

KCMQS PROJECT NO. N1067

Construction of Covered Walkways and Ramps in Various Zones (Zone A PTN 4 and 5, Zone B PTN 4 and 5, Zones C and D PTNS 5) at the University of Venda, Thohoyandou, Limpopo Province (CIDB GRADING NO: 5GB)

VOLUME 2 OF 2

PROCUREMENT DOCUMENT

(Based on NEC3 Engineering and Construction Contract)

Date of Issue: 25 April 2022

Issued by:
Director Facilities Management
University of the Venda, Thohoyandou

Name of tenderer:	
Telephone Number:	
Email Address:	
Fax Number:	
Cellphone Number:	

Closing date: AS PER TENDER INVITATION

PREAMBLES FOR TRADE

PREAMBLES FOR TRADES

1. MODEL PREAMBLES FOR TRADES

The "Specification of Materials and Methods to be used - PW371" as issued by the Department of Public Works shall apply and shall be deemed to be incorporated herein.

The Bidders are referred to the above-mentioned document for the full description of materials to be used and work to be executed.

A copy of the above-mentioned document is available at the offices of the Principal Agent for inspection.

2. VARIATIONS AND/OR ADDITIONS TO MODEL PREAMBLES FOR TRADES

- 2.1 All work to be done in accordance to the detailed specification as per the Engineers and Architects drawings.
- 2.2 Where variations and/or additions to Model Preambles differ from Clauses contained in the "Specification of Materials and Methods to be used PW371", the variations and/or additions to Preambles shall take precedence.

3. MATERIALS AND WORKMANSHIP

Materials and workmanship shall be the best of their respective kinds. Only undamaged materials may be used in the works. Work shall be to the satisfaction of the Architect/Engineer and shall be executed in accordance with good building practice and the relevant Manufacturer's instruction. Where the term "approved" is used in connection with materials and workmanship, it shall mean that such materials shall be to the approval, instructions or choice of the Architect.

4. STANDARD SPECIFICATIONS

Materials and Workmanship shall comply with the Standard Building Regulations (SBR), National Building Regulations (NBR), SABS1200, the specifications and codes of practice of the South African Bureau of Standards, and CSIR recommendations. In cases of variance, these "Specification of Materials and Methods to be used - PW371" and any supplementary preambles thereto shall have precedence over the above-mentioned regulations, specifications and codes of practice. In cases of variance between the SBR and NBR, the NBR shall have precedence.

The latest issues of the above-mentioned regulations, specifications and codes of practice, as well as those of any other specifying body, to which reference is made, shall be applicable.

References to standard specifications and/or building regulations in these "Specification of Materials and Methods to be used - PW371" are for the information of the Contractor and shall in no way relieve him of his obligations under the Contact.

SECTION 1: PRELIMINARIES

Item No		Quantity	Rate	Amount	
	SECTION 1				
п	BILL NO. 1				
	<u>PRELIMINARIES</u>				
Ñ	i) The NEC3 Engineering and Construction Contract Option B: Priced contract with bill of quantities (Third edition of June 2005 with amendments June 2006 and April 2013) in conjunction with the Contract Data is taken to be incorporated herein				
	ii) The tenderer is deemed to have taken cognizance of the above mentioned documents for the full intent and meaning of each clause. These clauses are referred to by clause number and heading only				
	iii) The amount of 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 and the amount for Preliminaries				
	iv) Where the initial contract period is extended, the monthly charge shall be calculated on the basis as set out in (iii) but taking into account the revised period for completing the works				
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v) The amount or the items of the Preliminaries are 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 varied, namely fixed b) an amount which is varied in proportion to the contract value, namely value related; and c) an amount which is varied in proportional to the construction period as compared to the initial construction period excluding revisions to the construction period for which the contractor is not entitled to adjustment in terms of the contract, namely Time Related			
Where no provision is made in Bills of Quantities to indicate which of the three categories in (v) apply or where no selection is made, the adjustments shall be beased on the following breakdown:			
a) 10 percent is Fixed b)15 percent is Value related c) 75 percent is Time Related			
The adjustments of the Preliminaries shall apply not withstanding the actual employment of resources in the execution of the works. The contract value used for the adjustment of the Preliminaries shall exclude any contingecy sum and the amount for Preliminaries			
SECTION A: CONDITIONS OF CONTRACT			
CORE CLAUSES			
GENERAL			
Action (clause 10)			
Actions (clause 10.1)			
Fixed Related	Item		
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PRELIMINARIES Bill No. 1 PRELIMINARIES			

