

Name of Tenderer:.....

PROPOSED PREMIUM BANK BRANCH

at

AGORA VILLAGE, THABO MBEKI ROAD – LUSAKA

for

ZAMBIA NATIONAL COMMERCIAL BANK

FORM OF TENDER

ARCHITECTS:

ARCHNICKS ARCHITECTS

Architects and Project Managers

Plot 6283, Mapepe Road, Olympia – Lusaka

Tel: +260 211 292137, Mob: +260 968 323306,

E-mail: nick@archnicks.co.zm

**QUANTITY
SURVEYORS:**

MUSYANI COMMERCIAL CONSULTANTS

Quantity Surveyors and Commercial Managers

P.O. Box RW 51541, LUSAKA

Tel: +260 211 918441, Mob: +260 979 921314

E-mail: musyanicc@gmail.com

DECEMBER 2022

PROPOSED PREMIUM BANK BRANCH

at

AGORA VILLAGE, THABO MBEKI ROAD – LUSAKA

for

ZAMBIA NATIONAL COMMERCIAL BANK

INSTRUCTIONS TO TENDERERS

- 1 Tenders shall be collected from and submitted on in the office of the Employer, **ZAMBIA NATIONAL COMMERCIAL BANK, HEAD OFFICE, CAIRO ROAD – LUSAKA, ZAMBIA**. All tenders are to be submitted not later than the stated closing date.
- 2 The Form of Tender shall be completed in all respects and signed and sealed in an envelope endorsed “**TENDER FOR THE PROPOSED PREMIUM BANK BRANCH AT AGORA VILLAGE, THABO MBEKI ROAD – LUSAKA FOR ZAMBIA NATIONAL COMMERCIAL BANK**” and deposited at the premises specified.
- 3 **Bills of Quantities**, fully priced in ink and properly moneyed out in detail with the total coinciding with the amount of tender, **must be submitted with the tender**. The Priced Bills of Quantities are to be enclosed and sealed in an envelope, such envelope bearing the name and address of the Tenderer so that the document can be returned unopened if not required for checking.
- 4 No tender will be accepted after **15:00hours** precisely on Any tender, which is not fully completed upon the form supplied, will be rejected. No lump sum will be accepted. No telex, faxed or electronic lump sum tenders will be accepted.
- 5 The tenderer is to visit the site at his own expense and satisfy himself as to the extent and nature of work.
- 6 The Employer does not bind himself to accept the lowest or any tender.
- 7 The tenderer must obtain and accept for himself on his own responsibility and at his own expense all information necessary for making his tender and is to accept as sufficient for his purpose the descriptions of the works used in the Bills of Quantities.
- 8 No amendment, alterations or variation of the Conditions of Contract or Contract Documents by the Tenderer, will be permitted.

- 9 No tender containing qualifications will be accepted.
- 10 The Employer may, through the Project Manager/Architect, entirely at his own discretion, extend the time and date for submission of tenders then notice of such extension shall be given in the most expeditious manner and confirmed in writing.
- 11 Tenderer shall include the following information and documents with their bids.
- (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
 - (b) total monetary value of construction work performed for each of the last three years;
 - (c) experience in works of a similar nature and size for each of the last five years, and details of work under way or contractually committed; and clients who may be contacted for further information on those contracts;
 - (d) major items of construction equipment proposed to carry out the Contract;
 - (e) qualifications and experience of key site management and technical personnel proposed for the Contract;
 - (f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past three years;
 - (g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources); and
 - (h) information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount.
- 12 The Tenderer shall furnish, as part of his Tender, a Bid Security in local currency or in a freely convertible currency. The amount of Bid Security shall **be 2% of the Bid Price**. It shall be a condition of the Tender that the offer made thereby and the bid security thereto, shall remain valid for a period of **120 days** from the closing date for receipt of tender.
- 13 Before returning his tender the Tenderer must ensure that the cover of the Form of Tender is endorsed with his name.

FORM OF
TENDER

PROPOSED PREMIUM BANK BRANCH

at

AGORA VILLAGE, THABO MBEKI ROAD – LUSAKA

for

ZAMBIA NATIONAL COMMERCIAL BANK

The Procurement Manager
ZAMBIA NATIONAL COMMERCIAL BANK
Head Office, Cairo Road
P.O Box 33611
Lusaka - ZAMBIA.

Sirs,

I/We _____

of _____

am / are prepared to carry out the Works contained in the erection and completion of
**“TENDER FOR THE PROPOSED PREMIUM BANK BRANCH AT AGORA
VILLAGE, THABO MBEKI ROAD – LUSAKA FOR ZAMBIA NATIONAL
COMMERCIAL BANK”** in accordance with Drawings and Bills of Quantities
prepared by the Quantity Surveyors, for the inclusive sum of:

(in words) _____

(K_____).

I/We agree to enter into a contract in accordance with the Conditions of Contract by
the Zambia Institute of Architects 1970 Edition (Revised 1972) applicable where
Quantities form part of the Contract.

I/We understand that the employer does not undertake to accept the lowest or any tender and that Contractors tendering must do so at their own cost.

I/We undertake to complete the whole of the works within..... **weeks** from the date on which possession of the Site is given, subject to Liquidated and Ascertained Damages for non-completion within the stipulated sum of **0.5% of Contract Sum per week or part thereof, up to a maximum of 10% of the final Contract Sum.**

I/ We desire to tender for the following work, which I/We normally carry out in the ordinary course of business and for which Prime Cost sums and Provisional Sums are included in the Bills of Quantities.

I/We agree this tender shall be valid for **120 days** from the closing date for submission of tenders and furthermore that unless and until a formal Contract is entered into, this tender together with written acceptance thereof by the Employer or the Project Manager acting on his behalf, shall constitute a binding Contract.

I/We are, Sirs,

Yours faithfully, _____

For and on behalf of _____

Date _____

Witnessed By _____

Of _____

PROVISION OF BID SECURITY AND SURETY

The Bidder shall furnish, as part of the Bid, a Bid Security in local currency or in a freely convertible currency. The amount of Bid Security shall **be 2% of the Bid Price.**

The Contractor shall be required at his own expense, to provide a cash deposit of 10 percent of the Contract Sum or Banker's Guarantee or an insurance or indemnity bond by an approved Insurance or Indemnity Company (any such or Guarantee to be approved by the Employer) to be jointly and severally bound together with him to the Employer in the sum of 10 percent of the Contract Sum for the performance of the Contract

The Contractor is to insert the name of the Surety he intends to provide

NAME OF BANK OR INSURANCE OR INDEMNITY COMPANY

SIGNATURE: _____

ADDRESS: _____

DATE : _____

As Witness:

1. _____

2. _____

NAME OF TENDERER: _____

PROPOSED PREMIUM BANK BRANCH

at

AGORA VILLAGE, THABO MBEKI ROAD – LUSAKA

for

ZAMBIA NATIONAL COMMERCIAL BANK

BILLS OF QUANTITIES

ARCHITECTS:

ARCHNICKS ARCHITECTS

Architects and Project Managers

Plot 6283, Mapepe Road, Olympia – Lusaka

Tel: +260 211 292137, Mob: +260 968 323306,

E-mail: nick@archnicks.co.zm

**QUANTITY
SURVEYORS:**

MUSYANI COMMERCIAL CONSULTANTS

Quantity Surveyors and Commercial Managers

P.O. Box RW 51541, LUSAKA

Tel: +260 211 918441, Mob: +260 979 921314

E-mail: musyanicc@gmail.com

December 2022

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BILLS OF QUANTITIES
for
PROPOSED PREMIUM BANK BRANCH
at
AGORA VILLAGE, THABO MBEKI ROAD – LUSAKA
for
ZAMBIA NATIONAL COMMERCIAL BANK

In accordance with:-

Architectural Drawings Nos:

WD-001 Rev G
WD-002 Rev G
WD-003 Rev G
WD-004 Rev G
WD-005 Rev G
WD-006 Rev G
WD-007 Rev G
WD-008 Rev G
WD-009 Rev G
WD-010 Rev G and
WD-011 Rev G inclusive

Structural and Civil Engineering Drawings Nos:

12/2022/ ZANACO / ST-1,
12/2022/ ZANACO / ST-2, and
12/2022/ ZANACO / ST-3 inclusive

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL CONDITIONS AND PRELIMINARIES</u>		K	n
<u>General Conditions and Preliminaries to apply to the whole of Contract Works</u>			
A	These General Conditions and Preliminaries shall, unless otherwise stated apply to the whole of the Contract Works described and shall apply to all Nominated Sub-Contractors and Nominated Suppliers and shall be incorporated in all Sub-Contracts.	Item	
<u>Form of Contract</u>			
B	The Conditions of Contract shall be the Articles of Agreement contained in the 1970 Private Edition (Revised 1972) with Quantities of the Standard Form of Building Contract issued by the Joint Liason Committee of the Building Industry and Allied Professions under the sanction of the Zambia Institute of Architects and the Association of Consulting Engineers of Zambia and referred to in the following items by Clause numbers and heading which are to be read as set out in full in the printed form	Item	
C	Copies of the Articles of Agreement and Schedule of Conditions will be available for inspection during the tender period, at the offices of the Architect and the Quantity Surveyor during normal working hours.	Item	
D	The Contractor shall allow for payment of all charges of all charges inconnection with the Articles of Agreement.	Item	
<u>Drawings and Tender Documents</u>			
E	The following Drawings were used in the preparation of the Bills of Quantities. Architectural Drawings Nos: WD-001 Rev G, WD-002 Rev G, WD-003 Rev G, WD-004 Rev G, WD-005 Rev G, WD-006 Rev G, WD-007 Rev G, WD-008 Rev G, WD-009 Rev G, WD-010 Rev G and, WD-011 Rev G inclusive Structural and Civil Engineering Drawings Nos: 12/2022/ ZANACO / ST-1, 12/2022/ ZANACO / ST-2, and 12/2022/ ZANACO / ST-3 inclusive	Item	
F	The tender documents consist of these Bills of Quantities and the Form of Tender	Item	
Carried to Collection 1/1		K	

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL CONDITIONS AND PRELIMINARIES</u>		K	n
	<u>Price Fluctuations</u>		
A	The tender shall be a fixed price contract without any reimbursement for variations in the market price of materials.	Item	
	<u>Definitions of terms and abbreviations</u>		
B	All descriptions, terms and words used in the Bills and in the Contract Drawings and other contract Documents shall be understood, interpreted and applied as defined in the Oxford or other accepted English Dictionary notwithstanding any local trade or other custom to the contrary.	Item	
C	<u>Employer</u> - The term "Employer" wherever used hereafter and in all contract documents shall mean ZAMBIA NATIONAL COMMERCIAL BANK	Item	
D	<u>Project Manager</u> - The term "Project Manager" wherever used in all contract documents shall mean the the person, firm or company appointed as Pricipal Agent by the Employer, in this case ARCHNICKS ARCHITECTS or their authorised representative. (See cover page of these Bills)	Item	
E	<u>Architect</u> - The term "Architect" wherever used hereafternd in all contract documents shall mean the Architect, consulting firm or supervising officer appointed to act as Architects or in the capacity of Architect for this contract, in this case ARCHNICKS ARCHITECTS or their authorised representative. (See cover page of these Bills)	Item	
F	<u>Quantity Surveyor</u> - The term "Quantity Surveyor" wherever used hereafter and in all contract documents, shall mean MUSYANI COMMERCIAL CONSULTANTS or their authorised representative (See cover page of these Bills)	Item	
G	<u>Engineer</u> - The term "Engineer" wherever used hereinafter and in all contract documents shall mean TBA as the case may be or their authorised represenatatives.	Item	
H	<u>Works</u> - The term "Works" wherever used hereinafter and in all contract documents shall mean all or any portion of the work, materials and articles wherever the same are being manufactured or prepared which are to be used in the execution of this Contract, and whether the same be on the Site of the building or not.	Item	
J	It shall also be deemed to include the work of all Sub-Contractors and of all variations.	Item	
	Carried to Collection	K	
	1/2		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL CONDITIONS AND PRELIMINARIES</u>		K	n
<u>Definitions of terms and abbreviations</u>			
A	<u>Contract</u> - The term "Contract" wherever used hereinafter and in all contract documents shall mean the Articles of Agreement and Conditions of Contract, the priced form of tender, the priced bill of quantities, the schedule of rates, the specification for Materials and Workmanship, Form of Bond Drawings and any further documents.	Item	
B	<u>Contract Drawings</u> - The term "Contract Drawings" wherever used hereinafter and in all contract documents shall be deemed to imply the Drawings referred to in these documents.	Item	
C	<u>Contractor</u> - The term "the Contractor" wherever used hereinafter and in all contract documents shall mean the person, firm or company whose tender has been accepted by the Employer, and includes his representatives.	Item	
D	<u>Nominated Sub-Contractor</u> - The term "Nominated Sub-Contractor" wherever used hereinafter and in all contract documents shall mean the person, firm or company nominated or selected by the Architect, in accordance with the Conditions of Contract, to execute a portion of the Works for which a P.C. or Provisional Sum, as hereinafter defined, is included in the Bills of Quantities or other tender documents.	Item	
E	<u>Nominated Supplier</u> - The term "Nominated Supplier" wherever used hereinafter and in all contract documents shall mean the person, firm or company nominated or selected by the Architect, in accordance with the Conditions of Contract, to supply only goods or material to be fixed by the Contractor and for which a P.C. or Provisional Sum, as hereinafter defined, is included in the Bills of Quantities or other tender documents.	Item	
F	<u>Clerk of Works</u> - The term "Clerk of Works" wherever used hereinafter and in all contract documents shall mean the person appointed by the Employer to supervise the Works solely responsible to the Architect.	Item	
	Carried to Collection	K	
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BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL CONDITIONS AND PRELIMINARIES</u>			K	n
<u>Definitions of terms and abbreviations</u>				
A	<p><u>Site</u> - The term "Site" wherever used hereinafter and in all contract documents shall mean the lands and other places on, under in, or through which the Works are to be executed or carried out and any other lands or places provided by the Employer for the purposes of the Contract.</p>	Item		
B	<p><u>Get Out</u> - the term "Get Out" wherever used hereinafter and in all contract documents shall mean that the Contractor is to include for throwing, wheeling or basketing out excavated material and depositing it in spoil heaps at sides of excavations preparatory to backfilling or carting away.</p>	Item		
C	<p><u>As Described</u> - The term "Described" wherever used hereinafter and in all contract documents shall mean as described in the Specification, Bills of Quantities, Drawings or in any other recorded form issued by the Architect to the Contractor for the purpose of the Contract.</p>	Item		
D	<p><u>To Approval</u> - The term "To Approval" wherever use hereinafter and in all contract documents shall mean to the recorded approval of the Architect.</p>	Item		
E	<p><u>Or other Approved</u> - The term "Or other Approved" wherever used hereinafter and in all contract documents shall mean a substitute or an alternative of equal quality and price to the item described, subject to the Architect's approval.</p>	Item		
F	<p><u>Provisional Sum</u> - The term "Provisional Sum" wherever used hereinafter and in all contract documents shall mean a sum provided for work or costs which cannot be entirely foreseen, defined or detailed at the time the tendering documents are issued and such sum shall be expected in whole or in part or omitted entirely from the Contract as Directed by the Architect.</p>	Item		
G	<p><u>Prime Cost Sum</u> - Or the abbreviation P.C. sum shall mean sum provided for work or services to be executed by a Nominated Sub-Contractor's, a statutory authority or public undertaking or for materials or goods to be obtained from a Nominated Supplier.</p>	Item		
Carried to Collection			K	
1/4				

