installation drawings for approval in accordance with the required procedure.

Programming and planning of the work to fit in with the overall principal contractor's programme.

Attendance at routine site progress meetings and programme monitoring meetings organised by the principal contractor.

Conducting of all tests & commissioning as required.

Expediting of the work.

Directing his employees to ensure efficient, timely and safe execution of the work, and cooperation with the principal contractor and other trades to ensure such execution.

Attendance at meetings from time to time with the Engineer in order to discuss any technical matters that need clarification.

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5. CO-ORDINATION WITH OTHER TRADES

The contractor shall acquaint himself with the general arrangement of all other services and ensure that in fixing the work, it will not obstruct the fixing or future maintenance of the contract works or other services.

He shall also fully co-operate with other trades and take all reasonable precautions to ensure that he does not impede the progress of, or damage their work.

6. TEST AND INSPECTION PRIOR TO COMPLETION

Except where otherwise provided in the contract, the contractor shall provide all labour, materials, power, fuel, accessories and properly calibrated and certified instruments necessary to carry out such tests. Arrangements for such tests shall be made by the

contractor and he shall give at least 72 hours' notice to the Engineer, in writing, of the test prior to commencement.
In the event of the plant or installation not passing the test, the employer shall be at liberty to deduct from the contract price all reasonable expenses incurred by himself, or his agents attending the repeated tests.
Whenever any installation or equipment is 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 employer may assign operating personnel as observers, but such observation time shall not be counted as instruction time.
After complete installation of the system, all equipment shall be tested, adjusted and readjusted until it operates to the satisfaction and approval of the Engineer and the client.
The contractor shall submit certificates of tests carried out to prove all equipment and also certificates to be obtained from all relevant authorities and statutory bodies, etc.
The water reticulation system shall be pressure tested and kept operational and live floor by floor and section by section as the project progresses.

7. SHOP DRAWINGS

7.1.1 The sub-contractor shall prepare, at his own expense, and shall submit copies of shop drawings for all fabricated work, working or setting out drawings, shop details and schedules to the Owner's representative for approval as stated below, and related work shall not be performed by the sub-contractor until such approval has been given.
7.1.2 As soon as approval has been given, the sub-contractor shall furnish the Owner's representative two prints of the approved shop drawings, setting out drawings and schedules. The sub-contractor shall also furnish to the Works as many prints of the approved shop drawings and schedules as are required. No work shall be performed from shop drawings and / or catalogues not stamped with the Owner's representative's approval, and such stamped drawings and / or catalogues shall be kept available at the job site as evidence of such approval.
7.1.3 The sub-contractor shall be responsible for dimensions, design of adequate connections, details for the satisfactory construction of all work and the furnishing of materials for work
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required by the sub-contract even if not indicated on the submissions that have been approved by the Owner's representative.
7.1.4 The Owner's representative will check drawings for design only and approval of the drawings, schedules and catalogues by the Owner's representative shall not be construed as a complete check and shall not relieve the sub-contractor of his responsibility as above stated. If the submissions differ from the requirements of the sub-contract, the subcontractor shall make specific mention of each difference in his letter of transmission, with
a request for substitution, together with his reasons for same, in order that, if acceptable, suitable action may be taken by the Owner's representative. Otherwise, the subcontractor will not be relieved of the responsibility for executing the work in accordance
with the requirements of this sub-contract.
7.1.5 Corrections of shop drawings by the Owner's representative are not intended to change the scope of work. Should any such corrections constitute a change of scope of work, the sub-contractor shall notify the Owner's representative in writing within not more than seven calendar days of such change and shall not proceed with the fabrication until so authorised by the Owner's representative. Claims for change of scope, made after performance of the work constituting the claimed change of scope, will not be considered.

8. "AS-BUILT" DRAWINGS AND MANUFACTURERS INFORMATION

The sub-contractor shall provide the Engineer with a complete signed set of "as-built" drawings, together with stored drawings in DWG electronic format as a pre-requisite to final payment; and the Engineer shall hand the set over to the Owner after having

established their correctness. The "as-built" set shall include all mechanical and electrical equipment installed in the works.
Where possible, a copy of Architects' or Engineer's drawings shall be used and the subcontractor may purchase copies of the necessary drawings from the relevant party. If "asbuilt" variations cannot be clearly shown thereon, then the sub-contractor shall prepare
supplementary hand marked drawings that will properly impart the necessary information.
Manufacturer's and sub-contractor's shop drawings shall be corrected to correspond with the "as-built" drawings and copies of each shall also be furnished to the Engineer.
"As-built" drawings shall be maintained on a current basis as work progresses, and all deviations in work as actually installed accurately entered, at least once a week, on paper prints of design drawings affected, with such prints kept available at the site for the inspection of the Engineer. At the end of each month, the record for the month, properly identified by notes, shall be transferred to the original drawings by competent draughtsmen. Within seven days after the end of each monthly period, submit to the Engineer one paper print of each drawing affected, showing the latest corrections.
The contractor shall submit 3 (three) sets of comprehensive operating and maintenance manuals to the Engineer, after first obtaining his approval thereof.
The operating and maintenance manuals shall at least contain the following:

(i) A description of the system, together with details and specifications of all equipment and items used in the works.

(ii) Detailed instruction in the operation of the system.

(iii) Details and schedules of how and when to maintain the plant and equipment.

(iv) List of spares to be carried, complete with part numbers and supplier(s) of equipment.

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(v) Names and addresses of staff of the contractor or supplier(s) to be contacted in case of an emergency, etc.

(vi) Guarantees for all equipment and fittings, etc.

(vii) All commissioning documents signed by the Commissioning Agent & Engineer.

9. QUALITY ASSURANCE SYSTEM

The contractor shall institute an approved Quality Assurance system (QA) which shall be submitted to the Engineer for his approval. The records of this QA system shall be kept throughout the duration of the contract and shall be submitted to the Engineer at regular intervals as required by the Engineer.
The plumbing staff is to be trained and certified by the manufacturer, that they meet the requirements and standards of the pipe manufacturer to install the plastic pipe installation as per the manufacturer's specifications and requirements.
The manufacturer is to provide a dedicated person, who will monitor the pipe installation as it progresses, providing quality control, inspection reports.

10. OPERATING AND COMMISSIONING OF PLANT AND INSTALLATION

The completed system shall be put into operation after all tests and adjustments have been carried out to the satisfaction of the Commissioning Agent & Engineer. The contractor shall run and operate the system for a period of time as specified by the Engineer and train the staff of the client to operate and maintain the system for a period as required by the Engineer, which will not exceed one month.
Logging of the operation of the installations shall commence immediately upon start-up.
The contractor shall submit a full commissioning report or certificates.

11. GUARANTEE OF INSTALLATION AND EQUIPMENT

The contractor shall obtain guarantees from the manufacturer(s) and / or supplier(s) to the effect that each piece of equipment shall comply with the required performance and also that it will function as part of the complete system.
All equipment, including the complete installation and the system as a whole, shall be

guaranteed for a period of 12 (twelve) months after the written acceptance by the Engineer of the completed and operational system.
The manufacturer shall provide an insurance cover of the product.
The plumbing contractor shall provide an insurance cover for the plumbing installation.
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12. MAINTENANCE OF THE INSTALLATION DURING THE PERFORMANCE GUARANTEE PERIOD

The contractor shall furnish, free of charge, all maintenance on the entire equipment supplied by him for the guarantee period. Maintenance shall include systematic examination and adjustment of all this equipment at least every 3 months. The contractor shall, in the course of such maintenance or on call during the maintenance period, repair or replace defective parts as required and shall use only genuine standard parts produced by the manufacturer of the original part. Renewals or repairs resulting from misuse of drains, Hot & Cold system & wear and tear, however, shall not be made at the expense of the contractor where certified as such by the Engineer. Specified spares (Attic stock) shall not be used during this period. If any spares are used due to operational necessity and with the Engineer's permission, such spares shall be replaced by the contractor.
The maintenance period shall only begin with completion of the Main Contract or parts thereof agreed by all parties and when the Engineer has certified the contract works as completed, unless otherwise specified

13. COMPLETION OF CONTRACT WORKS

Completion of the contract works will only occur after the following procedure has been certified by the Engineer as having been carried out in accordance with the specification.
a) Physical completion of all systems has been reported to the principal contractor by the contractor, and all defects made good. The principal contractor to satisfy himself that all work has been completed satisfactorily before reporting to the Engineer.
b) Acceptance tests have successfully taken place as specified and test results have been witnessed (where required), recorded and approved by the Commissioning Agent & Engineer.
c) "As-built" drawings, commissioning reports and maintenance and operation manuals have been submitted to and approved by the Engineer.
d) The employer's nominated operator(s) has received instruction in the operation of the contract works by the contractor.
e) The installation, or part of the installation, shall only be deemed handed over when completed, tested and fully commissioned and then signed off by the Engineer