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	Value Related	Item		
	Time Related	Item		
Identified and defined terms (claus	ee 11)			
Condition of contract (clause 11.1)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Defined terms (clause 11.2)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Interpretation and the law (clause	12)			
Interpretation of the law (clause 12.1	- 12.4)			
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Communication (clause 13)				
Communication (clause 13.1 - 13.8)				
	Fixed Related	Item		
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Value Related	Item		
Time Related	Item		
The Project Manager and the Supervisor (clause 14)			
The Project Manager and the Supervisor (clause 14.1 - 14.4)	1		
17.7)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Adding to the Working Areas (clause 15)			
Adding to the Working Areas (clause 15.1)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Early Warning (clause 16)			
Early Warning (clause 16.1 - 16.4)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
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Ambiguities and inconsistencies (clause 17)		1	1
Ambiguities and inconsistencies (clause 17.1)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Illegal and impossible requirements (clause 18)			
Illegal and impossible requirements (clause 18.1)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Prevention (clause 19)			
Prevention (clause 19.1))			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
THE CONTRACTOR'S MAIN RESPONSIBILITIES			
Providing the Works (clause 20)			
Providing the Works (clause 20.1)			
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	Fixed Related	Item	
	Value Related	Item	
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	The Contractor's design (clause 21)		
	The contractor's design (clause 21.1 - 21.3)		
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
	Using the Contractor's design (clause 22)		
	Using the Contractor's design (clause 22.1)		
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
	Design of Equipment (clause 23)		
	Design of Equipment (clause 23.1)		
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And the same of	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
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People (cl	ause 24)			
People (cla	ause 24.1 - 24.2)			
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Working w	ith the Employer and Others (clause 25)			
Working wi	th the Employer and Others (clause 25.1 -			
25.3)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Sub-contra	acting (clause 26)			
Sub-contra	cting (clause 26.1 - 26.3)			
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Other receive				
	onsibilities (clause 27) onsibilities (clause 27.1 - 27.4)			
Other resp	onsibilities (clause 27.1 - 27.4)			
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	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
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Star	rting, Completion and Key dates (clause 30)				
Star	ting date (clause 30.1)				
	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
Cor	mpletion date (clause 30.2)				
	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
Key	date (clause 30.3)				
	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
The	e Programme (clause 31)				
The	e Programme (clause 31.1 - 31.3)				
	Fixed Related	Item			
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Time Related	Item	
Revising the programme (clause 32)		
Revising the programme (clause 32.1 - 32.2)		
Fixed Related	Item	
Value Related	Item	
Time Related	Item	
Access to and use of the Site (clause 33)		
Access to and use of the Site (clause 33.1)		
Fixed Related	Item	
Value Related	Item	
Time Related	Item	
Instruction to stop or not to start work (clause 34)		
Instruction to stop or not to start work (clause 34.1)		
Fixed Related	Item	
Value Related	Item	
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Take over (clause 35)				
Take over (clause 35.1 - 35.3)				
Fixed Related	Item			
	Item			
Value Related				
Time Related	Item			
Acceleration (clause 36)				
Acceleration (clause 36.1 - 36.3)				
Fixed Related	Item			
Value Related	ltem			
Time Related	Item			
TESTING AND DEFECTS				
Testing and inspections (clause 40)				
Testing and inspections (clause 40.1 - 40.6)				
Fixed Related	Item		18	
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Testing and inspections before delivery (Clause 41)			
Testing and inspection before delivery (clause 41.1)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Searching for and notifying Defects (Clause 42)			
Searching for and notifying Defects (Clause 42.1 - 42.2)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Correcting Defects (Clause 43)			
Correcting Defects (Clause 43.1 - 43.4)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
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Accepting Defects (clause 44)		
Accepting Defects (clause 44.1 - 44.2)		
Fixed Related	Item	
Value Related	Item	
Time Related	Item	
Uncorrected Defects (clause 45)		
Uncorrected Defects (clause 45.1 - 45.2)		
Fixed Related	Item	
Value Related	Item	
Time Related	Item	
PAYMENT		
Assessing the amount due (clause 50)		
Assessing the amount due (clause 50.1 - 50.5)		
Fixed Related	Item	
Value Related	Item	
Time Related	Item	
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Payment (clause 51)			
Payment (clause 51.1 - 51.4)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Defined Cost (clause 52)			
Defined Cost (clause 52.1)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
The Bills of Quantities (clause 55)			
The bills of quantities (clause 55.1)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
COMPENSATION EVENTS			
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CONSTRUCTION OF COVERED WALKWAYS AND RAMPS IN VARIOUS ZONES (ZONE A PTN 4 AND 5, ZONE B PTN 4 AND 5, ZONES C - D PTNS 5)