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL CONDITIONS AND PRELIMINARIES</u>			K	n
<u>Definitions of terms and abbreviations</u>				
A	<p><u>Take Delivery and Fix Only</u> - Shall mean the required off-loading of materials, by the Contractor, at the nearest railway station or merchants store, transporting to site and unloading, unpacking, checking and reporting damage (if any) to the Architect, storing and protecting until required in the Works: assembling constituting or preparing for use, fixing or applying in the manner described, returning empty crates to the supplier in good condition carriage paid, and making good any damage or refunding any loss sustained during the period of possession.</p>	Item		
B	<p><u>Attendance</u> - The term "Attendance" wherever used hereinafter and in all contract documents shall mean the required assistance by the Contractor to Sub-Contractors or Specialist in obtaining particulars of their requirements supplying them with information concerning Works to be executed under the Contract, providing full facilities for them on the Site, including use of storage space and Contractors plant and machinery, maintaining, altering and removing same as required, unloading and hoisting their plant and materials and providing them with unskilled labour, water, watching, access, lighting and power, and protecting their goods, materials and finished work and reinstating any loss or damage sustained in course of the Works.</p>	Item		
C	<p><u>Extra Over</u> - The term "Extra Over" wherever used hereinafter and in all contract documents shall mean that a portion of the cost the item following this term is included elsewhere in another item and only the extra cost or additional labour and/or materials is required to be priced with the items so described.</p>	Item		
D	<p><u>Measured Separately</u> - The term "Measured Separately" wherever used hereinafter and in all contract document shall mean that the work to which the item refers is included elsewhere in the Bills of Quantities for pricing and does not require pricing in the item in which it is so described.</p>	Item		
E	<p><u>Small Pipe</u> - The term "Small Pipe" wherever used hereinafter and in all contract documents shall mean a pipe, tube, bar, cable, conduit, standard and the like having a diameter not exceeding 55 mm measured internally in the case pipes and tubes and externally in the case of bars, cables, conduits, standards and the like.</p>	Item		
Carried to Collection			K	
1/5				

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL CONDITIONS AND PRELIMINARIES</u>			K	n
<u>Definitions of terms and abbreviations</u>				
A	<p><u>Large Pipe</u> - The term "Large Pipe" wherever used hereinafter and in all contract documents shall mean a pipe, tube, bar, cable, conduit, standard and the like having a diameter exceeding 55 mm and not exceeding 110 mm measured internally in the case of pipes and tubes and externally in the case of bars, cables, conduits, standards and the like.</p>	Item		
B	<p><u>Extra Large Pipe</u> - The term "Extra Large Pipe" wherever used hereinafter and in all contract documents shall mean a pipe, tube, bar, cable, conduit, standard and the like having a diameter exceeding 110 mm measured internally in the case of pipes and tubes and externally in the case of bars, cables, conduits, standards and the like.</p>	Item		
C	<p><u>Singular and Plural</u> - Words importing the singular only wherever used hereinafter and in all contract documents shall also include the plural and vice versa where the</p>	Item		
D	<p><u>"B.S."</u> - Shall mean the latest edition or amendment of the relevant British Standard, published by the British Standards Institution, 2 Park Street, London, W.I., England.</p>	Item		
E	<p><u>"Z.S."</u> Shall mean Zambia Standards when produced by the Standards Association of Zambia and will replace or be additional to British Standards referred to hereinafter.</p>	Item		
Carried to Collection			K	
1/6				