14. WORKMANSHIP AND INSTALLATION

14.1 Piping General

Materials and workmanship shall be the best of their respective kinds. Only new and undamaged materials shall be used in the Works. Materials to be permanently installed into the works shall not be used for any temporary purposes on site. Work shall be to the approval of the Engineer and shall be executed in accordance with the relevant manufacturer's written recommendations and instructions.
Drawings are generally diagrammatic and indicative of work to be installed. Run and arrangements of piping shall be approximately as indicated, subject to modifications as required to suit conditions at building, to avoid interference with work of other trades, or for proper, convenience and accessible location of all parts of piping systems. Due to
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small scale of drawings, all required offsets, fittings, valves, traps, drains, etc., may not be indicated. Refer to and carefully check Architectural, Structural, Electrical, Wet Services and Mechanical drawings and details, noting locations where walls, partitions, ceilings, beams, columns and other surfaces are furred, location of beam cuts, location of pipe shafts and conflicts with work of other trades and arrange work accordingly, providing

all offsets, fittings, valves, traps, drains, etc., required to meet such conditions.
Run piping in wall chases, recesses, pipe shafts and hung ceilings where same are provided. All pipe work in walls shall be protected as per SANS 10252-1. No piping shall run in floor fill unless indicated or specifically approved. Exterior utilities are diagrammatic and exact location and invert elevations shall be as indicated or required to meet existing conditions. Installing piping under buildings is to be avoided or were instructed as high as possible and in a sheath. Do not permanently close up, fur in or cover piping before examination and test.
Run piping as level, straight and direct as possible, in general forming right angles with or parallel to walls or other piping and neatly spaced with risers erected plumb and true. Install piping so that there is clearance of at least 25mm between finished coverings (fitting hubs on uncovered piping) of piping and also between finished coverings or fitting hubs and adjoining work. Hang piping at or in ceiling from construction above, as close as possible to bottom of slabs, beams, etc., maintaining maximum headroom at all times. Obtain from Engineer approved ceiling heights and install work above this height.
No piping shall be run in elevator machine rooms (except where special ducts are provided), telephone rooms containing telephone equipment, relays and terminal strips, and electric rooms and closets containing exclusively equipment such as transformers, switchgear, motor control centres, panel boards, or similar items of equipment, and in emergency generator room. Elsewhere, no piping shall be run within 1,75m laterally of such electrical apparatus as motor control panels, switchboards and electric motors, except for branch piping connecting to equipment.
All pipes are to be carefully examined for defects and flaws before installation and to be neatly fitted. They shall be run in such manner as to prevent the formation of air-locks. Automatic air vents shall be installed on all high points of the installation.
The ends of all pipes are to be cleaned, free from burrs, and rough edges, and joined together tightly. An approved pipe joint 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.
Exposed Chrome Plated (CP) piping about fixtures and equipment shall not show tool marks or more than one thread at fittings. Fittings, valves and hangers on CP piping shall have CP finish.
Use reducing fittings for changes in pipe sizes. Use no bushings except with special permission.
Provide unions or flanges in connections to risers, by-passes and equipment.
All vertical pipes must be securely fixed with brackets and supports of an approved type securely fixed into the wall, not more than 40mm from the wall. These fixings must be strictly adhered to. The holder bats for both drainage & H & C water shall be rubber lined to keep building noise to a minimum.
Pipes installed in service ducts and ceiling voids are to be perfectly plumbed and to be secured by approved brackets securely fixed at distances not exceeding the specified distances and to be not more than 40mm away from the face of the walls or soffits. Pipes inside buildings and where specified shall be chased into walls, wrapped with approved
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materials and properly secured and covered. Pipes must be free to move in the brackets. Hot water pipes shall be lagged to an R 1 rating. Chasing then shall be covered with a mesh to bond the rendering or plaster work.
During construction all pipe ends shall be kept plugged to prevent any ingress of dirt, rubble etc.

14.2 **Expansion Swings**

Make adequate provision for proper expansion and contraction of piping and for piping passing through building expansion joints. At connections of branches to water mains and risers and at connections to heaters, tanks, pumps, coolers and other equipment, provide sufficient number of elbow swings to allow for proper expansion and contraction of piping. Provide adequate elbow swings, or expansion loops, or approved type expansion joints,

wherever indicated or required to allow for proper expansion and contraction of mains and risers.
The pipe expansion of the plastic pipes is to be compensated and allowed for in accordance with the manufacturer's specifications.
Where flanged "Bellows" type expansion compensators are specified they are to be installed as detailed and in accordance with the manufacturer's recommendations.
Should these compensators be specified for installation in wood truss roof structures the Contractor is to report to the engineer, who will provide details of the location and installation requirements.

14.3 **Sleeves**

Provide sleeves large enough to accommodate pipe and its covering passing entirely through floors, ceiling, walls, or partitions. Install fire collars through firewalls or slabs in accordance with engineer's requirements.
Provide cast iron or steel pipe sleeves for pipes passing through exterior walls, footings or beams or through floors (interior) or machinery rooms containing Plumbing, Heating, Ventilation, or Air Conditioning equipment, and here extending 50mm above finished floor.
Provide sleeves through exterior walls below grade and floors specified above with one continuous sheath, no joints. At exterior walls, make pipe watertight on both sides of the wall.
Except as otherwise noted, provide PPR or HDPE class 6 sleeves for all pipes passing through roof slabs, interior floors, ceilings, walls or partitions, unless framed opening is provided in general construction.

14.4 **Escutcheons**

Unless otherwise noted, provide exposed pipes, both bare and covered with approved type CP escutcheons where they pass through walls, partitions, floors, or ceilings; held in place by set screws or on covered pipes by internal spring tension. In toilet rooms, at tile walls and in connections with chromium plated piping, escutcheons shall have chromium plated finish.
Where sleeves, hubs or fittings project slightly from wall, partition, floor or ceiling, provide special deep type escutcheons to cover each case.

14.5 **Offsets**

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 installed

directly through the cornice will not be allowed. In multi-storey buildings where wall thicknesses vary, the same shall apply.

15. MATERIALS

15.1 **General**

All materials, etc. specified herein under a trade name or generic description, catalogue number or reference shall be either exactly as described or, in the opinion of the Engineer, of equal quality, specification and mass in all respects to those described.
Written approval shall be obtained for the use of any alternative to the specification before the submission of tenders; otherwise it will be assumed that the specified materials, etc. have been allowed for in the tender.
Materials shall be new, unused, best of their respective kinds and free from defects.
All materials shall comply with the relevant SABS standard or regulation as laid down in the NBR and National Compulsory Water Services Act: 1997.
For Chromium Plating, materials shall be cleaned and polished before plating and plated heavily, thoroughly and evenly and guaranteed not to strip or peel. Steel or cast iron shall be firstly copper plated. Brass, copper and copper plating shall be nickel plated before chromium plating. Finish shall be polished or satin as further specified.

15.2 **Copper Pipe Installations**

The installation of copper piping systems shall be done in accordance with the manufacturer's Code of Practice and all relevant codes, standards and regulations.
Copper pipes shall only be installed downstream of galvanised mild steel pipes when

applicable.
Where dissimilar metals are joined, di-electric or isolating couplings shall be used. This is not required where copper and brass de-zincified alloys join.
Copper pipes shall be of the hard drawn type Class as per the local bye-laws according to SANS 460 and shall be joined by means of capillary soldered type fittings.
Compression fittings should not be used unless specifically authorised by the engineer and only on Class 2 or 3 piping.
The soldering flux to be used shall be water based and easily flushed out, withstand temperatures above 240ºC and shall contain no ammonia. The flux shall be non-toxic when dissolved in water.
The solder to be used shall be in accordance with SABS and shall consist of a material containing 97% tin and 3% copper. Solders containing lead, resin core and acid core shall not be used.
The heat source to be used shall be propane gas with induction air, at a temperature not higher than 240ºC. The pipe ends and fittings shall be cleaned and wiped 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.
All bronze or brass equipment and fittings shall be of the de-zincified type.
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Pipes chased or built into walls or floor shall be wrapped with 2 layers of building paper or similar approved material. Hot and cold water pipes running next to each other shall have a minimum clearance of 50mm.
Equipment fixed to copper pipe outlets, where the pipes are mounted surface or built into walls, shall be done by means of copper wall plate fittings on the copper pipe, properly secured to the structure to prevent structural damage to soldered joints.
15.2 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.

PIPE DIAMETER (mm)	**HORIZONTAL (metre)**	**VERTICAL (metre)**
15	1.3	1.9
22 & 28	1.9	2.5
35 & 42	2.5	2.8
54	2.5	3.9
67 - 108	2.8	3.0

All copper pipes open to structural damage shall be protected by steel sleeves or a structurally designed cover.
Where flanged fittings are used cadmium plated bolts, nuts and spring washers shall be used to join these flanges.
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.
Shut-off valves shall be installed on all branch pipes, connections to equipment, sanitary ware and other fittings as indicated by the engineer.
All pipes shall be marked in accordance with SABS 0140 or as specified by the engineer.
15.3 **Galvanised Steel Pipe Installations**
All galvanised steel pipes shall, unless otherwise specified, be medium gauge mild steel screwed and socketed pipes to SANS 62 and shall be normalised and marked as such by the manufacturer. Pipes shall be hot dipped galvanised to SABS 763.
All fittings shall be malleable cast iron fittings to SABS 509 and galvanised to SABS 763.
All 100 diameter and larger pipes shall be joined with Class 16 flanged couplings to SABS

1123/1600. The bolts, nuts and washers to be used on these joints shall be cadmium plated.
In pipe ducts and elsewhere pipes shall be fixed onto walls, soffits etc. with approved type of supports, holder bats, 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.
Pipes shall be supported according to the manufacturer's specifications at the following maximum intervals:

NORMAL SIZE (mm)	**HORIZONTAL (metre)**	**VERTICAL (metre)**

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15Ø to 20Ø	1.2 m	1.8 m
32Ø to 40Ø	1.8 m	2.5 m
50Ø to 150Ø	2.5 m	3.0 m

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15.3 **Galvanised Steel Pipe Installations** continued
Pipes shall be installed in such a manner as to prevent airlocks. A minimum rise of 1:250 shall be maintained to high points which shall be fitted with suitable air release valves.
All pipes shall be marked according to SABS 0140 or as specified by the Engineer. All exposed pipes shall be painted to the required colour as specified by the architect.
Make joints in screwed piping with hemp and "Stag" jointing compound approved by the engineer and sparingly used with good quality hemp. For pipes larger than 80mmØ a jointing compound such as Eperdermix 32 shall be used. Hemp and jointing compound shall be used sparingly and applied to the male thread only.
Any pipe buried shall have at least 900mm cover and be coated and wrapped to SABS 1117 and tested in the presence of the engineer.
All pipework and fittings shall be pressure tested and sterilised to the engineer's specifications.
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, as indicated by the engineer.
Approved type expansion bellows shall be installed where required for expansion and contraction to prevent excessive stain on fittings and pipe joints.
15.4 **Polypropylene Random Copolymer Pipe Installations type Coprax or approved equal.**
Unless otherwise specified all pipework shall be in accordance with SANS 15874 Parts 1, 2, 3, and 5 of 2004. "**Plastics piping systems for hot and cold water installations – Polypropylene (PP)** as well as being Jaswic registered.
All Bends, Tees, unions, reducers, and other fittings are to be of the welded type, with mechanical joints to other materials only.
All welded joints shall be conducted in accordance with the specifications and directions of the pipe manufacturer. All welded joints shall be inspected and approved by the manufacturer's representative in conjunction with the Engineer.
The Engineer reserves the right to have 10% of all welded joints chosen at random, to be cut out, inspected and tested. Should any of the welded joints be unsatisfactory or fail the test, the Engineer may require further joints to be cut out at random for further inspections and tests.
Should further failures occur or be found, the complete installation will be stopped and all the welded joints shall be replaced to the satisfaction of the Engineer.
Any damages incurred due to the above, will be for the account of the plumbing contractor.
All wall plate elbows shall be of the solid brass type usually used for Copper pipe

installations. All wall plate elbow installations will be inspected and approved by the manufacturer in conjunction with the Engineer.