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Compensation events (clause 60)			1
Compensation events (clause 60.1 - 60.7)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Notifying compensation events (clause 61)			
Notifying compensation events (clause 61.1 - 61.7)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Quotation for compensation events (clause 62)			
Quotation for compensation events (clause 62.1 - 62.6)			
Quotation for compensation events (clause oz. 1 - cz.c)			
Fixed Related	Item		
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Assessing compensation events (clause 63) Assessing compensation events (clause 63.1 - 63.13)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
The Project Manager's assessment (clause 64)			
The Project Manager's assessment (clause 64.1 - 64.4)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Implementing compensation events (clause 65)			
Implementing compensation events (clause 65.1 - 65.4)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
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The Employer's title to Plant and Materials (clause 70)			
Plant and Materials outside the working area (clause 70.1)			
70.1)			
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Value Related	Item		
Time Related	Item		
Plant and Materials within the working area (clause			
70.2)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Marking Equipment, Plant and Materials outside Working Areas (clause 71)			
Marking Equipment, Plant and Materials outside Working Areas (clause 71.1)			
Fixed Related	Item		
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Value Related	Item	
Time Related	Item	
Removing Equipment (clause 72)		
Removing Equipment (clause 72.1)		
Fixed Related	Item	
Value Related	Item	
Time Related	Item	
Objects and materials within the site (clause 73)		
Objects and materials within the site (clause 73.1 - 73.2)		
Fixed Related	Item	
Value Related	Item	
Time Related	Item	
RISK AND INSURANCE		
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Employer's risk (clause 80)			
Employer's risk (clause 80.1)			
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Contractor's risk (clause 8	<u>21)</u>			
Contractor's risk (clause 81.	1)			
	Fixed Related	Item		
	Value Related	Item		
*	Time Related	Item		
Repairs (clause 82)				
Repairs (clause 82.1)				
	Fixed Related	Item		
	Value Related	Item		
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	Indemnity (clause 83)			
	Indemnity (clause 83.1- 83.2)			
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
	Insurance cover (clause 84)			
	Insurance cover (clause 84.1 - 84.2)			
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
	Insurance policies (clause 85)			
	Insurance policies (clause 85.1 - 85.4)			
	Fixed Related	Item		
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	Time Related	Item		
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If the Contractor does not insure (clause 86)			
If the Contractor does not insure (clause 86.1)			
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Fixed Related			
Value Related	Item		
Time Related	Item		
Insurance by the Employer (clause 87)			
Insurance by the Employer (clause 87.1 -87.3)			
Fixed Deleted	Item		
Fixed Related			
Value Related	Item		
Time Related	Item		
TERMINATION			
Termination (clause 90)			
Termination (clause 90.1 - 90.5)			
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Value Related	Item	
Time Related	Item	
Reasons for termination (clause 91)		
Reasons for termination (clause 91.1 - 91.7)		
Fixed Related	Item	
Value Related	Item	
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Procedures on termination (clause 92)		
Procedures on termination (clause 92.1 - 92.2)		
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Payment on termination (clause 93)				
Procedures on termination (clause 93.1 - 93.2)				
Fixed Related	Item			
Value Related	Item			
Time Related	Item			
MAIN OPTION CLAUSES				
DISPUTE RESOLUTION				
Option W1			(1)	
Dispute Resolution (clause W1.1)				