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K n
A	<p>The Contractor shall refer to the conditions herein before mentioned for the full intent and meaning of Clauses 1 to 35 hereinafter and allow whatever costs he may consider necessary against each Clause together with Sub-Clauses in amplification of same.</p> <p><u>Contractor's Obligations</u></p> <p><u>Architect's Instruction</u></p> <p><u>Contract Documents</u></p> <p>(i) A list of the Drawings from which the Contract bills have been prepared is appended</p> <p>(ii) Contractors may examine all the Drawings (which may be seen at the office of the Architect during normal office hours) and satisfy themselves regarding all details as no claim by reason of ignorance in this connection will be entertained.</p> <p>(iii) The Contractor shall satisfy himself as to the correctness of all Drawings and measurement. If the Contractor finds any discrepancy in the Drawings or between the Drawings and the Bills Quantities, he is advised to follow the Drawings, for both ordering and executing works, but he shall immediately refer the same to the Architect who will determine which shall be take precedence.</p> <p>(iv) Figured dimensions will be used in preference to Scales mentioned on or attached to any Drawing.</p> <p><u>Statutory Obligations Notices Fees and Charges</u></p> <p>The Contractor shall give all notices and descriptions required by any Ordinance or by any Regulation or Bye-Law to the Local and other Authority in connection with the Works, and is to deposit plans and obtain licenses or permits as necessary and pay all fees legally demandable and keep the Employer indemnified at all times against any charges in this regard.</p>	<p>Item</p> <p>Clause No. 1</p> <p>Clause No. 2</p> <p>Clause No. 3</p> <p>Clause No. 4</p>	
B	<p>Carried to Collection</p>	K	
	1/7		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K	n
	<u>Levels and Setting out of the Works</u>	Clause No. 5		
A	All particulars and measurements for the general setting out of the Works shall be taken upon the site in conjunction with the Drawings.			
B	The Contractor shall accurately perform all setting out by a method to be approved by the Architect and provide all instruments, templates, rods and setting out boards, etc., as may be necessary for this purpose and where required maintain these for reference during the progress of the Works.			
C	The contractor shall set out the Works in accordance with the drawings and or other instructions, from beacons, pegs, benchmarks or other fixed marks as may be shown on drawings or otherwise indicated to him. The Contractor shall be held responsible for the correct setting out of the Works not only in regard to correct levels, depths, heights, slopes, gradients and any other dimensional characteristics of the Works.			
D	In all cases of doubt the Contractor shall apply for specific instructions and shall obtain approval for the alignment of building Works, floor levels, gradients and depth of drains and water supply before proceeding with further construction work.			
	<u>Materials, Goods and Workmanship to Conform to Description, Testing and Inspection</u>	Clause No. 6		
E	The materials, goods and workmanship are to be in accordance with the "Specification of Materials and Workmanship".			
F	The Architect may, whenever he considers it desirable, test any materials before they leave the maker's premises as well as after delivery on the site, and the Architect shall be at liberty to reject any materials after delivery should he consider them unsatisfactory, notwithstanding the preliminary test and approval of the materials at the maker's premises. The costs of these tests are to be borne by the Contractor.			
	Carried to Collection	K		
	1/8			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K	n
	<u>Materials, Goods and Workmanship to Conform to Description, Testing and Inspection (Cont'd)</u>	Clause No. 6		
A	When directed by the Architect, samples of materials (the samples being taken by approved sampling methods) are to be supplied by the Contractor for laboratory tests and shall be delivered to the Laboratory by the Contractor at his own cost.			
B	The Contractor shall, whenever so instructed to the Architect, cut out sections of work executed or samples of material incorporated therein and shall deliver them where directed for the purpose of testing. All work disturbed shall be made good forthwith by the Contractor. All costs incurred in cutting out, making good and delivering as foresaid shall be borne by the Contractor unless the result of the tests show that the materials, etc., are in accordance with the Contract.			
C	The Contractor shall furnish at his own cost any samples of materials or workmanship or any test that may be called for by the Architect for approval or rejection and for any further samples or tests in the case of rejection until they are approved by the Architect unless otherwise provided for herein.			
	<u>Royalties and Patent Rights</u>	Clause No. 7		
	<u>Foreman-In-Charge</u>	Clause No. 8		
D	The Contractor shall provide full and adequate supervision during the progress of the Works and shall keep a competent and authorized Agent or General Foreman approved by the Architect (which approval may be withdrawn at any time) constantly on the works. Such Agent or General foreman shall give his whole time to the supervision of the Works and must be able to speak, understand and write English and to receive and act upon (on behalf of the Contractor) all instruction, directions or orders issued by the Architect or his representative.			
	Carried to Collection	K		
	1/9			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K	n
	<u>Foreman-In-Charge (Contd)</u>	Clause No. 8		
A	The Contractor shall provide, erect, maintain and remove on completion a suitable lock-up and weatherproof office on the site for use of the Agent or General Foreman complete with all necessary fittings, furniture, lighting and attendance and for making this office available for the use of Architect and Quantity Surveyor or their representative when visiting the site. In addition the Contractor shall provide a drawing board and T-square, and keep one complete set of Drawings, Specification and Bills of Quantities or other documents forming part of the Contract on site all times for the use of the Architect and Quantity Surveyor or their representative. The position on which the office is to be erected must be agreed with the Architect beforehand.			
	<u>Access for Architect to Works</u>	Clause No. 9		
B	Site visits will as far as possible be made by the Architect and Surveyor during hours of employment normally worked by the Contractor's employees. The Architect and Surveyor, however, reserve the right to visit the site to carry out inspection and to take measurements during hours when work is not being executed and the Contractor is to ensure that the watchman is in possession of the keys to any doors the Contractor desires to lock after normal working hours.			
	<u>Clerk of Works</u>	Clause No. 10		
C	When a Clerk of Works is appointed the Contractor shall provide for his use and the custody, instruments drawings, etc., an adequate and well lighted and ventilated lock-up temporary weatherproof office with boarded or concrete floor, blockwall and ceiling desk, lock-up drawers of the appropriate size, stool large drawing board and T-square, including providing adequate cleaning and attendance required The Contractor shall allow for removing all at completion of the Works.			
	Carried to Collection	K		
	1/10			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K	n
	<u>Variations Provisional and Prime Cost Sums</u>	Clause No. 11		
A	Prime Cost Sums, Provisional Sums and Provisional Quantities are to be expended in whole or in part or omitted entirely from the Contract as directed in writing by the Architect. Any profit which may have been inserted by the Contractor against any P.C. or Provisional Sum is to be treated as a percentage thereof and adjusted pro-rata thereto in the settlement of the Final Account. The period of Final Measurement is to be within 9 months from Practical Completion of the Works.			
	<u>Contract Bills</u>	Clause No.12		
B	The Bills of Quantities shall be considered as a schedule of prices, and therefore the contractor shall not use it to procure materials, unless he has verified that quantities tally with contract drawings. In other words, ordering must always make reference to the contract drawings for avoidance of conflict of over ordering or under ordering.			
C	Any unauthorized alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored.			
D	All items of measured work shall be priced in detail and tenders containing lump sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted. Lump sums to cover several items of Preliminaries likewise shall be broken down if so required.			
E	The rates set down by the Contractor against each item in these Contract Documents shall, unless otherwise expressly provided to the contrary, or unless there is a separate item for extra labour, cutting and waste, be held to include for waste on materials, carriage, carrying in and return of empties, hoisting, setting, fitting and fixing in position, making good and all other labours and every-thing else necessary for the proper completion of each item and for establishment charges and profit.			
	Carried to Collection	K		
	1/11			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>CONDITIONS OF CONTRACT</u>		K	n
A	<u>Contract Bills (Cont'd)</u>	Clause No.12	
	The Contractor shall be deemed to have made allowance in his prices generally to cover items of Preliminaries, expenses in connection with P.C. Sums or other items, if these have not been priced against respective items.		
B	Two blank and one priced copy of these Contract Documents shall be furnished free of cost to the Contractor for his own use.		
	One copy shall be kept on the Works until the completion thereof and the Architect and the Quantity Surveyor shall at all reasonable times have access to the same.		
C	<u>Contract Sum</u>	Clause No. 13	
	The Quantity Surveyor will examine and check the priced Bills of Quantities submitted by any Contractor whose tender is under consideration and he shall be at liberty to call for any correction of any errors so found and for the adjustment of any individual price which he considers unreasonable and for the rectification of any discrepancies as he deems necessary. The tender figure will, however, remain unaltered and any necessary correction to make the revised totals correspond with the tender figure, will be made, after agreement with the Contractor, by means of a compensating lump sum or percentage increase or decrease. Any such increase or decrease shall be deemed to apply only to the cost of Builders Work including Variations and all measured work in the Final Account but shall exclude P.C. and Provisional Sums which shall remain unaffected.		
D	<u>Materials and Goods unfixed or off site</u>	Clause No.14	
	<u>Practical Completion and Defects Liability</u>	Clause No.15	
	The Defects Liability Period, unless otherwise stated in Appendix A hereafter, shall be six months from the day named in the Certificate of Practical Completion of the Works, but should the Defects Liability Period end during the dry season such period of time shall be extended to include two heavy rain storms plus the time period required to make good any damage consequent thereon and plus the time required to include a further testing plus the time required to include a further testing by two heavy rain storm and any consequent making good.		
Carried to Collection		K	
1/12			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>	K	n
	<u>Section Completion</u>	Clause No.16	
	<u>Assignment or Sub-Letting</u>	Clause No. 17	
A	Should consent be given to sub-let any portion of the Works the Contractor will in no way be relieved of his liabilities and responsibilities.		
	<u>Injury to Persons and Property and Employers Indemnity</u>	Clause No.18	
	<u>Insurance against Injury to Persons and Property</u>	Clause No.19	
B	The Contractor shall, as stated in the clause, be solely liable for and shall indemnify the Employer against any claims, in respect of:- (i) Injury to persons, including Workmen's Compensation (ii) Injury to property.		
C	The Contractor shall during the Contract Period without prejudice to his liability arising from Third Party claims in respect of injury or damage to any person and Property or thing however caused by, or arising out of or in connection with the contracthold the Employer indemnified in respect of any such accident as aforementioned.		
D	Approved insurance shall be effected in the joint names of the Employer and the Contractor against the risks of aforesaid with an approved Insurance Company, the indemnity limit in respect of any one accident granted by the Policy issued to be not less than the amount stated in Appendix A hereinafter. The relevant policies and premium receipts are to be submitted to the Architect for scrutiny.		
	<u>Insurance of the works against Fire Etc.</u>	Clause No.20	
E	The percentage to be named to cover professional fees shall, unless otherwise stated in Appendix A hereinafter, be 12 per cent.		
F	Include for complying with Clause 20(A) with regard to risk of loss or damage by fire to the new buildings.		
G	Unless otherwise stated in Appendix A hereinafter Clause 20(B) with regard to Employer accepting risk of loss or damage by fire shall be deemed to be omitted from the Conditions of Contract.		
	Carried to Collection	K	
	1/13		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K	n
	<u>Insurance of the works against Fire Etc. (Cont'd)</u>	Clause No.20		
A	Include, only if so required in Appendix A in Form of Tender for insuring against loss or damage by fire to any existing structures on the site of this Contract as Clause 20(C).			
	<u>Possession, Completion and Postponement</u>	Clause No. 21		
B	The Date for Possession and Date for Completion shall be as agreed in writing at the time of signing the Contract.			
	<u>Damages for Non-Completion</u>	Clause No. 22		
C	The Contractor shall pay to the Employer as liquidated and ascertained damages for the period during which the Works remain uncompleted the sum as stated in Appendix A in Form of Tender.			
	<u>Extension of Time</u>	Clause No. 23		
D	Sub-Clause 23 (J) shall be deleted.			
E	<u>Loss and Expense caused by Disturbance of Regular Progress of the Works</u>	Clause No. 24		
F	<u>Determination by Employer</u>	Clause No. 25		
G	<u>Determination by Contractor</u>	Clause No. 26		
	<u>Nominated Sub-Contractors</u>	Clause No. 27		
	The Contractor shall be responsible for giving all necessary directions to Nominated Sub-Contractors, ascertaining their requirements, coordinating their work and arranging for them to be on Site at the proper time for the ordered progress of the Works. He shall place all orders with Nominated Sub-Contractors clearly on his own behalf and shall not pledge the credit of the Employer either directly or indirectly. In no case shall the Contractor be deemed to be the Agent of the Employer nor shall there be created any privity of contract as between the Employer and the Nominated Sub-Contractor. The Contractor must enter into a written Sub-Contract using an approved form and must deposit with the Architect signed copies thereof.			
	Carried to Collection	K		
	1/14			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K	n
	<u>Nominated Sub-Contractor (Cont'd)</u>	Clause No. 27		
A	The contractor shall accept responsibility for providing the following services for Nominated Sub-Contractors.			
B	<u>GENERAL ATTENDANCE</u>			
	(i) Use, for the purpose of the Sub-Contractor Works, of any scaffolding belonging to or provided by the Contractor while it erected upon the Site, provided that no warranty or other liability on the part of the Contractor or his other Sub-Contractors shall be created or implied in regard to the fitness, condition or suitability of the said scaffolding.			
	(ii) Provision of water , lighting, and watching for the purpose of Sub-Contract Works.			
	(iii) Use of messrooms and sanitary accommodation.			
	(iv) Provision of space for erection of offices or stores or space for storage of plant and materials.			
	(v) Clearing away rubbish produced by them.			
C	<u>SPECIAL ATTENDANCE</u>			
	(i) Unloading and storing.			
	(ii) Hoisting.			
	(iii) Placing in position.			
	(iv) Providing power.			
	(v) The foregoing services are described hereafter as "Add for attendance etc., as described".			
D	<u>Nominated Sub-Contractor shall be responsible for:-</u>			
	(i) The cost of any necessary alteration to or re-erection of the Contractor's ordinary scaffolding which may be required by them to carry out their work.			
	(ii) Special scaffolding, if such has not been asked to be priced by the main contractor in these bills.			
	Carried to Collection	K		
	1/15			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>CONDITIONS OF CONTRACT</u>		K	n
A	<p><u>SPECIAL ATTENDANCE (Cont'd)</u></p> <p>(iii) Provision, erection and removal of workshops, stores, sheds or other buildings for their employees, workmen and materials.</p> <p>(iv) Provision of all necessary plant, tools, materials and equipment etc., necessary to carry out and complete their work.</p> <p><u>Nominated Suppliers</u></p> <p>The Contractor shall be responsible for placing all orders for materials or goods with Nominated Suppliers clearly on his own behalf and shall not pledge the credit of the Employer either directly or indirectly. He shall arrange for delivery of all materials or goods at the proper time for the ordered progress of the Works.</p>	Clause No. 28	
	<p>B The Contractor shall take delivery anywhere in Zambia of all materials or goods supplied by Nominated Suppliers and shall sign a receipt as having received in good order and condition. He shall offload, transport to Site, unload, hoist, provide safe storage and thereafter be responsible for any loss or damage or replacement of any such lost or damaged articles at this own expenses and shall return empty cases if so required. Contractor to ensure a price for "taking delivery and fix only" included here.</p>		
	<p>C All payments by the Contractor for materials or goods supplied must be in full and shall be paid within 30 days of the month during which delivery is made.</p>		
	<p><u>Artists and Tradesmen</u></p>	Clause No. 29	
	Carried to Collection	K	
1/16			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>CONDITIONS OF CONTRACT</u>		K n
A	<u>Certificates and Payments</u>	Clause No. 30	
	All documents necessary for the purpose of the composition of the Final Account including all documents relating to the accounts of Nominated Sub-Contractors and suppliers and shall be passed to the Quantity Surveyor as and when available during the progress of the Works and not later than three months after the date of Practical Completion.		
	(i) Clause 30(4B) shall be deemed to be omitted from these conditions of contract.		
	(ii) The value of any materials or goods before delivery to the Works may not be included in the value of Interim Certificates without the Architect's prior written approval.		
	(iii) Period of Interim Certificates; Period of Honouring Certificates; Percentage of Certificate Value Retained; Limit of Retention Fund and Period of Final Measurement and Valuations shall be as stated in Appendix page (see last page of Preliminaries)		
	(iv) Include for supporting all claims for Interim Certificate payment with details based on items in the Bills of Quantities together with a list of materials on site with delivered prices extended and such other details as may reasonably be required by the Quantity Surveyor.		
	<u>Fluctuations</u>	Clause No. 31	
	<u>Outbreaks of Hostilities</u>	Clause No. 32	
	<u>War Damage</u>	Clause No. 33	
	<u>Antiquities</u>	Clause No. 34	
	<u>Arbitration</u>	Clause No. 35	
	Carried to Collection	K	
	1/17		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL ITEMS</u>		K	n
A	<p><u>Sureties</u></p> <p>Providing the guarantee of an Insurance Company or Bank to be jointly or severally bound with the Contractor in a sum equivalent to ten percent of the Contract sum for due performance of the Contract. The terms of the bond and the Said Insurance Company or Bank shall be to the Employer's approval and the obtaining of such guarantee and the cost of the Bond to be entered into shall be at the Contractor's expense. Tenderers shall submit information concerning sureties as indicated in Form of Tender.</p>		
	<p><u>Access to Site and Temporary Roads</u></p> <p>Means of access to the Site shall be agreed with the Architect prior to commencement of the Work and the Contractor must allow for building any temporary access roads for the transport of materials, plant and workmen as may be required for the complete execution of the Works including the provision of temporary culverts, crossings, bridges or any other means of gaining access.</p>		
	<p>Upon the completion of the Works the Contractor shall remove such temporary roads, temporary culverts, bridges, etc., and make good and reinstate all works and services disturbed to the satisfaction of the Architect and/ or Local authority.</p>		
	<p><u>Trial Holes</u></p> <p>Include for examining any trial holes excavated on site. No assurance can be given regarding that trials holes are fully representative of the soil and site conditions and it is for the Contractor to make his own assessment as no claim in this connection will be entertained.</p>		
	<p><u>Progress Schedule</u></p> <p>Immediately after the signing of the Contract, the Contractor is to co-operate with the Architect and the Quantity Surveyor in the preparation of a Time and Progress Schedule and the Works are to proceed in such manner as agreed. It is the intention also that this Schedule shall be the basis for ordering for determining commencement and completion dates for Sub-Contractors, etc.,</p>		
Carried to Collection		K	
1/18			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>GENERAL ITEMS</u>	K	n
	<u>Site Levels</u>		
A	Before commencing work the Contractor must arrange for and agree with the Architect and Quantity Surveyor the existing site levels and similarly establish and agree a bench mark.		
B	The levels and bench mark thus agreed will then be used for the duration of the Works for all purposes.		
	<u>Setting Out</u>		
C	The Contractor shall set out the Works in accordance with the dimensions and levels shown on the Drawings and shall be responsible for the correctness of all dimensions and levels so set out by him and will be required to amend all errors arising from inaccurate setting out at his own cost and expense. In the event of any error or discrepancy in the dimensions or levels marked on the Drawings being discovered, such errors or discrepancies must be reported by the Contractor to the Architect for his immediate attention.		
D	No work shall be commenced by the Contractor until he has received written instructions from the Architect to adjust such discrepancies which may be proved. Upon receipt of such instructions the Contractor shall thereupon be responsible for the accurate setting out of the work, giving effect to the adjustments necessary to comply with such instructions, and no claim for extra expense or relief from the provisions or levels Clause No. 5 of the Conditions of Contract based on any discrepancy or error in the dimensions or levels shown on the Drawings may be made thereafter.		
	<u>Security of Works</u>		
E	The Contractor shall be entirely responsible for the security of all Works, stores, materials, plant, personnel, etc., both his own and Sub-Contractor's and shall provide all necessary watching, lighting and other precautions as necessary to ensure the security and the protection of the public.		
F	The Contractor's attention is drawn to the nature of the Site and he shall, if he deems it necessary, allow for any additional perimeter fencing, hoarding and the like that he may consider necessary.		
	Carried to Collection	K	
	1/19		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL ITEMS</u>		K	n
A	<u>Water</u> The Contractor shall provide at his own cost all the water for use in the Work including that used by Nominated Sub-Contractors. He shall arrange with the Local Authorities for a metered supply and shall pay all charges for same and for water used during the period of the Works and shall also provide temporary piping and storage tanks necessary and clear away on completion.		
	<u>Electric Light and Power</u> The Contractor shall, if so required, arrange with the power and lighting authority for a metered supply to the site and shall pay all charges for same and for current consumed during the period of the Works.		
C	He shall make his own arrangements with Sub-Contractors for power provided specifically for their use.		
D	<u>Site Telephone</u> The Contractor shall arrange provide and maintain, a telephone upon the Site from the commencement to completion of the Contract and shall pay all charges in connection therewith.		
	<u>Area to be occupied by the Contractor</u> The area of the Site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on Site by the Architect.		
F	<u>Sheds for Storage of Materials</u> The Contractor shall provide and maintain on the Site ample weatherproof sheds for storage of cement and other perishable materials and shall clear same away on completion and make good any disturbed surfaces.		
	Carried to Collection	K	
1/20			