Pipe hangers and supports.

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The pipe hangers and supports shall be installed in accordance with the manufacturer's specifications, requirements and approval.

Pipe movement, expansion and contraction must be taken into consideration. Careful calculations in this regard must be done in conjunction with the manufacturer and in accordance with the manufacturer's specifications and approval.

The complete pipe installation shall be marked in accordance with SABS 0140 or as specified by the Engineer.

15.5 **uPVC Underground Pipe Installations**

Unless otherwise specified all underground pipe work >50mmØ shall be Class 12 uPVC to SABS 966 with rubber ring type joints.

All bends shall be uPVC Class 12 type fittings with rubber ring joints.

All other fittings such as T-pieces, reducers, flanges etc shall be bitumen dipped cast iron rubber ring jointed fittings to SABS 546.

No solvent weld type fittings will be allowed.

All cast iron fittings shall be coated and wrapped to SABS 1117.

All pipes shall be laid on a 100mm sand bedding cradle and covered with 300mm and before backfilling.

All backfilling shall be to the engineer's specification and approval.

Pipe trenching and bedding:

AREA	**MINIMUM COVER**	**BEDDING TYPE**	**MAIN FILL**
Vehicle Traffic	1100	Flexible pipe bedding as per SABS 1200 LB	Soilcrete
Under surface bed	600	Soilcrete	
Other areas	900	90% MOD AASHTO	

All thrust blocks shall be cast between the pipe and the undisturbed trench material.

No concrete shall come into direct contact with the uPVC pipe. At the thrust blocks the end shall be wrapped with a "Densopol 80 HT Tape" or similar approved.

All pipes shall be laid with at least 900mm cover to the top of the pipe.

Marker blocks shall be installed at all tees or changes of directions.

HDPE pipe connections to uPVC pipes up to 50mmØ can be done by means of SG Iron manufactured saddles with the appropriate gaskets and cadmium plated bolts and nuts.

All pipe crossings under traffic areas shall be backfilled with soilcrete and compacted as specified.

All pipe work shall be pressure tested with all joints uncovered, to the satisfaction of the Engineer.

Suitably sized air release valve built into valve chambers shall be installed at all high points of the pipe line.

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15.6 **HDPe Pipe Installations**

15.6.1 **Underground Pressure Pipework**

Unless otherwise specified all underground pipe work <50mmØ shall be Class 16 Type 4 HDPe pipe to SANS 4427.

All fittings shall be of "Plasson" compression type, conforming to ISO/DIS 3458. Or butt welded as per SANS 10269.

All pipes shall be laid on a 100mm sand bedding cradle and covered with 300mm of sand or selected material.

All backfilling shall be to the engineer's specification and approval.

Pipe trenching and bedding:

AREA	MINIMUM COVER	BEDDING TYPE	MAIN FILL
Vehicle Traffic	1100	Flexible pipe bedding as per SANS 2001	Soilcrete
Under surface bed	600	Soilcrete	
Other areas	900	90% MOD AASHTO	

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.
Marker blocks shall be installed at all tees or changes of directions.
All pipe crossings under traffic areas shall be backfilled with soilcrete and compacted as specified.
All pipework shall be pressure tested with all joints uncovered to the satisfaction of the engineer.
Suitably sized air release valves built into valve chambers shall be installed at all high points of the pipe line.

15.6.2 **Drainage Pipe work**

HDPe drainage pipe work shall be SANS 8770 & 8772 or equal system utilising standard drainage fittings.
The following jointing methods are acceptable for the pipe system depending on application:
Butt welding for general pipe joints
Electro-weld sleeve coupling in areas of limited access
Ring seal socket for individual prefabricated sections
Expansion socket where movement is necessary
Screw threaded joint for detachable connections
Flange connections for connection to equipment
Joints shall be made with a smooth interior to ensure there is no restriction flow inside the pipes.
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15.7 **Supercast Cast Iron Pipe and Fittings**

Supercast iron pipes can be used for underground and above ground installations. Plain ended spun cast iron pipes and fittings manufactured from 150 Grade A grey iron in accordance with SABS 1034 shall be used. Fittings and pipes to be free of pinholes, blemishers, flash and foundry sand and to have a smooth bore. All pipes and fittings to be sandblasted and coated on the inside and outside by submersion in a corrosion inhibited 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 be tightened with a torque wrench to a torque of 6.8 Nm.
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 fittings. 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.

15.8 **uPVC Soil and Waste Pipes and Fittings**

Where specified 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 SANS 791 for underground systems and to SANS 967 for above ground system.
All underground and soil pipe above ground pipes and fittings shall be joined by means of rubber ring seal couplings and fittings in accordance with the manufacturer's specification.
All waste and vent pipe and fittings 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.

15.9 **Structural Wall uPVC Pipes and Fittings**

Where specified a structural wall uPVC drainage pipe can be used for underground drainage systems. This piping system shall be used with standard underground uPVC pipe fittings as specified under item 3,4, equipped with rubber ring joints. The pipe shall be equipped with z-lock type rubber ring joints.

15.10 All pipe work systems specified shall comply with the relevant SABS standard.

16. VALVES FOR DOMESTIC WATER INSTALLATIONS

16.1 **Gate Valves Underground in Valve Chambers to connect to uPVC Piping (65 NB and larger)**

Gate valves 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 1400 LG2.

The valve shall conform to SABS 664 and/or 665, and shall be capable of withstanding a working pressure of 1600 kPa.

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The valve shall be fitted with a square key spindle top to close the valve in a clockwise direction and socket ends to SABS 665 to fit uPVC Class 12 pipe and installed to detail.

16.2 **Gate Valves Underground in Valve Chamber to connect to HDPE Piping**

The gate valves shall be of the de-zincified brass type with brass gate, brass body, nonrising spindle and BSO threaded socket ends. The valve shall conform to SABS 776/1965

Class 125. The valve shall be able to withstand a working pressure of 1600 kPa. The valve shall be fitted with a hand wheel on an extended spindle shaft of +/- 700mm to close in a clockwise direction and installed to detail.

16.3 **Gate Valves Above Ground for Temperature up to 40ºC to connect to Steel Piping (65 NB and larger)**

Gate valves to be equipped with non-rising spindle, spherical graphite iron body to ABS 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 1400 LG2.

The valve shall conform to SABS 664 and/or 665, and shall be capable of withstanding a working pressure of 1600 kPa.

The valves shall be fitted with flanged ends to SABS 1123/1600 (1977), hand wheel to close the valve in a clockwise direction and installed in an upright position or sideways to a maximum 90º from upright.

16.4 **Gate Valves Above Ground for Temperatures above 40ºC to Connect to Steel Piping (65 NB and larger)**

Gate valve 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 1400 LG2.

The valve shall conform to SABS 665 and shall be capable of withstanding a working pressure of 1600kPa and a temperature of 90º.

The valve shall be fitted with flanged ends to SABS 1123/1600 (1977), hand wheel to close the valve in a clockwise direction and installed in an upright position or sideways to a maximum 90º from upright.

16.5 **Gate Valves Above Ground to fit to Copper Pipes (65 NB and larger)**

Gate valves shall be equipped with non-rising spindle, gunmetal bronze or de-zincified brass body, gunmetal or de-zincified brass gate, 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 90º from upright.

16.6 **Gate Valves Above Ground to fit to Copper Pipes (65 NB and larger) continued**

The valve shall be equipped with flanges to SANS 1123/1600, hand wheel to close the valve in a clockwise direction and installed in an upright position or sideways to a maximum 90º from upright.

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16.7 **Gate Valves Above Ground for Temperatures up to 100ºC (up to 50 NB)**

The gate valves shall be of the de-zincified brass type with brass gate, brass body, nonrising spindle and BSP threaded socket ends. The valve shall conform to SANS 776 Class 125.

The valve shall be able to withstand a working pressure of 1600 kPa.

The valve shall be equipped with a hand wheel to close in a clockwise direction.

The valve shall be installed in an upright position or sideways to a maximum of 90º from upright and shall be so placed with other fittings to be removable without cutting the pipe work.

16.8 **Ball-O-Stop Valves** (**15mmØ – 25mmØ)**

Ball-o-stop valve shall be a full-way ball cock type with BSP threaded ends. These valves shall conform to SANS 1056 Part 3 and shall be rated for a test pressure of 900 kPa.

Valve shall be chrome finished when exposed.

16.9 **Angle Regulating Valves**

Angle regulating valve shall be a 15mmØ chromium plated angle regulating valve with a 350mm chromium plated copper tube and cap nuts where required or SABS approved braided connector as specified by the Engineer.

16.10 **Valve Tag and Charts**

Provide on all valves and controls, identifying numbered metal tags, including letter to indicate system, fastened by heavy brass hooks or chain.