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Value Related	Item			
Time Related	Item			
The Adjudicator (clause W1.2)				
Fixed Related	Item			
Value Related	Item			
Time Related	Item			
The Adjudication (clause W1.3)				
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Time Re	lated	Item			
Review by the Tribunal (clause W1.4)					
Fixed Re	lated	Item			
Value Re	lated	Item			
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SECONDARY OPTION CLAUSES					
Price adjustment for inflation (Option X1)					
Defined terms (clause X1.1)					
Fixed Re	elated	Item			
Value Re	elated	Item			
Time Re	elated	Item			
Price Adjustment Factor (clause X1.2)					
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Value Re	elated	Item			
Time Re	elated	Item			
Compensation Event (clause X1.3)					
Fixed Re	elated	Item			
Value Re	elated	Item			
Time Re	elated	Item			
Price Adjustment (clause X1.4)					
Fixed Re	elated	Item			
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Time Related	Item		
Changes in the law (Option X2)			
Changes in the law (clause X2.1)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Delay damages (Option X7)			
Delay damages (clause X7.1 - X7.3)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Perfomance bond (Option X13)			
Performance bond (Option X13.1)			
Fixed Related	Item	2	
Value Related	Item		
Time Related	Item		
Advanced payment to the contractor (Option X14)			
Advanced payment to the contractor (Option X14.1 - X14.3)			· ·
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Time Related	Item		
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Limitation of the Contractor's liability for his design to reasonable skill and care (Option X15)			
Limitation of the Contractor's liability for his design to reasonable skill and care (Option X15.1 - X15.2)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Retention (Option X16)			
Retention (Option X16.1 - X16.2)			
Fixed Related	Item		
Value Related	Item		
Time Related	Item		
Low performance damages (Option X17)			
Low performance damages (Option X17.1)			
Fixed Related	Item		
Value Related	Item		
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Limitation of Liability (Option X18)	l l		
Limitation of Liability (Option X18.1 - X18.5)			
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	Time Related	Item			
CONTRACT DATA					
Contractual Requirements as stated elsev document	where in the				
ESTABLISHMENT OF FACILITIES	S ON THE				
Facilities for Project Manager					
Furnished offices (In no 1)					
	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
Name boards (In no 1)					
	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
Offices and storage sheds					
	Fixed Related	Item			
	Value Related	Item			
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Facilities for the contractor					
Living accommodation				-	
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Ablution and latrine facilities			
Fixed Related	Item		
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Tools and Equiments			
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Value Related	Item		
Time Related	Item		
Water supplies, electric power, communication, dealing with water and access			
Fixed Related	ltem		
Value Related	ltem		
Time Related	! Item		
Other fixed charge obligations			
Fixed Related	j Item		
Value Related	i ltem		
Time Related	i Item		
Removal of site establishment			
Fixed Related	i Item		
Value Related	i Item		
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	Occupational Health and safety				
	Allow for compliance to Occupational Health and safety specifications including, OHS testing of personnel before commencement and after completion of project, safety equipment and safety officer.				
	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
	Allow for compliance with all COVID 19 Regulations and Requirements				
	Fixed Related	Item			
	Value Related	Item			
	Time Related	Item			
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SECTION 2: ALTERATIONS