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>GENERAL ITEMS</u>	K	n
	<u>Office for the Consultants</u>		
A	The Contractor shall provide, erect and maintain where convenient and as directed on the Site an approved weatherproof lock-up office for the sole use of the Consultants with a floor area of not less than 14 square. The office shall be constructed with a concrete or wooden floor, and the walls and ceiling internally are to be lined with fibreboard. Glazed windows shall be provided if not less 1.5 square metres and the door shall have a strong lock or fastening. The office is to be furnished with a table of sufficient size to carry the drawings, complete withdrawers, and also stools and chairs.		
B	The Contractor shall keep on the Site and maintain in good condition one dumpy or quickset level and leveling staff, one 50 metre steel tape and one 50 metres linen tape for the use of the Consultants.		
	<u>Site Agent's office</u>		
C	A weatherproof lock-up office for the Site Agent must be provided on the Site in which at all times shall be kept copies of Drawings, Specification and Bills of Quantities.		
	<u>Notice Board</u>		
D	Provide and erect, where directed and maintain during the whole period of building operations and remove at completion, one approved temporary Notice board to the Architect's standard design and giving a brief description of the Works and showing the names of the Employer, Architect Quantity Surveyor, Engineer and Contractor with sufficient space to append the names of Nominated Sub-Contractors and Suppliers when known. The lettering concerning the Architect and Quantity Surveyor is to be not more than 50 mm high.		
	<u>Visitors to Site</u>		
E	The Contractor is required to control all visitors to the Site and to keep out unauthorized visitors and to provide a visitors book and ensure that all authorized visitors sign therein.		
	Carried to Collection	K	
	1/21		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

<u>GENERAL ITEMS</u>		K	n
	<u>Sanitation of the Works</u>		
A	The sanitation of the Works shall be arranged and maintained by the Contractor to the satisfaction of the Architect and Local Authorities.		
B	The latrines shall be enclosed with framing and corrugated iron roofs, sides and partitions. The site of the latrines shall be agreed with the Architect and the Works shall not be commenced before the sanitary accommodation has been approved by the above-mentioned Authorities.		
C	The Contractor shall provide for the exclusive use of the Consultant and Site Agent ablution facilities consisting of water-borne W.C. Suite wash-hand basin complete, approved drainage system, toilet roll holders, towels soap etc., and maintain all in satisfactory condition throughout the duration of contract.		
	<u>Materials, Tools, Plant, etc</u>		
D	All materials and workmanship used in the execution of the Works shall be of the best quality and description unless otherwise described. Any materials for the Works condemned by the Architect shall immediately be removed from the Site at the Contractor's expense.		
E	The Contractor shall be responsible for the provision of all materials, scaffolding, tools, plant, transport and workmen required for the Works except insofar as may be stated otherwise herein and he shall allow for the provision of the foregoing except for such items specifically and only required for the use of Nominated Sub-Contractors as directed herein.		
F	No timber used for scaffolding, formwork or similar purpose shall be used afterwards in the permanent work.		
	<u>Supervision</u>		
G	The said Works shall be executed under the direction and to the entire satisfaction of the Architect, who shall at all times have access to the Works and to the yards and workshops of the Contractor or other places where work is being prepared for the buildings.		
H	No work shall be carried out at night or on gazette holidays unless authorized.		
	Carried to Collection	K	
	1/22		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

GENERAL ITEMS		K	n
	<p><u>Fair Wages</u></p> <p>The contractor shall pay rates of wages and observe hours and conditions of labour not less favourable than the minimum rates of remuneration and minimum conditions of employment applicable in the district in which the work is carried out. The relevant notice must be posted up and kept posted up on the Site where it can conveniently be read by the employees concerned.</p>		
A	<p><u>Labour</u></p> <p>No labour, with the exception of watchmen, may be housed on the Site and the Contractor shall allow for all transport and other charges in moving labour to and from the Site at such hours and by such routes, as are permitted by the Authorities. The Contractor shall provide, erect and maintain satisfactory housing for the watchman and shall remove same on completion of Works.</p>		
	<p><u>Existing Property</u></p> <p>The Contractor shall take every precaution to avoid damage to all existing property including roads, cables drains and other services and he will be held responsible for damage thereto, arising from the execution of this Contract, and he shall make good all such damage when directed at his own expense.</p>		
C	<p><u>Protection of Work</u></p> <p>The Contractor shall cover up and protect all finished work liable to damage including provision of temporary roofs, gutters, drains, etc until the completion of the Works.</p>		
D	<p>In the event of any damage occurring to the Works, materials, sewers, drains, gullies, paths or other Works on the Site in temporary possession of the Contractor for the purpose of this Contract, either from the weather, want of proper protection, defects, or insufficiency of the Works, the Contractor alone shall be responsible and shall without extra charge, make good all damage and pay all costs which may be levied.</p>		
E			
	Carried to Collection	K	

1/23

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

GENERAL ITEMS		K	n
	<p><u>Prevention of Nuisance</u></p> <p>The Works and such section of the Site necessary therefore shall be under the entire care and control of the Contractor during the whole period of the Contract and he shall take all possible precautions to prevent any nuisance, inconvenience or injury to the holders or occupiers of the existing or surrounding properties and to the public generally and shall at all times keep all parts and roads affected by the works in a safe and clear state, and shall use proper precautions to ensure the safety of all wheeled traffic and pedestrians.</p>		
A			
B	<p>Particular attention is drawn to the fact that the existing adjoining Building will carry on its normal course of business during the building operations and the Contractor must exercise every possible care in executing the Works so that the minimum inconvenience is caused. No workmen will be allowed in the existing building except for the purpose of the Works and adequate screens must be constructed and demolitions constantly watered to keep nuisance to a minimum.</p>		
C	<p>The Contractor must not encroach beyond the confines of the Site allotted to him and he shall be solely responsible for keeping all persons, including those employed by Sub-Contractors under his control in respect of trespass and for any damage which may occur in this respect.</p>		
	<p><u>Bills of Quantities</u></p> <p>These Bills of Quantities are, unless otherwise specifically stated, prepared in accordance with the Standard Method of Measurement of Building Works in Zambia, First Edition Metric dated August 1972, together with the Amendments dated August 1975, issued by the Chapter of Quantity and Building Surveying of the Surveyors Institute of Zambia which shall be deemed to be qualified by the following amendments:-</p>		
D			
E	<p>Add to Clause A1 the words: "Such provisional work is subject to confirmation by the Architect before the work is put in hand or executed and to such remeasurement or other adjustment or confirmation as may be found necessary.</p>		
	Carried to Collection	K	

1/24

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>GENERAL ITEMS</u>	K	n
	<u>Bills of Quantities (Cont'd)</u>		
A	The following definitions shall unless otherwise stated, apply to the Bills of Quantities:- (i) "Extra over" or similar term shall mean the Contractor is required to price only the additional work contained in the description following the item. (ii) "Narrow widths" shall mean a surface not exceeding 300 mm wide or girth not caused by voids. The method of measurement herein used must be accepted and will be strictly adhered to for the adjustment of variations or for remeasurement as necessary. The whole of the quantities in the Bills unless expressly otherwise stated, have been arrived at by taking the net measurement of the various items of completed work from the Drawings.		
B			
C	All work in this Contract that is liable to adjustment has been measured as "Provisional" in the Bills of Quantities, and no excavation or foundation work or other work so described shall be filled in or covered up until all measurements needed for the adjustment of variations under Clause 11 of Conditions of Contract have been made by the Quantity Surveyor.		
	<u>Copyright</u>		
D	The copyright of the Bills of Quantities is vested in the Quantity Surveyor and they may not be reproduced in whole or part without the Quantity Surveyor's written permission.		
	<u>Prime Cost (P.C.) Sums</u>		
E	The words "Prime cost" (or the initials "P.C") wherever appearing in the Bills of Quantities, shall mean net cost exclusive of any trade, cast or other discount whatsoever but inclusive of the cost of packing, carriage and delivery. Such cost shall be the sums due to the Sub-Contractor or Supplier after adjustment where application in respect of measurement or rates.		
	Carried to Collection	K	
	1/25		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

	<u>GENERAL ITEMS</u>	K	n
	<u>Prime Cost (P.C.) Sums (Cont'd)</u>		
A	Any increase or decrease in these Prime Cost Sums resulting from the adjustments and properly paid by the Contractor, shall be added to or deducted from the Contract Sum in the final account. In Substantiation the Contractor will be required to produce to the Quantity Surveyor all quotations, invoices and receipted accounts as shall be necessary to show the details of the sums actually paid.		
B	Any sum added by the Contractor in the bills of Quantities in respect of profit upon any Prime cost sum will be deducted at the final settlement of accounts and sum will be added to the amount of which will bear the same proportion to the sum added as the net amount properly expended bears to the original P.C. Sum.		
	<u>Provisional Sums</u>		
C	Where Provisional Sums are included in the Bill so Quantities they are to be expended as directed by the Architect and the whole or any part of such sums not so ordered to be expended will be deducted from the Contract Sum.		
	<u>Proprietary Materials</u>		
D	Where proprietary materials are specified herein the Contractor may propose the use of materials of equal quality of other manufacture for the approval of the Architect, but the decision of the Architect will be final.		
	<u>Removal of Plant, Rubbish etc.</u>		
E	The Contractor shall, upon completion of the Works, remove and clear away all temporary buildings, plant rubbish and unused material, and shall leave the whole of the Site of the Works in a clean and tidy state to the satisfaction of the Architect. He shall also remove all rubbish and dirt from the Site at weekly intervals or as directed by the Architect.		
F	Particular care shall be taken in leaving windows clean and the removal of all plant and cement stains there from.		
	Carried to Collection	K	
	1/26		

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

GENERAL ITEMS		K	n						
	<u>Contractor to provide everything necessary</u>								
A	Include, if not allowed for elsewhere in the Bills of Quantities, for providing everything necessary for the proper completion of the Works by the Date for Completion to the satisfaction of the Architect, including Customs, Primage or Dumping Duty, for increase, decrease or repeal of the latter, demurrage charges, any requisite manufacture and fabrication at Contractor's Works, transport or Contractors employees to and from the site, overtime, artificial lighting and other facilities to enable the Works to be completed by the Date of Completion, idle time caused by rain or other cause, protection against damage to work, requisite temporary heating to cause the building to be maintained and handed over in an approved dry condition and testing any fireplace, stoves and flues to approval, including provision of fuel.								
B	<p>The Valuation of Preliminaries shall be as follows:</p> <table><tr><td>Site Establishment</td><td>15%</td></tr><tr><td>Value Related</td><td>75%</td></tr><tr><td>Demobilization</td><td>10%</td></tr></table> <p><u>Notes to Tenderers</u></p> <p>Include in the spaces provided below for the cost of any item in the Notes to Tenderers for which the Contractor has not made due allowance in the rates inserted against the items elsewhere in the Bills of Quantities, giving page and item reference and a brief description of the items.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	Site Establishment	15%	Value Related	75%	Demobilization	10%		
Site Establishment	15%								
Value Related	75%								
Demobilization	10%								
C									
	Carried to Collection	K							
	1/27								

BILL NO. 1
PRELIMINARY AND GENERAL ITEMS

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BILL NO. 1 - TOTAL CARRIED TO GENERAL SUMMARY				
1/28				

APPENDIX TO CONDITIONS OF CONTRACT

ABSTRACT OF SCHEDULE OF CONDITIONS	CLAUSE NO.	INSERTION
Defects Liability Period	15, 16 and 30	Six (06) Months
Percentage to cover Professional Fees	20 (a)
Date for Possession:	21
Date for Completion	21
Liquidated and Ascertained Damages:	22	At the rate of 0.5% of Contract Sum per week or part thereof, up to a maximum of 10% of the final Contract Sum.
Period of Delay:		
(i) by reason of loss or damage by any of the contingencies referred to in Clause 20 (A) or 20 (B)	Three (3) Months	
(ii) for any other reason	One (1) Month	
Period of Interim Certificates:	30 (1)	Monthly
Period of Honoring of Certificates:	30 (1)	Twenty One (21) days
Percentage of Certified Value Retained:	30 (3)	Ten Percent (10%)
Limit of Retention Fund:	30 (3)	Five Percent (5%) of the final Contract Sum.
Period of Final Measurement and Valuation	30 (5)	Six (06) Months

TRADE SPECIFICATIONS/ PREAMBLES

GENERAL TRADE PREAMBLES**GENERALLY**

- | Item | Reference to Specification |
|-------------|--|
| A. | The Standard Preliminary and General Clauses and Standard General Specification for Materials and Workmanship or Building Works for the Government of the Republic of Zambia, Interim Metric Edition dated February, 1973, incorporating addendum No.1 dated June, 1973 together with Addendum No.2 for Roads and Storm water Drainage dated August, 1973 in the Specification used in connection with the preparation of these Bills of Quantities and is hereinafter referred to as the 'Standard General Specification' or by the abbreviation ' <u>SAGS</u> '. |
| B. | For the purpose of this Contract reference to previous editions of the Specifications and their Addenda appearing in any of the documents shall be deemed to refer to this Interim Metric Edition. |
| C. | The Contractor's attention is drawn to the Preliminaries in the Standard General Specification and particularly to Section 1.1 preambles thereof. |
| D. | Any particular Specification and schedule for the Electrical or other Engineering or Specific Specialist Installation is described in the relevant Section of those Bills of Quantities and in the Form of Tender. |
| E. | These Bills of Quantities and Specifications shall be read and construed as being complimentary one to another and the Contractor shall allow in his rates against the various items in the Bills of Quantities for fully complying with the requirements of the Standard General Specification and of any particular Specification. |
| F. | The term 'as described' is used in the Bills of Quantities to draw the attention of the Contractor to the relevant clauses in the Standard General Specification or in any Particular Specification and to Preambles to Trade wherein the work is fully described. |

Preliminary and General Items

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| G. | The Preliminary and General Items are contained in a separate section of the main Bills of Quantities. |
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Method of Measurement

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| H | The Bills of Quantities, unless otherwise specifically stated therein have been prepared in accordance with the principle of the Standard Method of Measurement of Building Works in Zambia Second Edition September, 1975 issued by the Chapter of Quantity and Building Surveying of the Surveyors Institute of Zambia. |
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Condition of Contract

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| J. | The conditions of contract shall be the Articles of Agreement and Standard Form of Building Contracts 1970 (Revised 1972) private edition with Quantities issued by the joint liaison committee of the Building Industry and Allied Professions in Zambia. |
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If the tenderer wishes to claim any fluctuations on his supervisory staff and plant, then he is required to provide a comprehensive list of such staff and plant giving their salaries and hire rates with substantiations for the same. Failure by the tenderer to provide such information will make his claims on these P & Gs not to be accepted.