Tags: Not less than 50mm square, 1.25mm thick, aluminium with stamped numbers and letters filled in with black paint.

Provide separate diagrammatic charts showing essential features of each system with all valves and control lettered and numbered to correspond to designation on metal tags.

Also furnish list of all valves and controls giving location and function.

Charts and lists: Type, size and character as approved. Mount in glazed metal frames permanently fastened in locations as approved by the consulting engineer.

16.11 All valves installed in any material type pipe system shall be compatible in the terms of chemical transfer of electrons.

17. STRAINERS

17.1 **Strainers for Connection to Steel or uPVC Pipes (65 NB and larger)**

This strainer 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 1123/1600 (1977). The orifice sizes of the strainer element shall be maximum 1mmØ and be removable without dismantling of pipe work. The strainer shall be suitable for a temperature of up to 90ºC at a 1000 kPa pressure rating and installed with the element facing downwards or a maximum of 45º sideways.

17.2 **Strainers for connection to Copper Pipes (65 NB and larger)**

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This strainer shall be of the Y-type with bronze or dezincified brass body, stainless steel element and must be equipped with flanged ends to SABS 1123/1600 (1977). The hole sizes of the strainer element shall be maximum 1mm in diameter. The strainer element shall be removable without dismantling of pipe work. The strainer shall be suitable for a temperature of up to 90ºC at a 1000 kPa pressure rating and installed with the element facing downwards or a maximum of 45º sideways.

17.3 **Strainers for Connection to Steel and Copper Pipes (up to 50 NB)**

The 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 0.8mm in diameter. The strainer shall be suitable for a temperature of up to 90ºC at a 1000 kPa pressure rating and installed with the element facing downwards or a maximum of 45º sideways.

18. NON-RETURN VALVES

18.1 **Non-Return Valves for Cold Water (65 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 1000 kPa.

18.2 **Non-Return Valves for Hot Water (up to 100Ø) and Cold Water (up to 50 NB)**

The non-return valve 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 1000 kPa and a temperature of up to 90ºC. All valves shall be installed so as to be removable without extensive pipe work removal.

19 AIR RELEASE VALVES AND VACUUM BREAKERS

19.1 **Double Orifice Double Acting Air Release Valves with Sizes from 50 NB to 200 NB**

The 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 fibre glass balls, integral shut off valve and flanged ends to SANS 1123/1600/ 198.
The valve shall be suitable for maximum pressure of 1.5 times working pressure &.

19.2 **Single Orifice Air Release Valves for Main Water Lines with Sizes from 25 NB to 50 NB**

The 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 900kPa.

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19.3 **Single Orifice Double Purpose Air Release Valves for Domestic Water Lines up to 15 NB**

The air release valves 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 600kPa at 110ºC.

19.4 **Vacuum Breaker up to 40mmØ**

The vacuum breaker shall be fitted with neoprene seal, spring loaded disc in a dezincified brass, bronze body or polymer that meets the requirements of SANS 198. The valve shall seal water tight and shall be designed to SANS 198.

20. PRESSURE REDUCING VALVES

20.1 Combination Pressure Reducing Stations

Where a high peak flow can occur as well as a small flow and the small flow is out of the range of the large pressure reducing valve, a small PRV shall be installed in parallel with the large PRV. The two PRVs in parallel shall be set according to the manufacturer's specification.

20.2 **Large Pressure Reducing Valves (65 NB and larger)**

The 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 pressure at a constant downstream pressure.
The valve shall be equipped with flanged ends to SANS 1123/1600.

20.3 **Small Pressure Reducing Valves (15 NB – 50 NB)**

The 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 pressure while the downstream pressure stays constant with maximum inlet pressure of 600kPa and a maximum water temperature of 40ºC.
The valve shall be equipped with BSP male threaded union couplings.

20.4 **All PRVs shall comply with SANS 198.**

21. WATER METERS

21.1 **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 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 changeover valves. These valves shall be designed to have a minimum pressure drop at operating point.

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21.2 **Water Meters (50 NB and larger)**

These water meters shall be of the dry tube 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 must be protected from magnetic fields and must be sealed to prevent tampering with adjustments. The meter must be able to work up a pressure of 1600 kPa under a maximum water temperature of 40ºC. The scale of meter must be in a m^3 and equipped with needle indicators reading in litres. Accuracy of meter to be not less than 98%.

The meters shall be installed with leading and trailing lengths of pipes to the manufacturer's specification.

21.3 **Water Meters (up to 50 NB)**

The meter shall be of the volumetric rotary piston type with brass body equipped with union couplers. The meter shall have an accuracy of not less than 09%. The meter must be able to operate up to a water pressure of 1000 kPa at a water temperature of 40ºC.

The meters shall be installed with leading and trailing lengths of pipes to the manufacturer's specifications.

21.4 All water meters shall be of a pulse type & supplied with read switches.

22. ADJUSTABLE BALANCING VALVES

22.1 Adjustable balancing valves shall be supplied and installed as indicated on the appropriate drawings. A portable differential pressure metre 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.

22.2 The pressure gauge shall be calibrated according to the current accepted SI units.

22.3 On completion of the project the chart shall be handed to the maintenance manager.

22.4 The calibrated adjustable balancing valve 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 to. 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 90ºC against a pressure of 1000 kPa.

23. DRAINAGE SYSTEMS

23.1 **General Requirements**

The complete sanitary drainage systems, including connections to main outfall sewer and drainage connections to plumbing fixtures, kitchen and other equipment requiring same shall be installed in accordance with requirements of the Authorities having jurisdiction and the National Building Regulations and Building Standards Act of 2010 as amended. The Subcontractor shall arrange with the local authorities for all inspections and tests.

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Before any part of a drainage system is permanently covered or otherwise rendered inaccessible it shall be inspected and approved by the local Authority and the Engineer. All equipment, materials and labour necessary for inspection and testing as required shall be made available by the contractor.

All plumbing and drainage work shall be carried out under the direct supervision of a registered plumber and drain layer in terms of the requirements of the local authority and

Act. A copy of the registration certificate of all persons carrying out or supervising such work shall be kept on site for inspection at all times. The contractor shall in addition be registered by the local authority.

23.2 **Drains**

All drains shall be laid in a straight line between points where changes of direction or gradient occur.

Where drains pass under any wall other than a free-standing wall such drain shall be cast iron pipe and shall be completely encased in concrete not less than 100mm thick measured at the hub.

Where any drain passes under a building or where indicated, the pipe shall be cast iron or HDPE and shall be encased in concrete, along its entire length, not less than 100mm thick measured at the hub. The drain shall be so arranged that it complies with SANS 10400-P or the Engineer's design to all junctions, bends and access eyes are readily accessible. This subject to a rational design.

Access to drains shall be in accordance with the requirements of the local authorities and Act.

Horizontal drainage piping shall be installed at a gradient not less than that indicated, unless approved by the Engineer.

All exposed drainage pipe and pipework within the building shall be in compliance with SANS 10252-2 & regulation SANS 10400-P.

Underground piping external to the building shall, unless otherwise specified or indicated, be of a material that is SABS approved or equivalent.

Vent pipes shall be of the same.

Connections to fixtures shall be provided with approved type reseal traps and shall be installed to be readily accessible. De-mountable traps are required for access to the waste pipe.

All pipe laying is to be carried out in accordance with the procedure described in SANS 2001.

Laying is to commence at the points of junction with existing drains or at points of discharge.

Before each pipe is laid, it shall be examined to ensure that the bore is clean and any foreign material removed. Plug open ends and junctions, whenever work is suspended, to prevent the entrance of rubbish during construction.

Gulley traps are to be of the relevant material SABS standard; the whole set on and encased in cement concrete 1:3:6 carried up 150mm high as kerb, finished on exposed places with 20mm granolithic with angles rounded including excavation and casing.

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Cleaning eye covers shall be cast iron A.B.C. covers and frames in high traffic areas & of the material of the general drain in light traffic areas, jointed to top of drain with Gaskin and T.O.K. strip grooved for and including stopper with raised letters "C.E", cast on same, bedding in tallow and screwed to frame with gunmetal set screws. The frame shall be encased in cement concrete 1:3:6 finished on top with untitled granolithic including excavation and casing.

Manholes, unless otherwise described, shall be constructed of precast reinforced concrete rings, with cast iron frames and covers, in accordance with the Drawings. The invert channels shall be smooth and semi-circular in shape conforming to the inside of the adjacent sewer section. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. Changes in size and grade of the channels shall be made gradually and evenly. The invert channels shall be formed directly in the concrete of the manhole base, or shall be built up with mortar, or shall be half tile laid in concrete, or shall be constructed by laying full section sewer pipe through the manhole and breaking out the top half after the surrounding concrete has hardened. The floor of the manhole outside the channels shall be smooth and shall slope toward the channels not less than one inch per foot (1:12) nor more than (1:6). Free drop inside the manholes shall not exceed 450mm measured from the invert of the inlet pipe to the top of

the floor of the manhole outside the channels, and drop manholes shall be constructed whenever the free drop would otherwise be greater than 450mm.
All manholes to be with step rails fixed in the factory.
Where ground waters are suspected, a special concrete foundation & wall must be built against the buoyancy forces. The calculation will be issued by the Engineer.

23.3 **Vents**

The drainage system shall, unless otherwise specified, be of the one pipe system and all necessary vents and anti-syphonage pipe shall be provided in accordance with the system requirements and in accordance with the relevant regulation & bye laws.
Vents extending above the roof level shall be located at least 1m away from any window, door or air intake opening, and shall be properly flashed.
Vent piping shall be run with long radius bends at changes in direction and shall be graded back towards the drain at 1:60 where possible.
When back to back W.C. arrangement is used, a 45° bend into the branch pipe or soil stack shall be deployed.