	Quantity	Rate	Amount	
SECTION NO.2				
BILL NO. 1				
ALTERATIONS				
For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"				
REMOVAL OF EXISTING WORK:				
<u>ALTERATIONS</u>				
NATURE OF WORK Tenderers are advised to visit the site and to satisfy themselves as to the nature and extent of the work to be done and provide in their tenders for any items not specifically mentioned which they may deem necessary for the proper completion of the work. Tenderers are advised that the adjacent existing buildings will be in occupation during the progress of the work and due allowance must be made for the work being carried out at such times and in such manner as will least interfere with the routine of the occupants and as may be directed by the Project Manager				
DIMENSIONS The Contractor is advised to take all dimensions affecting the existing buildings on the site, as he will be held solely responsible for all new work being of the correct sizes.				
PIPES, ETC. Special care is to be taken not to interfere unnecessarily with any water supply pipes or other piping that may be met with and found necessary to disconnect or cut, are to be effectively stopped off and any new connections that may be necessary are to be made with proper fittings and to the satisfaction of the Project Manager to whom due notice must be given of any alterations to the existing services.				
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Item No

PROTECTION In taking down and removing existing work the utmost care is to be observed to avoid any structural or other damage to the remaining portions of the buildings. The Contractor must also protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc., from damage during the progress of the work and provide all necessary materials for so doing. The Contractor will be held solely responsible for any damage to persons or property and for the safety of the structure throughout the whole of this Contract and must make good at his own expense any damage that may occur.			
CREDITS, ETC. Old materials from the pulling down (except such as are described to be re-used or handed over) are to become the property of the Contractor who shall allow credit as provided for in the summary at the end of these Bills of Quantities. Old materials for re-use are to be carefully removed, stored and protected from injury including making good any damaged or defective parts as required before re fixing. Old materials described to be handed over are to be carefully removed and neatly stacked on site where directed. The remainder of the old materials and all rubbish to be immediately carted away and the site left clean and unencumbered. None of the old stock bricks form the pulling down are to be re-used for any new work.			
MATERIALS, ETC. The materials to be used and work to be done to be similar in all respects to that described for new work insofar as they concur. All work in making good is to be properly jointed to the existing. DEMOLITIONS, ETC.			
1			
Demolitions, etc.			
Digging up of existing brick stormwater catchpit size approximately 750 x 750 x 600mm deep, closing off of stormwater line, backfilling of hole and leave in a neat condition			5
No	2	2	
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Section No. 2 ALTERATIONS			
Bill No. 1 ALTERATIONS			

2	Digging up of existing brick manhole size approximately $1000 \times 1000 \times 1200$ mm deep manhole, closing off of sewer line, backfilling of hole and leave in a neat condition	No	1			
	Breaking down of paving, etc.					
3	50mm Thick brick paving and cart away to a dumping site to be located by the contractor	m2	13			
4	60mm Thick double interlocking precast grey coloured concrete paving block and cart away to a dumping site to be located by the contractor	m2	12			
2						
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	Section No. 2 ALTERATIONS Bill No. 1 ALTERATIONS			10		
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ALTERATIONS		
Bill No. 1		
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SECTION 3: SITE WORKS

Item No			Quantity	Rate	Amount	
	SECTION NO. 3					
	BILL NO. 1					
3	CANOPY, ETC.					
	For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"					
	<u>EARTHWORKS</u>					
	EXCAVATIONS					
38	Excavation in earth not exceeding 2m deep					
1	Holes	m3	737			
	Clean river sand filling supplied by the contractor compacted to 85 - 90% mod. AASHTO density at -2% to 1% OMC in holes					
2	150mm Thick layer of clean river sand compacted to 85 - 90% mod. AASHTO density at -2% to 1% OMC in holes					
		m2	590			
3	Backfilling to holes compacted to 93% mod. AASHTO density	m3	115			
	Earth filling obtained from the excavations on site compacted to 93% Mod AASHTO density at -2% to 1% OMC					
4	150mm Thick layer of selected filling from excavations compacted to 93% mod. AASHTO density at -2% to 1%					
	OMC in holes	m2	590			
						_
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	Section No. 3 SITE WORKS Bill No. 1 ROOF STRUCTURE					