Specification

- A. Standard Preliminary and General Clauses and Standard Specification of Materials and Workmanship for Building Works for the Government of the Republic of Zambia, Interim Metric Edition dated February, 1973, Addendum No.1 dated June, 1973 and Addendum No.2 for Roads and Storm Water Drainage, dated 1973.
- B. For the purpose of this tender, reference to previous Editions and Addenda appearing in any of the documents shall be deemed to refer to the interim Metric Edition dated February, 1973.
- C. Including all the specifications given by the Structural, and Services Engineers.

Reference to these Preambles and any Specification

- D. These General Trade Preambles together with the descriptions in the Contract Bills of Quantities and in the Contract Drawings and together with any Specifications included in the Contract Documents shall be read and construed as being complementary to one another and the Contractor shall allow in his rates for full compliance therewith.

Materials Generally

- E. All materials used in the Works shall be new and of the qualities and kinds specified herein and equal to the approved samples. Deliveries shall be made sufficiently in advance to enable samples to be taken and tested if required. No materials shall be used until approved and all materials which are not approved or which are damaged, contaminated or have deteriorated in any way or do not comply in any way with the requirements of this Specifications shall be immediately removed from the site at the Contractor's expense.

Materials with B.S. or S.A.

- F. All materials used in the Works for which a S.A. or British Standard Specification is published shall conform to the latest edition thereof in every way. The Architect reserves the right to demand that the Contractor shall obtain at his own expense a Certificate in respect of any materials to state that it is in accordance with South African or British Standard.

Materials without B.S. or Z.S. S.A.

- G. All materials used in the work for which no British or S.A. Standard Specification has been published shall be the best of their respective kinds and of a Standard to the satisfaction of the Architect. The quality of such materials shall be generally of a standard equal to those for which there is a South African or British Specification.

Alternatives to Proprietary Brands

- H. Where materials are specified by their proprietary names or where fittings are specified by catalogue numbers, or descriptions, the Contractor may offer materials or fittings from alternative manufacturers which are of equal quality. Such alternatives must be approved before being used in the Works and the Contractor shall allow for this, but prior to tendering he may submit to the Architect for approval, the names of any suppliers or manufacturers whose products he intends to use, together with catalogue numbers, descriptions, and samples but the decision of the Architect will be final.

Water used on the Works

- A. Water used on the Works shall be fresh, clean and free from deleterious matter.

DEMOLITIONS

- B Demolition works are to be carried out only after express approval has been given by the Architect regarding the proposed method statement of the works. This method statement should be submitted prior to commencement on site and whilst approval will not be unreasonably withheld no claims on this method statement by the Architect shall be admitted.
- C The works have been described in reasonable detail but the Contractor shall consider his pricing in conjunction with the actual work on site and allow for everything necessary for carrying out the works whether specifically mentioned or not.
- D The Contractor shall include here or within his rates for making good with materials to match existing any damage that may be caused to adjacent work of whatever kind, during or in consequence of the work as no claim will be entertained for the making good of damage arising from these clauses.
- E This section of the Bills of Quantities contains demolition works. Therefore, the Contractor is strongly advised to visit the site in addition to using the Architectural Drawings for the purpose of ascertaining the extent of dilapidation involved to a particular item stated in the Bills of Quantities.

HOARDING

- F Hoarding and screening off of the whole Site shall be constructed of steel angles, steel channels, and steel z-purlins covered with galvanized iron sheeting. The site shall be screened with hessian covers as described.

EXCAVATION

Inspection of the Site

- G. The Contractor is required to visit and carefully examine the site and ascertain for himself the nature thereof and the kinds of the soil and sub soils and other materials to be excavated and he shall price accordingly and no claim will be allowed for want of knowledge in this respect.

Procedure

- H. The excavations and fillings shall be carried out in such manner and order as the Architect may direct.

Site Clearance

- J. All grass, vegetable matter etc., must be removed or burned on site at the commencement of the Contract over areas as directed by the Architect.

White Ants and Inspection

White Ants and Insecticide Treatment

- K. The Contractor must destroy any white ants' nests found within the perimeter of the buildings, and take out and destroy Queen Ants, impregnate holes and tunnels with approved insecticide and back-fill with selected, hard, dry surplus excavated material well rammed and consolidated.

Excavation

- A. The excavations are to be executed to the widths shown on the Drawings and to the depths below existing ground levels as directed by the Structural Engineer in order to obtain satisfactory foundations. If the Contractor excavates to any widths or depths greater than those shown on the Drawings he shall at his own expense fill in such widths or depths of excavation beyond that instructed or shown with weak concrete to the satisfaction of the Structural Engineer.
- B. Level and ram bottoms of all excavations to receive concrete, form stepping if necessary or as directed to allow for sloping ground, and well water excavations before pouring concrete.
- C. The Contractor shall report to the Architect when secure bottoms to the excavations have been obtained. Any concrete or other work executed before the excavations have been inspected and approved shall, if so directed, be removed and new work substituted after the excavations have been approved, all at the Contractor's expense.

Hard Rock

- D. Hard Rock shall mean any geological material the removal of which from excavations requires the use of barring, wedging, drilling, splitting or blasting.
- E. The Contractor shall notify the Architect or Consultant Quantity Surveyor before any hard rock is removed in order that the type of rock may be assessed before excavation. Failure to comply with this direction or failure to produce adequate records may result in claims for excavation in hard rock not being accepted.
- F. The Contractor is to allow in his rates for excavation in hard rock' for the removal of the material excavated and for removal of surplus material arising from 'over break' or 'over blast' and for the additional fillings occasioned thereby.

Blasting

- G. No blasting will be permitted without prior written approval from the Architect, Structural Engineer and/or Local Authority.

Filling obtained from the foundations

- H. Filling obtained from surplus excavated materials is to be free from all weeds, roots, vegetable or other unstable materials and is to be filled in layers each of not more than 150 mm finished thickness. Each layer shall be well consolidated before the sub-sequent layer is filled in.

Borrow Pits

- J. No borrow pits will be allowed to be opened up on the site.

Hardcore Filling

- K. Hardcore filling is to be approved hard stone, coarse gravel or hard broken bricks, to pass through a 75 mm ring and to be retained on a 25 mm ring and shall be hand packed in layers not exceeding 150 mm thick, each layer well rammed and consolidated. All hardcore shall be blinded with fine gravel or ashes and no concrete shall be placed upon the hardcore until it has been approved by the Architect and Structural.

Materials found in Excavation

- A. No sand, aggregate or other material found in the excavations is to be used in the Works without the written permission of the Architect.

Water proofing

- B. Unless otherwise described waterproofing to be of DERBIGUM or RUBBERFLEX.
- C. Where the joints occur there shall be a minimum of 300 mm weltd lap or a joint as specified by the manufacturer.
- D. The Contractor shall allow for all necessary costs to ensure that membrane surfaces will not be pierced during the laying and concreting of sub-floors.

Insecticide Treatment

- E. The top surface of all filling shall be treated with "Aldrex" 48 or "Dieldrex" 18 applied in accordance with the Manufacturer's printed instructions.

**CONCRETE WORK
GENERAL**

Storage of Aggregates

- F. All aggregates shall be stored in separate stock piles on site, in such a manner that the material shall not intermix or be contaminated with earth, grass or other impurities. The Contractor shall provide a suitable hard surface with division walls to separate the different grades of aggregate.

Samples

- G. Before work commences samples of aggregates intended for use in the Works shall be submitted to the Structural Engineer for testing and approval. Further samples will be taken from stock piles on site for testing as and when required by the Structural Engineer. Where samples are not approved, the aggregate will be rejected and the entire stockpile shall be removed from the site.

Cement

- H. The cement shall be obtained from an approved Manufacturer and shall comply in all respects with Z.S.001/1972. It shall be delivered in the original sealed bags of the Manufacturer or in manufacturers' bulk tanks and stored in a proper manner to avoid deterioration. Any cement not covered by Z.S.001/1972 shall only be used with the written approval of the Structural Engineer. Testing of cement shall be carried out if so directed by the Structural Engineer and any cement which does not comply with the standard shall be rejected and be removed from the site.

Fine Aggregate

- J. The fine aggregate shall comply with B.S.882: 1965 and shall consist of sharp river or pit sand, washed free of dust, clay organic matter and other impurities

Course Aggregate

- K. The course aggregate shall comply with B.S.882: 1965 and shall consist of natural gravel, pit ballast, crushed stone or other non-friable material of approved quality, grading and shape. It shall be clean, hard durable free from dust slag, coal or other deleterious matter.

- A. Aggregate for mass concrete shall pass a 38 mm sieve and for blinding concrete it shall pass a 19 mm sieve, and be evenly graded down to a minimum size all retained on a 5 mm.

Water

- B. Water shall be clean potable fresh water, free from chemical and organic impurities and shall comply with B.S.3148: 1959.

MIXING

Generally

- C. Materials for concrete shall be measured by volume in approved gauge boxes in accordance with the following table. Where dimensions of gauge boxes vary to those stated, the Contractor must obtain approval from the Structural Engineer before using them on the site. Cement shall be measured by weight. The proportions referred to are for dry aggregate and due allowance shall be made for moisture content to the satisfaction of the Structural Engineer.
- D. The amount of mixing water shall be sufficient to give a good workable mix and to produce the specified strength. In no circumstances shall the water: cement ratio exceed 0.6.
- E. The mixing shall be carried out in an approved mechanical batch mixer and mixing shall continue until there is a uniform colour and consistency throughout.
- F. Only sufficient quantities of concrete shall be mixed for immediate use. The mixer and all handling plant shall be maintained in a clean condition and shall be thoroughly cleaned out at the end of each working day.

MIX	Nominal Proportion	AGGREGATE			MINIMUM CUBE	
		Fine Course	Gauge boxes	per	STRENGTH N/mm ²	
	Nominal	Maximum	50 Kg bag	cement size	7 days	28 days
Notation	Proportion	mm				
1	1 : 1.5 : 3	1.5	3	20	20	25
2	1 : 2 : 4	2	4	20	10	20
3	1 : 3 : 6	3	6	40	9	12
4	1 : 4 : 8	4	8	40	-	-

Note: Gauge boxes for aggregate shall be of the following internal Dimensions –

BASIC GAUGE - 30 x 30 x 40 cm deep
 HALF GAUGE - 30 x 30 x 20 cm deep

Aggregate must be filled level to the top of the boxes.

Proportions of Mixes

- A. The nominal mixes of concrete shall be as indicated by the following table. Strength classifications shall only be used as specified on structural drawings.

MIX Notation	WORKS CUBE STRENGTH At 28 days – N/mm2	AGGREGATE Maximum size mm
20/40	20	40
20/20	20	20
25/40	25	40
25/20	25	20
30/40	30	40
30/20	30	20
35/40	35	40
35/20	35	20

Note: - The mix notation is made up of two figures, the first being the 28 day cube strength in N/mm2 and the second being the maximum aggregate size in mm.

This table is to be used only where concrete is specified by strength and maximum aggregate size.

Ready mixed concrete

- B. Where the Contractor wishes to use ready mixed concrete he shall obtain the written consent of the Structural Engineer to do so.

PLACING**Generally**

- C. All concrete except where indicated shall be transported and placed in position as rapidly as possible but in no case shall the period exceed 30 minutes after water is added. In no circumstances shall the concrete be dropped from a height greater than 1.50 m. After placing, the concrete shall be thoroughly compacted or vibrated by an approved means, which does not displace the reinforcement or produce an unacceptable surface finish.

Formwork

- D. Where the nature of the concrete work requires formwork, the centering, shuttering and casing shall be true and rigid, properly braced and supported to resist the dead weight of concrete, barrows, men and any lateral loads, during concreting without undue distortion or deflection.
- E. Formwork for slabs and beams shall be laid with an upward camber to ensure a level ceiling upon striking. All formwork shall be carefully cleaned out before any concreting takes place. The surface of shuttering to be in contact with the concrete shall be lined or treated to provide the finish as required by the particular Specification. Where necessary the shuttering oil must not come into contact with the reinforcement. Formwork shall be so constructed as to allow support to the soffits to remain intact should support to beam sides be removed. Minimum period for removal of shuttering and supports shall be as follows:-
- F.
- | | |
|--|---------|
| Beam sides, walls and columns (unloaded) | 3 days |
| Slab shuttering - | 6 days |
| Props to slabs - | 12 days |
| Beam soffits - | 10 days |
| Props to beams - | 21 days |
- Any damage or failure of the concrete work shall be held to be the entire liability of the Contractor. No supports shall be removed before the elapse of the stated times.

Construction Joints

- A. Construction joints shall occur in positions to be agreed with the Engineer. Concreting shall be carried on continuously up to the agreed positions.
- B. Before recommencement of concreting the joint face shall be roughened and cleaned of laitance, and a liberal brush coating of 1:1 cement and sand slurry applied.

Expansion Joints

- C. Expansion joints shall only be formed in positions specifically indicated on drawings and constructed in accordance with the details.

Curing

- D. After being placed and compacted in its final position the concrete shall be left undisturbed whilst setting and it shall be protected from vibration, loading, traffic or running water for a period of not less than 72 hours after placing.
- E. The concrete shall be thoroughly cured by being continuously maintained in a moist condition after setting by means of wet sacking, spraying or other approved means for a minimum period of 7 days.