23.4 **Stainless Steel Floor Traps and Floor Channels**

23.4.1 **Stainless Steel Floor Traps**

Stainless steel floor traps shall be installed where indicated on drawings for kitchen, abattoirs, ablutions & dining halls etc. The floor traps shall have minimum flow capacity of 2 fixture units or in an ablution area the accumulative fixture unit of the ablution. This can be achieved with several floor drains, if required.

23.4.2 **Cast Iron Floor Traps**

Cast iron floor traps shall be used where indicated on the drawings or specified. These units shall be manufactured out of cast iron as per detail supplied in the detail specification. The units shall be fitted with a water seal and a large sludge box and lid to be easily removable for maintenance purposes. The units shall be designed in such a
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manner as to provide access to the drainage system and to be used as a cleaning point. Flow rates apply as above.

23.5 **Soilcrete**

Soilcrete shall be used in trench backfilling where specified indicated and where sewer trench bottoms are below the 45º angle of building foundations.
The compaction of the soilcrete shall be as follows:
Soilcrete shall consist of an approved soil or gravel mixed in a concrete mixer with 5% of Portland demand (per volume) and only sufficient water to give a consistency that will permit the soilcrete to be placed. Concrete vibrators shall be used, so that all voids between the pipes and excavation sides and between culverts in the case of multi-barrel culverts are properly fitted. The height to which the soilcrete shall be filled, shall be determined by the engineer or be as shown on the drawings and any remaining backfill shall be carried out as described above using a granular material.
The aggregate must consist of approved soil or gravel containing stones not bigger than 38mm and with a plasticity index not exceeding 10. Detrimental percentages of silt or clay must be avoided and the aggregate shall be obtained from an approved source.

23.6 **Testing of the Drainage Installation**

The contractor is to carry out all the tests on the drainage installation as required by the Local Authorities and shall receive their approval before requesting final payment and hand over of the installation.
The Engineer shall be informed when the tests are to be carried out in order that he may witness and approve these.
All drains are to be tested after backfill & part of the commissioning by camera & documented for the Commissioning Agent & Engineer.

23.7 All drainage shall comply with SANS 10400-P & SANS 10252-2.

24. DOMESTIC WATER SUPPLY SYSTEM

24.1 **General**

Provide complete domestic hot and cold water supply systems, including connection to

supply authority, hot water heating equipment and required hot and cold water connection to plumbing fixtures, kitchen and other equipment requiring same all as indicated.
Run piping free of traps wherever possible, and grade and valve for complete control and drainage of system with drain cocks at low points and at base of risers.
Provide on main water branches to dishwashers, domestic washing machines and where noted, properly sized shock absorbers, if required.

24.2 **Prevention of Water Contamination**

Wherever possible, provide over-rim water supplies to plumbing fixtures and equipment. Provide necessary below-rim connections, water closet and urinal flush valves, hose bibs and hose connections with approved vacuum breakers and/or check valves as noted or required.

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Kitchen or other equipment supplied under other divisions of works and/or by owner, and having below-rim water supply connections, which may arrive on the project, the Subcontractor shall inform the Engineer & provide missing vacuum breakers and/or check valves, or re-locate same to regulation or compulsory standard approved positions.

24.3 **Pipe and Fittings**

Unless otherwise noted the pipe work shall comply with SANS 10252-1. Connection to valves and fittings shall be by means of BSP adaptors male or female as required.
Exposed piping at plumbing fixtures shall be CP copper pipe with CP threaded cast brass fittings.
Make connections to equipment with flanges or unions and with threaded adaptors used for swing connections. Terminate noted plugged or capped connections in threaded plug or threaded nipple and cap as required, unless otherwise noted.
Provide insulating bushings, couplings, unions, or flanges where one material type piping connects to another type piping at the beginning to the location of equipment connection.
When copper pipe is built into walls, floors, etc. and when laid underground, the piping shall be wrapped for its entire built-in length with Denso tape or equal approved protective covering. Hot water pipes shall be R 1 rated lagged.
The use of masking tape on the cold water pipes is to be used. Polymer pies do not require this.

24.4 **Insulation**

The Subcontractor shall provide insulation as specified herein on all hot water pipes and hot water heaters as per SANS 10252-1 & SANS 10400 XA.
The Contractor shall provide a suitable storage area for all insulation on site prior to fitment. He will be liable for replacement of same due to damage, as determined by the Engineer, at his own expense.
Where pipes are installed in service ducts, ceiling voids and where specified shall be insulated with R 1 rated pre-formed pipe insulation sections. This insulation shall be used with pipe systems where the maximum temperature is 80ºC, for temperature higher than 80ºC pre-formed fibreglass sections shall be used with galvanised sheet metal muffs.
All bends and T-pieces shall be cut in 45º metre box to form a neat joint. All joints shall be glued together with a contact adhesive as supplies by the manufacturer. Pipe sizes larger than 50mmØ shall be insulated with pre-formed fibreglass sections with canvas glued together with cold wood glue.
Where applicable the use of Duct tape shall be used to seal jointing of the insulation.
All hot water pipes in service tunnels, service corridors and where exposed to damaged and/or weather shall be insulated with pre-formed fibreglass sections covered with galvanised sheet metal or Aluminium muffs in a water tight manner. Sheet metal muffs shall be installed with the joints overlapping at least 50mm and the longitudinal overlap pointing downwards to prevent ingress of water. The sheet metal muff shall be strapped with 10mm galvanised straps by means of a strapping tool with a minimum of 2 straps/section. All pipe bends, T-pieces etc. shall be insulated with at least 25Ø fibreglass rope covered with a 12mm thick layer of self-setting fibre cement. A reinforcing gauze

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shall be wrapped over the fibre cement while wet and then painted with a mastic paint when dry.

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Fibreglass Section Thickness Table

Pipe Size (Steel)	Pipe Size (Copper)	Isover Thickness
100mmØ	108mmØ	65mmØ
80mmØ	76mmØ	55mmØ
65mmØ	67mmØ	55mmØ
50mmØ	54mmØ	55mmØ
40mmØ	42mmØ	55mmØ
32mmØ	35mmØ	40mmØ
25mmØ	28mmØ	40mmØ
20mmØ	22mmØ	30mmØ
15mmØ	15mmØ	30mmØ

Protective coating equivalent to "Foster Sealfos Coating 30-36" or "Decadex Fire Check" shall be brush applied over the canvas. Coatings shall be applied in accordance with manufacturer's recommendations.
Exposed piping shall in addition be provided with 0,56mm thick galvanised sheet metal cladding over the insulation material. Bends shall be clad with Lobster Back bends also of 0,5mm thick galvanised sheet metal. Cladding shall be secured by stainless steel bands or non-ferrous pop rivets every 50mm.
Cladding shall be painted as previously specified for pipes with the relevant code for the fluid/gas being transported as per SANS 1040-3.

24.5 **Automatic Air Relief Valves**

Provide automatic air relief valves, Sarco or equal, at all high points in hot water piping circuits and where indicated. Air relief valve shall be 15mm, suitable for a working pressure of 900kPa, with non-shock water. Drain piping shall be taken to discharge at a deep seal trap or point ad indicated. A stop valve is to be fitted on the upstream side of all air relief valves.

24.6 **Hot Water Circulators**

Provide and install where specified hot water circulating pumps, in-line type, with close grained cast iron casing, and bronze, balanced impellers. Pumps shall be of the capacity and head as indicated, and have spring loaded mechanical seals, with rubber ring rotating against stationary carbon seat.

24.7 **Immersion Thermostats for starting Pumps**

Provide for the automatic control of hot water circulators, immersion type thermostats in the return water line. Thermostat shall operate an IT switch, which shall start and stop the pump.

24.8 **Pressure Gauges**

Provide a pressure gauge on each water service at meter location, on discharge headers, on house and hydro pneumatic tank pumps, on inlet and outlet of each master pressure reducing valve assembly, and where noted.
Pressure gauges shall be 80mm diameter with black enamel cast iron case, brass ring with heavy glass, phosphor bronze single spring Bourdon tube, and phosphor bronze bushed rotary precision movement and suitable dial range with at least 1% accuracy with brass tee handle cock. Pressure gauges shall be calibrated in KPa.
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24.9 **Thermometers**

Provide dial type thermometers in oversized tees and nipples on HW supply and return lines, and where noted.

Thermometers shall be 80mm diameter with CP brass case, threaded ring with heavy glass, vapour pressure or liquid actuated bronze single spring Bourdon connection with copper bulb.

24.10 **Tests**

Test piping and prove tight as specified and/or required by Authorities having jurisdiction; in presence of Engineer and said Authorities, who shall be given 48 hours' notice in advance before tests are made. Make preliminary tests and prove satisfactory before requesting witnessing of final tests. Make tests in stages if so ordered by the Engineer to facilitate work of others. Repair defects disclosed by tests or if required by Engineer, replace defective work.

Subcontractor shall be required to attend with the Engineer and give all assistance required and provide such tools, materials, implements and instruments as are necessary for tests. The Engineer reserves the right to call for such additional tests, such as dynamic tests, as he may consider necessary.

Subcontractor shall be responsible for work of other Trades disturbed or damaged by tests or repair and replacement of work and shall cause work so disturbed or damaged to be restored to its original condition at own expense.

The pipe installation shall be hydraulically pressure tested by means of a suitable manually operated or mechanically driven pressure pump.

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.

Tests should not be performed against closed valves, but not against equipment that is pressure &/or sensitive.

Leakage which occurs shall be measured and calculated and checked against the allowable losses.

If the completed section of pipe complies with all specifications and passes the tests and inspection, it could be approved and the contractor may be instructed to backfill the open sections of trench at the joints and connections, where applicable.

The contractor shall then proceed to build all the valve chambers, inspection chambers etc.

24.11 **Sterilising of Water Pipes**

Before any pipeline is taken into use, it shall be sterilised over its complete length and 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 chlorine shock is created or air is trapped in the pipeline.

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At least 14 days prior to the commencement of sterilising the contractor shall submit the full details of the proposed method of sterilising the pipeline to the engineer for his approval.