5	150mm Thick layer of selected filling from excavations compacted to 93% mod. AASHTO density at -2% to 1%				
	OMC in holes				
		m2	590		
	Earth filling of G7 material supplied by the contractor, compacted to 93% Mod AASHTO density at -2% to 1% OMC				
6	150mm Thick layer of imported G7 material compacted to 93% mod. AASHTO density at -2% to 1% OMC in holes				
		m2	590		
7	150mm Thick layer of imported G7 material compacted to 93% mod. AASHTO density at -2% to 1% OMC in holes				
		m2	590		
8	150mm Thick layer of imported G7 material compacted to 93% mod. AASHTO density at -2% to 1% OMC in holes				
		m2	590		
	Extra over trench and hole excavations in earth for excavation in				
9	Soft rock	m3	12		
10	Hard rock	m3	9		
	Extra over all excavations for carting away				
11	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	560		
					+
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	Section No. 3 SITE WORKS				
	Bill No. 1 ROOF STRUCTURE				

1	Risk of collapse of excavations			1	
12	Sides of trench and hole excavations not exceeding 1,5m deep	m2	1,965		
	Keeping excavations free of water				
13	Keeping excavations free of water		Item		
12	Prescribed density tests on filling				
14	"Mod. AASHTO Density" test	No	524		
9	SOIL POISONING				
	Soil insecticide to be executed with SABS compliance by a firm of specialists under a 5 year guarantee				
15	To bottoms and sides of trenches etc	m2	2,555		
	Weedkiller mixed in accordance to supplier's specifications				
16	To bottoms and sides of trenches etc	m2	2,555		
	CONCRETE, FORMWORK & REINFORCEMENT				
	REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	30MPa/19mm concrete				
17	Bases	m3	92		
	TEST CUBES				
18	Allow for preparing a set of three (3) concrete strength test cubes, each size 150 x 150 x 150mm, sending them to an approved Testing Laboratory for testing and paying all charges in connection therewith.	No	36		
	REINFORCEMENT				
125					+
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	Section No. 3 SITE WORKS				
	Bill No. 1 ROOF STRUCTURE				
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	High tensile steel reinforcement to structural concrete work					
19	12mm Diameter bars	t	5.35			
	ROUGH FORMWORK (DEGREE OF ACCURACY II)					
	Rough formwork to sides					
20	Edges exceeding 300mm high	m2	367			
	ROOF COVERINGS, ETC.					
	PROFILED METAL SHEETING AND ACCESSORIES					
	Roof Installer:					
	The roof shall be installed by a Safintra accredited and approved installer, who will present their accreditation to the Project Manager for their scrutiny before commencing					
3	Saflok 700 0.5mm Thick Colorplus AZ100, Colour to be confirmed, C.1.S finish with standard backing coat Cool Grey G550 interlocking roof sheeting with AZ100 spelter to both sides fixed to steel purlins not exceeding 1900mm centres and to ridge and eaves at not exceeding 1700mm centres. Saflok 700 ZincAL 0.8mm clips fastened with Fixtite Class 4 self tapping wafer head 10 x 22mm for steel fix all in accordance with manufacturer's recommendations.					
21	Roof coverings with pitches exceeding 25 degrees	m2	1,877			
	STRUCTURAL STEELWORK					
4.1	STEEL COLUMNS AND BEAMS					
. 1						
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	SITE WORKS Bill No. 1					
	ROOF STRUCTURE					
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22	Welded portal frames with flat section bearer, gusset and connection plates and L-section cleats bolted to concrete Mono pitched portal frame comprising of 100 x 100 x 4mm thick rectangular section columns and rafters, the column height being 2700mm extreme, the rafter being 1861mm long, with 50 x 50 x 3mm rectangular section bracing 800mm long welded to column and rafter, the column 10mm fillet welded to steel plate (e/m) with four (4) stiffener of steel plates size 5mm thick x 50mm wide x 100mm high (the rafter closed at end for waterproofing purposes)	No	524		
-3	Steel fixing plates, etc.				
23	400mm x 250 x 12mm Thick base plate six (6) times drilled for bolts and welded to steel columns (bolts and welding e/m)	No	262		
	Bolts to columns, beams, and trusses, etc				
24	M12 Bolt Full thread bolt 30mm with two (2) washers and one (1) nut	No	1,572		
25	Drill hole through 2,5mm steel for 10mm diameter bolt	No	1,572		
26	M16 Gr.8.8 Anchor bolt 340mm long with matching nut and two (2) washers				
		No	1,572		
	PURLINS, GIRTS, BRACING, ETC				
W 1	Purlins and girts bolted to steel				
27	75 x 50 x 20 x 2,5mm Thick CFLC purlins	m	2,346		
28	5mm Thick cleat size $100 \times 100 \times 75$ mm high welded to rafter and once drilled for bolt (bolt e/m)	No	1,572		
5 08	Carried to Collection Section No. 3 SITE WORKS Bill No. 1 ROOF STRUCTURE			R	