SPECIAL REQUIREMENTS

Plastering key

- F. Where concrete surfaces are required to be, the concrete surface shall be treated in an approved method to provide a key.

Wall Tiles

- G. Where walls or partitions abut concrete walls or columns, 2 mm thick galvanised hoop iron ties 38 mm wide shall be cast into the concrete to project a minimum of 25 cm and shall occur at 40 cm vertical intervals.

PRECAST CONCRETE

- H. Where concrete units are specified to be precast, these shall be made as soon as possible after commencement of the Contract, but not less than 7 days prior to placing within the structure. The surface shall be finished in accordance with the specified finish including forming all arises, etc.

REINFORCEMENT

- J. Mild steel bars shall be as specified in B.S.4449; 1969, "Hot rolled steel bars for the reinforcement of concrete". Cold worked steel bars shall be as specified in B.S.4461; 1969, "Cold worked steel bars for the reinforcement of concrete". Steel fabric reinforcement shall be as specified in B.S.4483; 1969, "Steel fabric for the reinforcement of concrete".
- K. Steel bars shall be bent as shown on drawings and bar bending schedules, and shall be in accordance with B.S.4466; 1969, "Bending dimensions of bars for concrete reinforcement".

- A. All reinforcement shall be free of loose rust, mill scale, paint, oil, or other matter likely to impair or destroy the bond. The reinforcement shall be fixed securely and accurately in the forms, using approved spacers where necessary. The intersections of all bars shall be securely tied in an approved manner with 1.6 mm diameter soft iron wire, the ends turned into the body of the concrete.
- B. All reinforcement shall be as detailed on drawings and schedules. No substitution will be permitted without the prior written authority of the Engineer, and where substitution is agreed to, the Contractor shall submit revised schedules and drawings for the approval of the Engineer. All substitutions shall be at the Contractor's expense.

TESTING

- C. Periodic test cubes of each particular mix of concrete representing all sections of the work shall be delivered to the Engineer for testing. Each sample shall be taken at random from the mix and properly marked with the mix and date upon which the sample was taken, together with the location of the work.
- D. The Contractor shall provide a minimum of 6No. Steel moulds in accordance with B.S.1881; 1970, together with all necessary equipment for manufacturing the test cubes. The Contractor's price shall be deemed to include for provision of this equipment and moulds.

TESTING OF STRUCTURE

- E. Where a loading test on a completed structure or part of a structure is required, it shall be carried out in accordance with the requirements of C.P.114 Part 2: 1969.
- F. Where the Engineer rejects a structure or part of a structure on the grounds of failure to comply with any clause of this Specification, the Contractor may be permitted to offer documentary evidence obtained from loading tests, cores or other approved means, to justify the acceptability of the structure. In such cases, whether or not the evidence is accepted or rejected by the Engineer, the entire cost of these tests shall be borne by the Contractor.

INFERIOR WORK

- G. Where concrete work is found to be inferior upon removal of shuttering, either by reason of segregation of aggregate, honeycombing or the like, which in the opinion of the Engineer is likely to prejudice the immediate or ultimate strength of the construction or line or level of the work the concrete shall be cut out, made good and faced up in accordance with the Engineer's instructions. No remedial work shall be carried out until inspected by the Engineer and appropriate instructions issued.

BLOCKWORK

Concrete Blocks

- H. Concrete blocks shall, unless otherwise described, be hollow and made to an approved profile with an approved mix to provide a crushing strength of not less than 7 N/mm² and shall comply with BS 007 1973 and shall be obtained from an approved source.
- J. Where solid blocks are specified, hollow blocks may be used with interstices thoroughly filled with concrete of approved strength in order to obtain the required strengths.
- K. Mortar for concrete block work shall be of a mix approved by the Structural Engineer to ensure that the strength is achieved without any cracks resulting in the walling.

Laying, Jointing and Leveling Block work

- A. All blocks shall be well wetted before being laid and the top of walling where left off shall be well wetted before recommencing building. Walls shall be kept wet for three days after building.
- B. All walls throughout the Works shall be carried up evenly, no part being allowed to be carried up more than 1 meter higher than any other part, and in such cases, the jointing shall be made in long steps so as to prevent cracks arising.

ROOF COVERINGS**Materials**

- C. Galvanised corrugated steel sheets shall be to B.S. 3083 Type 180 Table 1. The thickness of the gauge is as follows:-

Gauge	Thickness in mm
20	0.996
21	0.794
24	0.629
25	0.490

- D. Corrugated aluminium sheeting shall be to B.S. 1470 N.S. 3 and B.S. 2855
- E. Hook bolts and drive screws for fixing sheet metal roofing shall be to B.S. 1494.
- F. Roofing felt unless otherwise specified, shall be self finished bitumen felt to B.S. 747:1968 Type 1C weighing not less than 1.36 kg/m².
- G. Glass fibre or other insulating material shall be of an approved type obtained from an approved source and shall comply with any relevant B.S.

Galvanised Corrugated Steel Roof Sheeting

- H. The sheets shall, unless otherwise specified, be 24 gauge laid with a single corrugation side lap commencing at the end of the roof slope opposite to the direction of the prevailing wind and with minimum end laps of 150 mm for slopes over 25 degrees pitch and of 225 mm for slopes under 25 degrees. Each sheet shall be fixed to steel purlins with approved galvanized steel hook bolts with nuts, galvanized steel and bituminous felt washers.
- J. Ridge capping shall have an approved profile with wings not less than 225 mm wide and be fixed as described for roofing sheets with 150 mm end laps.
- K. IT4, IBR, or other proprietary box profile galvanized corrugated steel sheeting shall be fixed in accordance with the Manufacturer's Instructions, with bolted side lap joints if specified.

Corrugated Aluminium Roof Sheeting

- L. The sheets shall, unless otherwise specified, be laid as described for corrugated steel roof sheeting, except that only aluminium washers of approved type may be used.
- M. Proprietary box profile aluminium sheeting shall be fixed in accordance with the Manufacturer's instructions with bolted joints if specified.
- N. The surface of aluminium sheeting in contact with mortar or concrete shall be treated with one coat of bituminous paint.

ASPHALT WORK

Material

- A. The asphalt for paving and driveways shall be mastic asphalt to B.S.988/1966 (Limestone aggregate) or B.S. 1162/1966 (Natural rock asphalt aggregate) and shall comply with the respective sections 1 and B.S. tables setting out the analysed composition of mastic asphalt.

The waterproofing membrane system to be used throughout the project shall be a double layer system incorporating the application of two 4mm torch-on membranes, over cement: sand screed or concrete to falls, at all concrete terraces, driveways, parking, flat roofs, canopies, basements, etc.. The membrane type shall be DERBIGUM, as manufactured by Derbigum Manufacturing (Pty) Limited of South Africa, or prior-approved equal.

Workmanship

- B. All asphalt is to be laid in accordance with recommendations of the B.S. Code of Practice C.P. 144 Part 2 and the recommendations of the standard in respect of materials and workmanship are the requirements of this Specification.
- C. Asphalt paving is to be carried out by an approved specialist firm.
- D. The horizontal pavings and linings are to be formed in to casts of equal thickness to a total of not less than 20 mm, each layer to be laid to break joint.
- E. Under all horizontal asphalt roof coverings, provide a layer of sheathing felt laid loose and lapped 100 mm at edges.
- F. The vertical asphalt linings, skirting etc., if required, are to be formed in two coats of equal thickness to a total of not less than 20 mm.
- G. Form all necessary two coats angle fillets at horizontal and vertical interval angles and provide neatly formed splays or rounded angles to external angles.

CARPENTRY, JOINERY AND IRONMONGERY

Timber Generally

- H. All timber is to be thoroughly seasoned, free from sap, shakes, cracks, splits, large, loose or dead knots, distorted edges and all other defects whatsoever, and shall be straight and true.
- J. The softwood timber for Carpenter's work shall be Oregon pine of "merchantable" grade or Baltic Red pine of "unsorted" grade and for the particular purpose for which it is to be used, and to the approval of the Architect.
- K. Hardwood, unless otherwise described, shall be equal to Mukwa free from sapwood and obtained from an approved source.
- L. Timber may be either air or kiln seasoned and must be free from seasoning defects such as case hardening, honeycombing, etc. The moisture content for carcassing timber shall be not more than 22 per cent: that for joinery timber shall not exceed 12 per cent.
- M. All timber for permanent work in the building shall before use be approved by the Architect for quality in accordance with the foregoing Specification for its respective grade. Any timber not so approved by the Architect shall be removed from the Site forthwith.

Pressure Impregnated Timber

- A. All timber described as pressure impregnated shall be impregnated under vacuum and pressure with "Celcure" wood preservative with an average absorption of not less than 6.65 kilogrammes of dry Celcure salt per cubic metre. In case of resistant species where this retention cannot be obtained the timber shall be treated to refusal point. All treated timber shall not be exposed to wet conditions for at least 14 days after treatment has been carried out. All cut ends, drilling or fabrications on the site producing new surfaces shall be thoroughly brushed or soaked with "Calcure B" salts applied in accordance with the Manufacturer's instructions.
- B. Any other method of timber impregnation shall be allowed only with the Architect's prior approval.

Block board

- C. Block board shall be of approved local or imported manufacture to B.S.3444, softwood or hardwood faced as hereinafter specified and equal to a sample to be deposited with the Architect for approval, and which when so approved shall form the standard for the Works.

Plywood

- D. Plywood is to be of approved manufacture and in all respects is to conform to B.S.1455; interior type to be Grade 1 and exterior type Grade 11 weather resistant.

Tempered Hardboard

- E. To be of approved manufacture in accordance with B.S.1142, suitable for painting, prepared and fixed in accordance with the maker's instructions.

Laminated Plastic

- F. To be 1.6 mm Formica single sided decorative laminated plastic sheet to B.S.3794 or other equal approved sheeting colours to be selected by the Architect and bonded on with the Manufacturer's recommended adhesive all in accordance with their printed instructions.

Flush Doors

- G. Shall comply in all respects other than the following modifications with B.S.459 Part 2:-
 - (i) To be 45 mm thick and of the size stated in the Bills of Quantities.
 - (ii) Core shall be seasoned softwood as previously described.
 - (iii) Hardcore lipping to be 25 mm thick tongued on back face into styles and rails of core mitred at angles and glued in.
 - (iv) Semi-Solid Core to consist of 75 mm wide styles, to top and bottom rails all frames together with two 450 mm x 150 mm lock blocks framed in and 20 mm intermediate horizontal rails at 55 mm centres stub tenoned in each end to styles. Each horizontal rail and top and bottom lipping to have 10 mm diameter hole bored through to ensure air circulation through core. Plywood facing to be 4 mm thick,

- (v) Solid-Core to consist of 75 mm wide styles top and bottom rails with solid core of 13 mm horizontal strips glued together under pressure. The strips to be put together with the grain alternating and to be tongued on edge and let into vertical grooves in styles. Plywood facing to be 6 mm thick.
- (vi) A sample must be approved by the Architect before an order is placed and all doors must be equal to the standard of the approved sample.

Glue

- A. Glue for Joiner's work to be approved synthetic resin glue.

Nails, Spikes and Bolts

- B. Nails, spikes and bolts shall be of the best quality mild steel or wrought iron and of lengths and weights approved by the Architect. Nails shall comply with B.S.1202, wood screws with B.S.1210, and bolts with B.S.916.

Ironmongery

- C. Ironmongery shall comprise all necessary locks and fastenings, knobs, lever handles, pull handles, push plates, gripe, hinges, pivots, floor springs, door checks and closers, sliding door gear, balances, ball catches, stays, door holders and stops, kicking plates, hooks, castors, etc.
- D. Ironmongery is to be of best quality and samples are to be submitted to the Architect for approval and shall be fixed with screws of the same metal and finish as the fitting. Screws damaged from any cause shall be removed and replaced by undamaged ones.

Framed Work

- E. The word framed shall mean and include all the best known methods of jointing woodwork together by mortice, tenon, dovetail or other methods, and for forming all necessary stops, mitres or season's mitres in members which are moulded, rebated, etc.

Plugging

- F. Plugging and fixing to walls in all trades shall be executed by "Rawl plugging" or similar approved proprietary method, all in accordance with the Manufacturer's printed directions. Hacking of holes and filling with timber plugs will not be permitted under any circumstances.

Carpentry

- G. All carpentry shall be executed with workmanship of the best quality. Scantlings and boards shall be accurately sawn and shall be uniform in width and thickness throughout and shall be as long as possible and practicable in order to minimize joints.
- H. All work shall be left with a sawn surface except where specified to be wrot.
- J. All work shall be accurately set out and in strict accordance with the drawings, and shall be framed together and securely fixed with the best all brads, nails, screws, etc., as necessary and as directed and approved.

- A. Actual dimensions of scantlings for carpentry shall not vary from the specified dimensions by more than + 3 mm or – 1 mm. Sizes and thicknesses of wrot carpentry timbers are nominal, that is to say a variation of + 2 mm to specified sizes will be allowed for each wrot surface unless the thickness or size is described as “finished” in which case no variation from the stated thickness or size will be permitted.