The contractor shall provide all necessary materials, tools, equipment and labour necessary to sterilise the pipeline. After sterilising the pipeline the sub-contractor shall, at no extra cost to him/herself, empty the pipeline and dispose of the water in a manner approved by the Commission Agent, Green Consultant & the Engineer.

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

a) Chlorine of lime to SANS 295 yielding 33% free chlorine by mass.

b) Calcium hypochlorite to SANS 295 yielding 70% free chlorine by mass.

c) Chlorine gas applied by chlorinator.

After sterilisation, an approved water quality test to a minimum number of 10% of the total water points, randomly selected, evenly spread and marked on drawings, shall be carried out. These tests shall include a full bacteriological test as per SABS 241 and the results shall be handed to the engineer for approval. Each abortive test shall be for the contractor's account.

After pressure tests have been made, the unit to be disinfected shall be thoroughly flushed with water until all entrained dirt and mud have been removed before introducing the chlorinating material which shall provide a dosage of not less than 50 parts per million and shall be introduced into the water lines in an approved manner.
The treated water shall be retained in the pipe long enough to destroy all non-sporicforming bacteria. Except where a shorter period is approved, the retention time shall be at least 24 hours and shall produce not less than 10 parts per million of chlorine throughout the line at the end of the retention period.
All valves on the lines being disinfected shall be opened and closed several times during the contract period. The line shall then be flushed with clean water until the residual chlorine is reduced to less than 1.0 parts per million. From several points the contractor shall take samples of water in properly sterilised containers for bacterial examination. The disinfection shall be repeated until tests indicate the absence of pollution for at least 2 days. The unit will not be accepted until satisfactory bacteriological results have been obtained. The contractor shall arrange for a field laboratory, approved by the Consultant, to conduct all bacterial examinations required.
It is required to take a control sample of the incoming water at the same time as the other samples are taken. All disinfecting shall be as laid out in SANS 10252-1.

25. SANITARY FITTINGS

Install and connect up kitchen and toilet fittings as specified in the schedules, or provided under work of other divisions and/or owner, and provide required trim and "P" traps for same as specified.
Provide water supply fixtures with stop valves. Exposed pipe fittings, traps, escutcheons, valves, valve handles and accessories, both above and below fixtures, shall be CP brass (covering tubes not permitted).
Water supply and drainage nipples shall be brought to the wall and covered by CP escutcheons.

Supply fixtures shall be renewable seat composition washer, all metal indexed handles and integral on separate screw driven or lock shield stops. No manufacturer's name allowed on exposed portion of fixtures.
During course of construction, protect exposed fittings from damage and cover fixtures with wooden protection housings. Uncover and thoroughly clean fixtures and fittings when directed.
Fixture connections shall be at least as follows:-

Fixture	**Drain**	**Vent**	**CW**	**HW**
Water Closets Flush Valve	100mm	50mm	32mm	-
Urinals	50mm	40mm	25mm	-
Showers	40mm	40mm	15mm	15mm
Wash Hand Basins	32mm	32mm	15mm	15mm
Bath	40mm	40mm	20mm	20mm
Sink	40mm	40mm	15mm	15mm

Sanitary fittings shall be installed as follows:-

25.1 **Precast Concrete Wash Troughs**

Precast concrete wash troughs shall be bedded on top of pedestals which shall be bedded on floors in 1:3 cement mortar.

25.2 **Stainless Steel wash Troughs and Wash Hand Basins**

Stainless steel wash troughs and wash hand basins shall be fixed to walls on a pair of 20mm diameter galvanised mild steel pipe brackets with flanged ends cut and pinned 150mm deep into walls in 1:3 cement mortar.

25.3 **Acrylic Resinous Wash Hand Basins**

Acrylic resinous wash hand basins shall be fixed to walls on a pair of standard painted cast iron brackets screwed to underside of basin and bolted to wall with 6mm diameter

expanding bolts.

25.4 **Ceramic Wash Hand Basins**

Ceramic wash hand basins shall be fixed to walls on a pair of standard painted steel or cast iron brackets bolted to wall with 6mm diameter expanding bolts.

25.5 **Acrylic Resinous Baths**

Acrylic resinous baths shall be bedded in 1:5 cement mortar on three cross rows of bricks or bedded solid on a layer of dry river sand and fixed to wall with galvanised steel brackets under edges (in the middle of the sides against walls) bolted to wall with 6mm diameter expanding bolts and sealed along top against wall finishes with patent mildew resistant silicone rubber.

25.6 **Wash-down Closet Pans and Cisterns**

Wash-down closet pans shall be bedded on floors in 1:3 cement mortar. Cisterns shall be fixed to walls with 6mm diameter expanding bolts.

25.7 **Ceramic Urinals**

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Ceramic stall and slab urinals shall be bedded on floors and against wall in 1:3 cement mortar. Slabs, channels, treads etc. shall be jointed in 1:3 cement mortar and pointed in white cement.

Ceramic bowl urinals shall be fixed to walls on standard steel brackets bolted to wall with 6mm diameter expanding bolts. Cisterns shall be fixed to walls on standard brackets to wall with 6mm diameter expanding bolts.

25.8 **Stainless Steel Urinals**

Stainless steel urinals shall be bedded on floors in 1:3 cement mortar and with backs and sides against walls filled in with fine unreinforced concrete. Cisterns shall be fixed as cisterns for ceramic urinals.

26. WATER STORAGE CALORIFIER

26.1 **Calorifier**

The calorifier shall be installed as indicated and specified on the drawings and this specification.

All work is to be executed in a first class workmanlike manner and all equipment supplied shall be of new high quality material, design and manufacture, suitable for providing an efficient, reliable and trouble free service.

It will be the contractor's responsibility to select such equipment and to position it into a building space as provided. Where no specified make or quality of material is directed, a standard article as approved by the engineer shall be supplied.

The contractor shall ensure, before ordering of equipment, that the plant room dimensions and access to the plant room are to his satisfaction. Special care shall be taken not to damage equipment during positioning and installation. All faulty and damaged equipment shall be replaced by new before handover (or made good, only if approved by the engineer).

All materials to be used shall be compatible with the total installation.

The water temperature of the calorifier shall not be higher than 60ºC and shall be set at a temperature as indicated in the detail specification.

The piping to be used shall be as specified in the detail and standard specification for domestic hot and cold water installations.

The contractor shall ensure that the necessary equipment is installed to protect the geyser from over pressure and over temperature. The necessary test and approval certificates for the geysers shall be supplied to the engineer.

These calorifiers shall comply with ASME VIII DIV1 and SANS 347:2012. The units are to be hot dip galvanised to comply with SANS 1461, the interior top coated by means of Opti Glass Flake @250µ DFT and the externally top coated with Optithane 420 @ 66Î¼ DFT or Opti guard HBSF @ 200µ DFT and fired to 870ºC. The unit is to be insulated with a high density insulation material. The insulation is to be covered with a 0.5mm - 0.8mm fully bondirized steel plate with a baked enamel finish. The unit shall be equipped with plinth mounted base plates and stand legs for mounting purposes.

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Each calorifier shall be equipped with an immersion element as specified, incalloy elements are to be used for hard water.
The elements are to be controlled by means of a failsafe thermostat which shall be adjustable between 40ºC and 75ºC. The geyser is also to be equipped with the following:
- Temperature and pressure relief set at 600 kPa and 97ºC.
- ø20 mm in and outlet BSP thermal sockets.
- Magnesium sacrificial anode.

The unit shall be designed for a working pressure of 600 kPa. Each calorifier is to be furnished with a 5-year warranty.
Calorifier installed in ceiling voids and in areas where leaks can cause damage, shall be installed with a drip tray. The safety and expansion relief valves and drip tray shall be piped to the outside or nearest drain point.

26.2 **Under Basin and over Basin Water Storage Heaters**

These water storage heaters shall comply with all the relevant IEC standards and Government Notice 466 (Electrical Safety Standard for Appliances). This specification covers geysers up to 30 litre in storage.
The unit is to be rated for a maximum operating pressure of 600 kPa.
The unit is to be manufactured out of a lap welded steel cylinder by means of the MIG CO_2 process. The unit is to be internally coated with two coats of thermo fused porcelain with a magnesium sacrificial anode. Insulation material to be high density polyurethane foam. The outer casing shall be manufactured out of injection moulded ABS plastic finished in appliance white.
The unit shall be equipped with the following:
- 600 kPa safety valve
- Correctly sized expansion valve
- Direct immersion element
- Control thermostat adjustable between 40ºC and 75ºC with fusible link for over temperature cut
- 15mm dis BSP threaded female sockets for water in and outlets

All geysers shall be installed as per SANS 10254.

26.3 **Industrial Hot Water Generators**

Hot water generators shall be as per the specifications of the Engineer.

27. SANS 10400 XA

27.1 All hot water generation equipment shall comply with SANS XA-2 & have an alternative energy source of at least 50%.
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27.2 Solar installations shall comply with SANS 10106.
27.3 Heat pump installations shall comply with SANS 1352.
27.4 Any other alternative source, such as Heat Accumulators, etc. shall be installed to the Engineers specifications & manufacturers' shop drawings provided.

28. CONTROL PANEL AND ELECTRICAL WIRING INSTALLATION

28.1 **General**

The Subcontractor shall supply and install a complete 3 phase – 4 wire 400 Volt wall mounted control panel assembly to SABS 1180 which shall be complete with main isolator, circuit breakers, busbars, step controllers, temperature controllers, ammeters, current transformers, fuses, indicating lights, interlocking remote control wiring and interconnecting wiring as necessary. Spare fuses and indication lamps shall be provided as necessary.
The installation shall be installed in accordance with the latest edition of SABS 0142-1987, Code of Practice for the Wiring of Premises, as amended, as well as Local Municipal ByLaws and Regulations and Regulations of the Local Supply Authority.
The Subcontractor shall commission and test the entire installation in accordance with the requirements of the Local Authority, Supply Authority and the Engineer at his own

expense. All test equipment shall be provided by the Subcontractor at his expense.
Testing shall be carried out in the presence of the Engineer who shall be notified timeously of the dates of such tests in writing to allow them to be witnessed.
"As built" drawings of the switchboard shall be installed inside the panel and THREE sets shall be submitted to the Engineer on completion of the installation. The following information shall be indicated:-
a) A complete wiring diagram of the equipment indicating terminal numbers, numbers and colours of conductors connected to terminal strips and the numbers and colours of the conductors utilised for internal panel wiring.
b) All labelling information on a separate sheet.
c) The make, catalogue number and capacity of all equipment, including electrical equipment.