1						9
	Welded bracing etc with flat section connection plates bolted to steel					
29	45 x 45 x 4mm Thick angle section vertical bracing	m	219		1	
30	45 x 45 x 4mm Thick angle section horizontal bracing					
		m	194			
21 1	PLASTERING					
=	GROUT, ETC.					
	Non shrink grout					
31	25mm Thick bedding under 400 x 250mm wide base plate including chamfering edges all round					
		No	262			
22	PAINTWORK					
	PAINTWORK					
	PAINTWORK ETC TO NEW WORK					
5	Prepare and apply two coats "Abecote Epoxy tar 352" tar paint on steel					
32	On columns	m2	31			
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	SITE WORKS Bill No. 1					
	ROOF STRUCTURE					

	Plascon Super Universal Enamel to exterior new mild steel. Surface to be clean and dry. Remove surface contaminants using Metalcare Aquasolv Degreaser (GR				
	1) with bristle brush or Brillo pads. Rinse thoroughly with tap water until surface is water break-free. Remove rust and millscale by abrasive blasting to ISO 8501 - 01:1988 - Sa2½ or by hand/mechanical wire brushing to St3 of the same standard. Allow to dry completely and				
	prime within 4 hours of cleaning. Prime with one coat Metalcare Mild Steel Primer (UC 501) with an overcoating time of 16 hours and finish with two coats Super Universal Enamel (NY 1/G) with 16 hours drying				
5	time between coats, for a maintenance cycle of 3 years in a C1 - inland environment.				
33	On rails, bars, pipes, etc not exceeding 300 mm girth	m	2,969		
34	On columns and beams	m2	446		
ă.					
71					
410					
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	SITE WORKS Bill No. 1 ROOF STRUCTURE				
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Bill No. 1 ROOF STRUCTURE			
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		Quantity	Rate	Amount	
	SECTION NO. 3				
	BILL NO. 2				
	WALKWAYS, ETC.				
0	For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"				
	SUPPLEMENTARY PREAMBLES				
	Materials and workmanship must be in accordance to the following SABS 1200 specifications:				
	C - Site clearance D - Earthworks DM - Earthworks (Roads, subgrade) M - Roads (General) ME - Sub-base MF - Base MK - Kerb and Channeling MM - Ancillary Roadworks				
	Soil poisoning and weed killer				
	Soil insecticide and weed killer to be executed with SABS compliance by a firm of specialists under a 5 year guarantee under paving				
	EXCAVATION, FILLING, ETC				
	Open face excavation in earth over site				
1	Excavate in pickable earth to reduce ground level below paving and set aside for later use m3	413			
2	Excavate in pickable earth to reduce ground level below paving and but cart away excavated material to a dumping place to be found by the contractor (cut to spoil)	338	3		
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	Section No. 3 SITE WORKS Bill No. 2 PAVED WALKWAYS				