Joinery

- B. All joinery work shall be wrot unless otherwise described.
- C. Sizes and thickness of joinery are nominal, that is to say a variation of + 2 mm or – 1 mm to specified sizes will be allowed for each wrot surface unless the thickness or size is described as “finished” in which case no variation from the stated thickness or size will be permitted.
- D. No joinery shall be put in hand until the details have been supplied or approved by the Architect and in all cases the details are to be adhered to.
- E. All joinery shall be executed with workmanship of the best quality in strict accordance with the detailed drawings: mouldings shall be accurately and truly run on the solid surface and all work planed, sand, papered and finished to the approval of the Architect. All arrises shall be slightly rounded. All framed work shall be cut out, and framed together as soon after the commencement of the building as is practicable but should not be wedged up until the building is ready for fixing the same and any partitions that warp, get in winding, develop shakes or other defects shall be replaced with new. In door frames etc., the best face of the timber shall be fixed away from the wall. As soon as required for fixing in the building, the framing shall be glued together with glue as described and properly wedged or pinned, etc., as directed.
- F. All beads, fillets and small members shall be fixed with round or oval brads or nails well punched in and stopped. All large members shall be fixed with screws let in and pelleted over with wood pellets to match the grain.
- G. Cups and screws for fixing beads and fillets shall be spaced 150 mm apart and 25 mm from angles.
- H. All joinery immediately upon delivery to the Site is to be stored and protected from the weather.
- J. All joinery is to be primed before fixing but no work is to be primed until it has been approved by the Architect.
- K. All fixed joinery which is liable to become bruised or damaged in any way, shall be properly cased and protected by the Contractor until the completion of the Works.

Generally

- L. All materials shall be the best of their respective kinds, free from defects and all work shall be carried out in the most workmanlike manner and strictly as directed. The materials in all stages of transportation, handling and stacking shall be kept clean and free from damage.
- M. The weight, described in the S.I. Metric System by the term mass, shall be calculated on the basis of 7832 kg per cubic metre (489 lbs per cubic foot) or .7832 kg per lineal meter 100 square millimeters in section (3.4 lbs per lineal foot 1 square inch in section).

METAL WORK

- N. Metal windows, doors and door frames are to be obtained from an approved manufacturer and to have matching fittings.

- A. Where the heads and/or nuts of screw bolts bear on timber, large round washers shall be provided. All bolts securing timber members shall be dipped in mineral oil immediately before fixing.

Aluminium Sections and Trim

- B. Aluminium sections and trim shall conform to the relevant B.S. and shall be of an approved grade of pure aluminium or aluminium alloy and obtained from an approved manufacturer. Works involving aluminium shall be executed by a specialist firm.

Steel

- C. Mild steel for non-structural purposes shall comply with B.S.3706, Grade 1. Hot rolled sections shall comply with B.S.4 Part 1. Hot rolled hollow sections shall comply with B.S.4 Part 2. Tubes (other than circular hot rolled sections) shall comply with B.S.1775 and shall be of the type of steel and method of manufacture described.

Wrought Iron

- D. Wrought iron shall comply with B.S.51, Grade "C".

Cast Iron

- E. Cast iron shall comply with B.S.1452, Grade 10.

Galvanised Work

- F. Iron and steel, where galvanized, shall comply with B.S.729, Part 1, entirely coated with zinc after fabrication by complete immersion in a zinc bath in one operation and all excess carefully removed. The finished surface shall be clean and uniform.

Bolts, Nuts, Nails and Timber Connectors

- G. Bolts and nuts shall comply with B.S.1494 and B.S.916 and have Whitworth threads complying with B.S.84. Nails shall comply with B.S.1202. Timber connectors shall comply with B.S.1579.

PLUMBING WORK

Materials

Sheet Metalwork

- H. Galvanised sheet steel shall conform to B.S.416 and be free from all defects.
- J. Copper sheet or strip shall conform to B.S.899 and be free from all defects and shall be hot rolled and of dead soft temper unless otherwise described in the Bills of Quantities.
- K. Aluminium sheet shall conform to B.S.1470 and shall be of an approved brand and manufacture free from all defects.
- L. Lead sheet shall conform to B.S.1178 uniform in texture and thickness and be free from all defects.
- M. Laps not less than those provided for in the Standard Method of Measurement are included in the measured quantities.

Pipe work

Steel, Copper and Plastic Tubing and Fittings

- A. Steel pipes shall be galvanized of medium weight to B.S.1387 with fittings of malleable cast iron to B.S.1256 with joints made with approved thread tape and non-tainting leadless compound.
- B. Copper pipes shall be to B.S.659 with joints made with approved capillary type fittings to B.S.864 or approved compression fittings to B.S.864 Type A.

Lead Pipes

- C. Lead pipe shall be to B.S. 602 and be jointed with wiped soldered joints. Horizontal pipes shall be fixed at not less than 500 mm and vertical pipes at not less than 750 mm centres employing approved clips or soldered tacks.

Cast Iron Pipes

- D. Cast iron pipes and fittings shall be coated to B.S. 416 Medium Grade and jointed with thread tape and with rings of lead strip and lead wool with upper space filled with molten lead well caulked. Pipes without ears shall be fixed with cast iron holder bats cut and pinned to wall and bolted with galvanized steel screw bolts. Pipes with ears shall be fixed with galvanized steel pipe nails and 19 mm galvanized tubular distance pieces. Access plates to be fixed with gunmetal set and sealed with gaskets in conjunction with mastic.

Traps

- E. Traps to waste pipes shall be of same internal diameter as the pipe and shall be fitted with screwed inspection eyes.

Valves

- F. Valves shall conform to B.S.1010.
- G. All valves shall be of approved high pressure type.
- H. Stop valves shall be used for tubing not exceeding 40 mm diameter and shall conform to B.S. 1010 with washer plates so secured as to lift with the spindle.
- J. Gate valves to B.S. 1218 shall be used for pipes exceeding 40 mm diameter.
- K. All valves exposed to daily view shall, unless otherwise specified, be of easy-clean pattern with chromium plated finish.
- L. Ball valves shall comply with B.S. 1212 with nylon loose orifice seats for sizes not exceeding 20 mm diameter and with bronze seats for pipes exceeding that diameter. Balls shall be of approved plastic with lifting effort of not less than that of a copper float conforming to B.S. 1968.

Workmanship

- M. The whole of the plumbing shall be carried out to the satisfaction of the Local Authority and the Architect or his representative.
- N. Runs of all pipes shall be worked out and approved by the Architect or his representative.
- O. Testing of the installations for water tightness shall be the water test.

ELECTRICAL INSTALLATIONS

Conditions

- A. All installations and methods of construction shall be in accordance with the Zambian Electricity Laws (Modifications and Adaption). Regulations 1963 and the C.A.S. Wiring Rules, Central African Standard No. CCI: 1964 unless otherwise specified in writing, and are to meet with the approval of the Electrical Engineer or the Engineer's Representative.
The installation shall conform with the drawings, schedules and description of materials and workmanship.
- B. The contractor shall make arrangements for the storage of materials and equipment on site. Any temporary huts etc. shall be cleared from the site on completion of the Contract. All rubbish, debris and surplus materials shall be removed as they accumulate and on completion, and the site left in a clean and tidy condition.
- C. The Contractor shall provide all tools and equipment necessary for the execution of the installation.
- D. The Contractor shall allow for all excavations, backfilling, topping, chasing, drilling or cutting.
- E. The Contractor shall be responsible for all transportation and rigging necessitated by this Specification.
- F. The Contractor shall check all dimensions on site and shall be responsible for the accuracy of such dimensions.
- G. For the duration of the Defects Liability Period stipulated in the Contract, the Contractor shall be responsible for remedying any defects which may arise due to faulty workmanship or to faulty materials supplied by the Contractor.
- H. All materials supplied by the Contractor shall be new, undamaged and of approved manufacturer.
- J. All work performed and techniques used shall be to the satisfaction of the Architect or his representative.
- K. All the provisions of the General Conditions of Contract 1971 Edition of A.A.C. (C.A.) Limited shall apply to this Specification.
- L. The Contractor shall arrange, as far as possible, that the load is distributed over all three phases.

Final Sub-Circuit Distribution Boards

- M. These shall be single phase, metal clad, with an incoming isolator. The final sub-circuits shall be protected by M.C.B.'s as detailed.
- N. All other Distribution Boards will be individually specified.
- O. All final sub-circuits rated 60 Amps or less shall to be protected by M.C.B.'s.
- P. Where earth leakage protection is required, current operated earth leakage circuit breakers are to be used.

Conduit and Conduit Accessories

- A. All conduit used shall be of heavy gauge black enameled seamless screwed steel.
- B. All conduit accessories shall be of heavy gauge steel or in damp situations they shall be galvanized and fully weather-proof.
- C. Trunking shall be as per Electrical Engineers drawings and specifications.

Cables and Glands

- D. All cables shall be 600/1000V grade, PVC, SWA, PVC to H.S. 6346: 1969.
- E. Glands are to be Pratley mechanical glands suitable for the above cable and complete with PVC shroud.

Installation of Cables

- F. All cables when run along walls, beams or in cable racks shall be suitably saddled or clamped every 450 mm.
- G. All cable ends are shall be maintained in a sealed and waterproof condition before connection.
- H. All conductors shall be terminated in tinned copper crimped terminals. Where grip type connections are provided conductors shall be bound and sweated solid prior to connecting.
- J. The armouring at each cable end shall be adequately bonded to the earthing system.

Installation of Conduit and Trunking

- K. The whole conduit and trunking installation on the Works shall be electrically continuous. This shall be ensured by careful assembly and by the proof screwing together of threaded conduit components using full length threads, and by the use of screwed couplings and male brass bushes at boxes.
- L. The conduit runs installed in the blockwork of solid walls are to be chased for the full length of the vertical run. All chasing is to be carried out carefully and with the minimum removal of wall material and made good after installation.
- M. Where cavity walls are used, the conduit is to be installed in the cavity walls during building operations.
- N. Where surface mounting conduit is specified, it is to be adequately supported and clamped at intervals of not more than 1.00 meter and equally spaced, and is to be painted as required on completion of the installation.
- O. Tee pieces, elbow and manufactured bends shall be used only where they are necessary and never in concrete or behind plaster work.
- P. Trunking should be of sufficient size such that a space factor of 50% is not exceeded. The maximum number of wires drawn into conduits shall not exceed the number stated in the C.A.S. Wiring Rules Table 5 and Table 6.
- Q. Extra low voltage cable for communications or signaling must either be run in separate trunking from power cable, or must be run in a separate compartment of the same trunking.

Wiring

- A. The following sizes of P.V.C. insulating wiring shall be used:-
- | | |
|--------------------------------------|--------------------------------|
| For lighting circuit | 1.5 mm ² |
| For socket outlets in a ring circuit | 2.5 mm ² (stranded) |
| For socket outlets on a spur circuit | 4.0 mm ² |
| For water heater circuits | 4.0 mm ² |
| For cooker unit circuits | 6.0 mm ² |
- B. For other circuits which are protected by M.C.B.'s the cable size must be such that the maximum current carried by the cable does not exceed the current rating shown in the I.E.E. Regulation (14th Edition) for close excess current protection.
- C. No cable with a nominal cross sectional area of less than 1.5 mm² shall be used.
- D. Cables shall be sufficiently large that at no point on the system is the voltage less than 97% of the nominal system voltage.
- E. A neutral wire shall always be run to a three phase distribution board even when it is only supplying balanced three phase load.
- F. Wherever practicable, socket outlets shall always be wired by means of ring circuits.

Distribution Boards

- G. In all Distribution Boards, provision must be made for additional future circuit.
- H. Blanking off plates shall be fixed over all ways which are not fitted with M.C.B.'s.
- J. All unused knockouts or apertures in Distribution Boards, trunking or junction boxes must be blanked off.
- K. Where a three phase Distribution Board is used to supply several single phase circuits, these circuits shall be arranged so that the three phases in the Distribution Board are balanced.

M.C.B.'s

- L. All M.C.B.'s shall be rated for maximum prospective fault current installed in the board.
- M. Where back up fuses are used, they shall be selected so that they take over zone, that is the zone below which the M.C.B. always trips first, and above which the fuse always blows first, must not extend below 1,300 Amps nor above 2,000 Amps.
- N. Where M.C.B.'s are used as load limiters, they must be backed up by a load limiter of next highest current rating installed in a nearby tamperproof kiosk. In this case a separate cable is to be run from the kiosk to each house.

Earth Leakage Protection

- A. In Workshops, locations where earth connections may become broken or other places where good protection against earth faults is required, earth leakage circuit breakers shall be installed as specified.
- B. Earth leakage circuit breakers shall be mounted in the Distribution Board feeding the area requiring protection, and may be mounted either so as to protect the individual circuits or so as to protect the whole board by replacing the isolator.
- C. In the latter case overload protection must not be fitted to the earth leakage circuit breaker.

Socket Outlets

- D. Wall mounted socket outlets shall be installed as specified.
- E. All socket outlets shall be installed with the edges horizontal and vertical.
- F. No socket outlets shall be installed in any bathroom or W.C., nor within 1800 mm of a bath, wash basin or sink.
- G. All socket outlets in the same room shall be fed from the same phase.
- H. Where socket outlets of different voltage are present in the same building, the socket outlets must be of a different type for each voltage and each outlet must be clearly labeled to show the voltage at the outlet.

Boll and Telephone Outlets

- J. Boll and telephone outlets shall be mounted as specified.
- K. The conduits from the outlets shall terminate 100 mm above ceiling height with a coupling and male brass bush.
- L. In offices, the telephone outlet may be mounted in skirting trunking.

Switches

- M. All wall mounted switches shall be as specified so that the centre of the switch plate is 150 mm from the outside of the door frame with the edges horizontal and vertical.
- N. No switches (except ceiling switches) shall be installed in any bathroom or W.C., nor shall they be installed within 1800 mm of a bath, wash basin or sink.
- O. All lights in the same room are to be fed from the same phase, and where ganged light switches are installed, only one phase shall be connected in any one switch box.
- P. All water heater switches must be double pole switches, and nothing else may be connected in the same final sub-circuit.