28.2 **Surface Mounted Switchboard**

Surface mounted switchboards shall be equipped with a 1,6mm^2 thick galvanised steel reinforced tray with gusseted corners. Securing lugs shall be provided for fixing the tray to walls or any other structure. A solid brass or cadmium plated steel earth connection stud and nut shall be provided.
All joints shall be welded. The tray shall be square and neatly finished without protrusions. The front tray sides shall be rounded with an edge of at least 20mm to accommodate flush doors. Removable panels shall be secured by means of "Camloc" or "Dzus" fasteners.
The switchboard shall be of ample size to accommodate all the necessary switchgear, control equipment etc. and shall be provided for heaters where specified to facilitate "load shedding".
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Pilot lights shall be provided on the front panel to indicate power on, heater step on (one per step) and boiler high temperature trip.
All busbars, cables, wiring etc. shall be colour coded in accordance with the SABS requirements.
External wiring for low voltage, control interlocking, alarm, measuring and D.C. circuits shall terminate on numbered terminal strips of the "KLIPPON" or "ENTRELEC" or equivalent manufacture. The correct terminal size, as recommended by the manufacturer for each conductor to be connected shall be used throughout. The terminal numbers shall appear on the wiring diagrams of the switchboard. Terminals for power wiring shall be separate from other terminals. Terminals for internal wiring shall not be interposed with terminals for external circuits.
Labelling shall be Black on White ivorine except warning labels which shall be Red on White ivorine.
All metal components of the framework, panels and chassis shall be finished with a high quality baked enamel finish. Prior to painting, all metal parts shall be thoroughly cleaned of rust, mill scale, grease and foreign matter. Immediately after cleaning all surfaces shall be covered by an electrolytically applied rust inhibiting, tough, unbroken metal phosphate fibre and then thoroughly dried.
Within forty eight (48) hours after phosphating, a passivation layer consisting of a high quality zinc chromate primer shall be applied, followed by two (2) coats of high quality baked enamel of SABS 783 type 1. The minimum paint thickness after baking shall be 0.06mm and shall have a shock resistance of 25kg-cm or 0,9mm soft steel plate and scratch resistance of 2000 grams.
The electrical installation between the switchboard and the equipment shall comply with SABS 0142. Armoured cabling shall comply with SABS 150 and shall be neatly run on galvanised cable tray installed on walls and overhead providing a maximum headroom at all times.
Local isolation shall be provided at all items of equipment e.g. boilers, pumps etc. in accordance with the code of practice.
Earthing of non-conducting metal parts and equipment shall comply with the code of

practice.

29. TRENCHES AND EXCAVATIONS

The following shall be in the classification of the materials to be excavated.

Material Class "C" shall comprise granite, chert, quarzitic sandstone, slate and rock of similar or greater hardness in undecomposed boulders exceeding 0,15m^3 in volume, the practical excavation of which, in the opinion of the Engineer, would normally necessitate the use of explosives.

Material Class "B" shall comprise hard material other than that classified as Class "C" above, the economic excavation of which, in the opinion of the Engineer, warrants the use of pneumatic tools or mechanical breakers and shall include hard shale, compact ouklip and rock of similar hardness.

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Material Class "A" shall comprise all materials to be excavated other than those classified as Class "B" or Class "C" above and shall include made-up ground, rubbish, gravel, sand, shale and clay.

All items of drains, manholes and pipe excavations, etc. are measured as being in Class "A" material unless otherwise described.

If the contractor considers that any of the excavation encountered is in Class "B" or "C" material he shall immediately notify the Engineer and/or the Quantity Surveyor for a ruling; failing such notification the excavations shall be deemed to be in Class "A" material and shall be valued accordingly.

The contractor shall notify the Quantity Surveyor when the excavations, or parts thereof, are completed and before any filling is done, in order that all necessary site measurements may be taken.

The contractor shall notify the Engineer when the excavations, or parts thereof, are completed and ready to receive constructions. No work shall be built until the excavations have been approved.

Should any ground fall in (other than that required to be excavated) owing to omission or inadequacy of support or to any act, neglect or carelessness of the Subcontractor, such ground will not be paid for as excavations but it shall be dug out and deposited on the site (or carted away) and returned, refilled and rammed as directed and entirely at the contractor's expense.

No trench for any drain shall be excavated less than 530mm wide. The bottoms of trenches are to be well rammed and finished to regular and even falls, and the falls and the barrel of the pipes shall rest on solid ground and holes shall be cut around joints of sufficient size to enable the jointing and filleting to be properly performed.

All hollows, unnecessary excavations below pipes, soft and loose places or uneven bottoming in rock cutting are to be cleared out and filled in with cement concrete Class "15". Carefully fill in and pack around with soil for 600mm above pipes. Fill in and ram well the remainder of the trench in 230mm layers up to ground level. The contractor shall provide all necessary sight rails, boning rods, open or close planking and strutting, staging, etc.

The contractor shall ensure that the trenches are maintained in a safe condition at all times.

C3.3: CONTRACTORS REPORT

PART: 1

CONTRACTOR MONTHLY REPORT

Project No: …….. **Project Name……..**

Contract No: ……

Contractor Name: ……

Claim No: …….. **For Period Ending: ……..**

Date of Report: ……

The Contractors Monthly Report comprises an integral part of the Contractors Payment Claim and processing of the payment claim is not permitted without this report also being submitted i.e.
"**NO REPORT – NO PAYMENT".**

Attachments:

Part 2 Overall Project Worker Schedule: Schedule of all local labourers employed since the start of the project
Part 3 Weekly Task Wage Register
Part 4 Local Labour Schedule

OVERALL PROJECT WORKER SCHEDULE (local labourers only) Contract No: …… PART 2

Project No. …… Project Name: ……

Month of Report: …… Sheet: …… of ……

Names of all **Local Workers** employed **at any time on the project** are to be entered in the table below irrespective of how long they worked on the project.

No.	Name of Local Labourer	Identity Number	Month Worker Started	Age	Tick if Yes									**Place a tick in the box which corresponds to the Gender and** Age of the Worker				
														Women		Men		
					Female Head of Household with Dependants	Disabled	Labourer	Semi-Skilled	Skilled	Supervisor	Clerical	Managerial	Professional	Over 35 yrs 2A	35 yrs & under 2B	Over 35 yrs 2C	35 yrs & under 2D	
Totals for this sheet																		
Totals from previous sheet																		
Totals carried forward																		
					(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N) = (J+K+L)

Total No. of workers Employed on the Project

Completed by: Name: …… Signature…… Capacity …… Date…..……...

WEEKLY TASK WAGE REGISTER (local labourers only) Contract No: …… **PART 3**

Project No. …… Project Name: …… Week Ending: …… Sheet. of ….

Entries in this portion to be completed by Foreman									**Entries in this portion to be Completed by Contractor**				
No.	Name of local worker	Day Tasks Worked							Payment				
		Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total DAY TASKS worked this week	Rate per DAY TASK	Total Payment due to Worker	Workers signature on receipt of Payment	Date Payment Received by Worker
Totals This Sheet													
Totals Brought Forward From previous Sheet													
Totals Carried Forward													
									(A)		(B)		

Completed by: Name: …… Signature: …… Capacity: …… Date: ……

LOCAL LABOUR AND MATERIAL SCHEDULE PART 4

Contract No: …….. **Date of Report: ……..**

Project No: …….. **Project Name: ……..**

Claim No: …….. **For Period Ending: ……..**

Contractor Name: ……..……

1. Summary of Day Tasks worked and Amount Spent on Local Labour this month

Week No.	Week Ending	Total Day Tasks / Person Days Worked	Total Amount Paid
		(Total of (A) from Form 4 for each week)	(Total of (B) from Form 4 for each week)
1			R
2			R
3			R
4			R
5			R
6			R
7			R
8			R
9			R
Total			**R**

Transfer to 2 in table below

2. Summary of Amount Spent on Local Labour to date

1. Previous Amount Spent on Local Labour (From previous claim)	**R**
2. Amount Spent on Local Labour this month (From **Total** above)	**R**
3. Total Amount Spent on Local Labour to date (3)=(1+2)	**R**

3. Local Labour Schedule

Summary of Local Labour Employed Columns refer to Columns in Part 2	No. of local workers who worked on the project to date (From Part 2)	**% of Total**
1. Total No. of **individual local workers** who have worked on the Project (Column N)		100%
10. How many of the Total No. are **local youth** (35 yrs and under) (Column B & D)		
11. How many of the Total No. are **local women** (Column A + B)		

4. Summary of Amount Spent on Material to Date (Cumulative)

Item	This Month	Total to date
1. Material from Emfuleni Local Municipality		
2. Material from Sedibeng District Municipality		
3. Material from Outside Gauteng Province		
4. Material from other areas within the Gauteng		
Total Material		
Total material as percentage of contractor expenditure		
Total as percentage of contractor budget		

5. Training of Local Workers

Category of training	Name of course	No. trained	Days trained	Comments on progress
(a) Technical training for implementation	Bricklaying Carpentry			
	Plumbing			
	Fencing			
	Plastering			
	Painting			
	House Building			
	Handyman			
	Electrical			
(b) Institutional training for local management beyond construction				
(c) Technical training for OMM				
(d) Institutional training for implementation				
(e) HIV/ Aids etc.				
Other – Please specify				
Total				

Completed by: …… …… ……

Name Signature Capacity Date

C3.4: SCHEDULE OF CERTIFICATES OF COMPLIANCE REQUIRED

- Glazing C.o.C
- Paint C.o.C
- Plumbing C.o.C
- Tiling C.o.C
- Electrical C.0.C
- Fittings C.o.C
- Health and Safety File
- Labour File

Part C4: SITE INFORMATION

C.4.1: SITE INFORMATION

Project Title:	**RENOVATION OF TRANSPORT AND CONCRETE LABS**
Bid/Tender No.:	**T01/2025**

4.1 GENERAL

The site is located within the Main Campus complex at the VUT in Vanderbijlpark and the Building layout of the Main Campus is shown on Layout 1.