Item No

		1.74		-	T T	
3	Rip and scarify ground level to a depth of 150mm and consolidate to 93% mod. AASHTO density (minimum CBR 5)	m2	1,877			
4	Extra over excavation for excavation in soft rock	m3	15			
5	Extra over excavation for excavation in hard rock	m3	11			
	Walkway layers					
	The following to be natural selected gravel layers evenly spread and consolidated in layers and dimensions as specified and on the drawings. All thicknesses to be consolidated thicknesses.					
	Where described as "imported" the gravel to be supplied and carted on by the contractor from an approved borrow pit					
6	Selected filling previously set aside laid in 150mm thick layers to 96% mod. AASHTO density, PI = 6, Grading Modules = 2,6 /= GM >/= 1,2					
		m3	413			
7	Imported filling laid in 150mm thick layers to 96% mod. AASHTO density, PI = 6, Grading Modules = 2,6 /= GM >/= 1,2				y	
		m3	338			
8	150mm Thick imported G6 material laid in 150mm thick layers and compacted to 96% mod. AASHTO density, PI = 6, Grading Modules = 2,6 /= GM >/= 1,2	m2	1,877			
•	UNAL A ACUTO Deneity toot	No	40			
9	"Mod. AASHTO Density" test					
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	Section No. 3 SITE WORKS					
	Bill No. 2 PAVED WALKWAYS					

10	Allow for preparing a set of three (3) concrete strength test cubes, each size $150 \times 150 \times 150$ mm, sending them to an approved Testing Laboratory for testing and paying all charges in connection therewith.	No	28		
	WALKWAYS				
	Interlocking paving				
11	60mm Thick double interlocking (DZZ) precast grey coloured concrete paving blocks laid in a herringbone				
1	pattern on and including 25mm thick washed river sand founding layer and covered with plaster sandlayer vibrated into joints with a plate vibrator all laid on subgrade conforming to SANS 1200 D Degree Of Accuracy I. Paving to be inspected and re-sanded after				
	three months.	m2	1,877		
12	Weed-killing treatment of surface under paving etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming				
		m2	1,877		
13	Soil poisoning under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	1,877		
2	Kerbs, etc				
14	Precast concrete figure 8B kerb (SABS 927), levelled and jointed in 1:5 cement mortar complete with 15Mpa/19mm in situ concrete support blocks size 225 x 150 x 225mm high, at joints at 1,0m centres, including leaving 6mm expansion joints at 10m intervals between	m	1,564		
	kerbs	""			
15	Extra over cutting paving blocks to fit edge	m	1,569		
	Sundries				
16	Mass concrete (25MPa) in 60 x 60mm edge filler strip finished smooth on top with a wood float, including all excavation, formwork, etc	m	1,569		
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	Section No. 3 SITE WORKS Bill No. 2				
	PAVED WALKWAYS				

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Section No. 3			
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		SITE WORKS			
Bill No		SECTION SUMMARY - SITE WORKS	Page No		Amount
	1	ROOF STRUCTURE	42		
	2	PAVED WALKWAYS	46		
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	2				
		Carried to Final Summary		R	
		Section No. 3 SITE WORKS			

FINAL SUMMARY

Section No	FINAL SUMMARY	Page No		Amount
1	PRELIMINARIES	30		
2	ALTERATIONS	34		
3	SITE WORKS	47		
	Sub Total 1		R	
	CONTINGENCY SUM			
	Allow the amount of R200 000-00 (two hundred thousand rand) for Contingencies for building work, to be used as directed by the Principal Agent and deducted in whole or in part if not required	Item		200,000.00
		l item		200,000.00
	Sub total (VAT excl)		R	
	Тах		R	
	Sub Total (VAT INCL.) CARRIED TO TENDER FORM		R	
3				
	Carried to Form of Tender		R	