4.2 Ground Conditions

Not applicable.

4.3 Underground Services

Na existing external underground stormwater system is present within the courtyard where the steel roof and surface beds are to be constructed. Only the top grated inlet covers will be adjusted to suit the new surface ned levels.

4.4 Environmental Issues

Contractor to be compliant to Environmental Management Act.

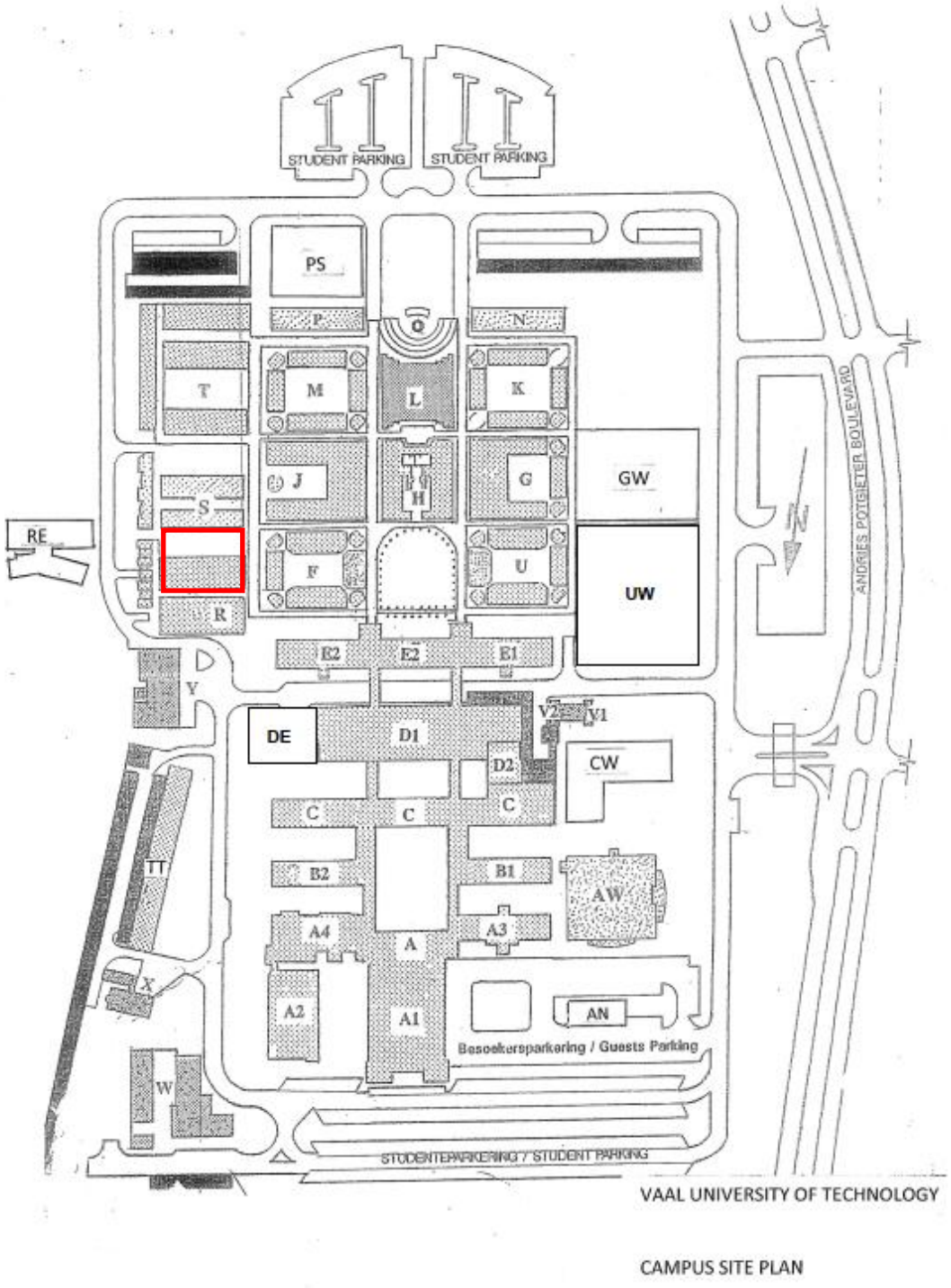
4.5 Adjacent Buildings

Work will take place in Block R and in the courtyard South of Block R, Block R is surrounded on all sides by existing other buildings, but they are separated by walkways. Access for a small front loader is possible via one entrance into Lab R009 from the East to access the courtyard.

4.6 Location Map

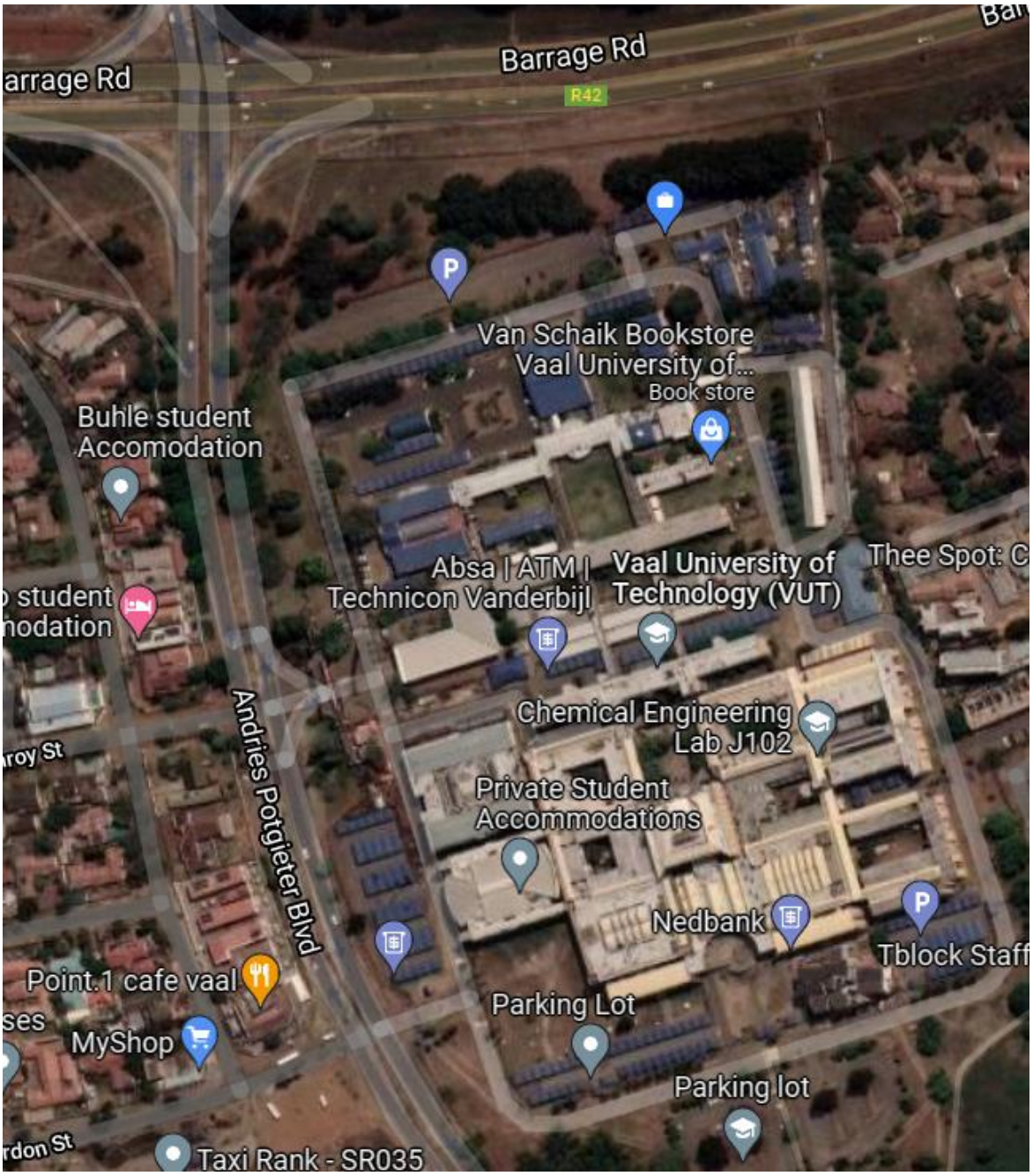
Main Campus of the VUT in Vanderbijlpark as shown in Layout 2.

Layout 1: Site Layout



LEGEND:  **- Position of R Block Labs and Courtyard**

Layout 2: Site Location



C4.2: DRAWINGS

LIST OF DRAWINGS

Architect drawings:

- SYDP2401-VUT-001-R REV 0
- SYDP2401-VUT-002-R REV 0
- SYDP2401-VUT-003-R REV 0

Structural Drawings:

- Structural-Foundations Layout
- Structural- Ground Layout
- Structural – Roof Layout

Electrical Drawings:

- SYD2401-EL-403-001-A DB SCHEMATICS
- SYD2401-EL-401-001-A GF LIGHTING
- SYD2401-EL-401-001-A SMALL POWER

Mechanical Drawings:

- SYDP2401-ME-701-001-REV0