Lighting

- A. The distance between light fittings shall not exceed $(1.5 \times h)$ where 'h' is the height of the fitting above the working plane.
- B. Where lights in one room are switched from more than one one-way switches then each single-way switch or each pair of two-way switches shall, wherever possible be fed from separate M.C.B.'s.

Air Conditioning Units

- C. Separate final sub-circuits shall be used for room air conditioning units. When more than one air conditioning unit is supplied from a final sub-circuit they shall be connected in a ring main with a maximum of four units in any final sub-circuit.
- D. Each air conditioning unit is to be fed from a double pole fused switched fixed appliance spur box with flex outlet.

Labeling

- E. Each circuit breaker or fuse in every distribution board shall have adjacent to it a clear and permanent label which must indicate:-
 - (a) The rating of the circuit breaker or fuse if this is not inscribed on the device.
 - (b) The type of apparatus supplied by the circuit breaker or fuse.
 - (c) The location of the apparatus supplied by it.
- F. Every distribution board shall be clearly and permanently labeled to indicate the area it is supplying, and the voltage details.
- G. Clear and permanent labels shall be installed inside as well as outside every kiosk showing the number or designation of the kiosk.
- H. Every cable shall be clearly and permanently labeled to indicate the distinction of the other end.

Earthing

- J. 2.5 mm² bare stranded copper earth wire shall be run to all cooker units, water heaters and socket outlets, where it shall be connected to the appliance or earth terminal. The other end shall be connected to the earth bar or terminal stud in the distribution board.
- K. The earth bar or stud in all distribution boards must be connected to the main sub-station earth via other distribution boards where necessary by means of a bare stranded copper wire of a size not less than that given in Table 2 of the C.A.S. Wiring Rules.
- L. All earth wires shall be terminated with suitable lugs and connection to surfaces must be thoroughly cleaned before fixing.
- M. All conduit, trunking, cable sheaths and armouring, ducts, boxes catenary wires, and all other metal work connected with wiring (other than the current carrying parts) are to be bonded to earth.
- N. All cold pipes, waste water pipes, metal baths, sinks and tanks, metal roof, cranes, hoists and all other equipment which may come into contact with the installation shall be bonded to earth and tested.

LIGHTNING CONDUCTORS

General

- A. The supply and installation of the lightning conductor installation shall be carried out in accordance with the recommendations of the British Standard Code of Practice C.P.316.101 "Protection of Structure against Lightning".

Materials

- B. The component parts of the lightning conductor system shall be as follows:-
- C. Roof Conductors: Conductors shall be of soft annealed copper having a cross sectional area of 025 x 003 fixed horizontally to the roof top.
- D. Down Conductors: Down Conductors shall be of soft annealed copper strip having a cross-sectional area of 025 x 003.
- E. Earth Termination: Each earth shall comprise a tinned copper plate of size .900 x .001, which shall be riveted and soldered to down spikes to give the required earth resistance.
- F. The Roof Conductor shall be fixed and shall be saddled at intervals of not less than 1.200. Down Conductors shall be connected to the roof conductors and shall be so installed that these are connected to earth via the shortest route. Down Conductors shall be secured at intervals not exceeding 1.200 with gunmetal or nylon type saddles. Sharp bends in conductors shall be avoided where possible.
- G. The Electrical Sub-Contractor shall make all provisions for this supply and fixing of uPVC pipe sleeves through concrete slabs necessary to eliminate looping of conductors around canopies and overhangs. Metal sleeves will not be permitted.
- H. All metalwork in the vicinity of the lightning conductor system shall be bonded to the system with roof conductor tapes, and shall include roof tanks, pipe work on the roof and all other metalwork on the roof. All metalwork in the ducts where the conductors may be fixed shall be bonded with 025 x 003 copper tape on each and every floor.

Testing

- J. After completion, each installation shall be fully tested by the Contractor and any defects revealed shall be made good.
- K. Upon receipt of a statement from the Contractor that the installation is ready to be handed over, the Electrical Engineer or his representative shall test the installation with the Contractor.
- L. The test shall include:-
- (a) A test of the polarity of all switches.
 - (b) A test of the insulation of each individual circuit from earth. This insulation resistance should not be less than 50 Mega ohms.
 - (c) An earth continuity test from the supply point end of the installation to the earth socket outlet, to the frames of electrical apparatus and to all trunking and conduits.

- A. The installation shall also be inspected to ensure that it complies with the requirements of:-
 - (a) The Electricity Laws (Modification and Adaptions) Regulations 1963).
 - (b) The C.A.S. Wiring Rules.
- B. The installation shall also be tested to ensure that when a fault occurs the appropriate protective gear operates effectively.
- C. All tests shall be carried out in accordance with the C.A.S. Wiring Rules Section 13.

PAVING AND PLASTER WORK

Materials

Samples

- D. The Contractor shall prepare at his own cost sample areas of the paving, plastering and rendering as directed until the quality, texture and finish required is obtained and approved by the Architect which all work executed shall conform with the respective approved samples.

Cement

- E. Cement shall be as described in Concrete Work.

Lime

- F. Lime shall be as described in Walling.

Sand

- G. The sand shall be as described for fine aggregate in Concrete Work and shall be well graded to a suitable fineness in accordance with the nature of the plaster or paving in order to obtain the finish directed.

Water

- H. Water shall be as described in Concrete Work.

Water Proofing, Colouring and Hardening Compounds

- J. All waterproofing, colouring and hardening compounds shall be used strictly in accordance with the manufacturer's printed instructions.

Bonding

- K. Bonding compounds, etc., for use in applying plaster and similar finishes direct to surfaces without the use of backings or screeds shall only be used if approved by the Architect and shall be used strictly in accordance with the manufacturer's printed instructions.

Expanded Metal Lathing

- A. Expanded metal lathing shall be 22 gauge 9 mm mesh as No. XM105 of B.S. 405 dipped in asphaltum paint. The edges of sheets shall be lapped 50 mm, joints staggered and sheets fixed at 100 mm centers to all supports with heavy galvanized staples.

Workmanship

Chases, Openings and Holes

- B. All chases, holes and the like which were not formed in the concrete or walling shall be cut, and all service pipes shall be fixed and all holes and chases filled with mortar before paving and plaster work is commenced. In no circumstances will the Contractor be permitted to cut chases, holes and the like in finished paving or plaster work.

Proportions of Mixes

- C. A mix referred to as 1:4 shall mean 1 cubic meter (1498 kilos) of Portland cement to 4 cubic meters of sand, and other mixes shall be constructed accordingly.

Mixing

- D. All materials for paving and plastering must be measured in proper gauge boxes in the proportions specified and mixed in an approved power driven mixer for not less than two minutes per batch. The mixer shall be used as close as practicable to the Works and no particularly set materials shall be used or remixed.

SCREEDS AND PAVINGS

Preparation for and finish to In-Situ Paving

- E. Where practicable in-situ paving and screeds shall be laid while the concrete is still green. When this is not practicable the concrete shall be well washed and brushed perfectly clean with a steel wire brush, to remove all laitance and to leave a roughened face as a key, and then kept wet for at least seven days before the paving is laid and on the day of laying the surface shall be only damp with all surplus water removed and painted with cement and sand (1:1) grout immediately before commencing the paving. The grout shall be applied continuously in front of the paving and not in large areas that will dry out before the paving is applied. All paved surfaces shall be finished hard and smooth with a steel trowel unless otherwise specified.
- F. Paving shall be protected during the first stage of hardening from the harmful effects of sunshine, drying winds, rain or water. In exposed positions, paving shall be covered with a well wetted layer of saw dust, Hessian or other approved materials, and this layer shall be kept damp for at least seven days, during which period no traffic shall be allowed over the paving. When floor tiles or similar finishes are applied similar care shall be taken to protect the screeds to receive them. When no longer required as protection to the surface, the protection material shall be removed and the paving left clean and perfect.

Roof Screeds Generally

- G. Roof screeds shall be laid to falls and currents of 1.80 with a minimum thickness of 20 mm at rain water outlets, and shall be finished to the entire satisfaction of the specialist executing the water proofing membrane.

Screeds to receive floor and wall finishes

- A. These shall be finished with a steel trowel to a hard, smooth, true and level surface. Screeds to receive tiles, etc., which are to be bedded in mortar shall be well scratched to form a key.

Cement and Sand Paving

- B. Cement and sand paving shall be cement and sand (1:4) laid in one operation and finished hard and textured smooth with a wood float.

Slate Tile Paving and Skirting

- C. To be all in accordance with B.S. of approved texture and colour.
- D. The tiles are to be bedded on and jointed in cement and sand (1:3) with 1.5 mm joints and to be cleaned off with saw dust immediately after laying.

P.V.C. Sheet Flooring

- E. P.V.C Sheet flooring shall be laid by an approved flooring specialist to patterns as directed by the Architect using adhesives recommended by the Manufacturer in writing. Upon completion the floors shall be thoroughly cleaned as recommended by the manufacturer.

Screed and Backing

- F. To be in cement and sand (1:4).

Preparation for and protection of plaster finishes

- G. All surfaced to be plastered or rendered must be brushed clean with a wire brush and well wetted before plaster is applied. Concrete surfaces shall be well hacked and stone or block walls and hollow tile soffits shall have joints well raked out clean at least 10 mm deep to form a key before plastering or rendering. All plaster and rendering shall be kept continuously damp for seven days after application.
- H. The plasterwork shall be protected during the first stage of hardening from harmful effects of sunshine, drying winds, rain or water and shall be kept damp for at least seven days.

Reveals Mouldings etc

- J. All reveals and returns shall be set accurately at ninety degrees or to splay as the case may be and plastered at the same time as the wall face in which they occur. Internal angles shall be slightly coved and external angles slightly rounded with neatly formed mitres.

Cement Plaster

- K. Where applied in one coat to be cement and sand (1:4) not less than 13 mm thick finished with a steel trowel or wood float as hereinafter specified.
- L. Where applied in two coats, the first coat to be cement and sand (1:5) not less than 10 mm thick and the second coat to be cement and sand (1:3) not less than 4 mm thick finished with a steel trowel or wood float as hereinafter specified.

Ceramic Tiling

- A. Floor and wall tiles, unless otherwise described, shall be as described and shall be obtained from an approved manufacturer, free from all chips, blemishes and other defects and fixed with continuous vertical and horizontal joints with approved adhesive in accordance with the manufacturer's instructions and pointed as specified.
- B. Samples shall be prepared at least four weeks before the work is commenced.

Making Good

- C. The Contractor shall cut and make good all cracks, blisters and other defects and leave the whole of the plaster work perfect at completion. When making good defects the plaster shall be cut out to a rectangular shape with edges undercut to form a dovetailed key, all finished flush with the face of surrounding plaster, all at the Contractor's expense.

GLAZING

Generally

- D. Glass for glazing and mirrors shall be from an approved manufacturer and shall comply with B.S. 952 in all respects, free from flaws, bubbles, specks and other imperfections.

Clear Sheet Glass

- E. The clear sheet glass shall be ordinary glazing (C.C.) quality.

Plate Glass

- C. Polished plate and Georgian Wired polished plate glass shall be selected glazing (S.G.) quality.

Float Glass

- F. Float glass shall be "Pilkington's" frost glass or other equal and approved.

Obscured and Frosted Glass

- G. Obscure and frosted glass shall be of types described and as approved by the Architect.

Mirrors

- H. Mirrors shall be selected glazing (S.G.) quality plate glass from an approved manufacturer with beveled edge and fixed at all corners to walls with rawl plugs and brass screws with removable chromium plated dome heads.

Glazing

- J. All glass fixed to aluminium windows to be fixed in accordance with the Manufacturer's instructions. It is a minimum requirement that 6mm thick safety glass is used with aluminium.

Bedding Strips

- K. Wash leather, velvet, etc., bedding strip to edges of glass is to be of sufficient width to be turned over 6 mm to each side of pane and shall be trimmed to the sight lines of the pane.

Generally

- A. Allow for removing all cracked or broken panes of glass, clearing rebated and re-glazing with new glass throughout the progress of the Works and for cleaning all glass on both sides and leaving perfect upon completion.

PAINTING AND DECORATING

Materials

- B. The primers, paints, plastic emulsion coating, etc., are to be approved by the Architect, and the manufacturer must guarantee to give at all times any necessary technical advice or similar services called for by the Architect.
- C. The materials for all other finishes shall be of the best quality available from an approved manufacturer.
- D. Before commencing painting, the Contractor shall submit to the Architect for approval a list of all the brands of paints and finishings including the necessary primers and undercoats he intends to use and immediately upon being so approved orders shall be placed and total requirements obtained for the Works.
- E. Once approved no other brand of materials shall be used without the express permission of the Architect in writing.

Mordant Solution

- F. All galvanized metal work to be painted shall first receive a coat of a proprietary mordant solution such as Calcium Plumbate or other equal and approved.

Knotting

- G. Knotting shall be shellac knotting to B.S. 1336.

Stopping

- H. Stopping shall be composed of linseed oil putty, white lead, red lead and gold size suitably proportioned and mixed.

Wax Polish

- J. Wax polish shall be furniture polish of an approved proprietary brand.

Supply and Preparation

- K. All paints, distempers, etc., shall be delivered to Site intact in the original drums or tins, and shall be mixed and applied strictly in accordance with the manufacturer's printed directions. The only addition which will be made shall be liquid thinners, driers, etc., supplied by the manufacturers for the purpose. No paint, distemper, etc., shall be thinned more than approved by the Architect.
- L. Paint for external work shall be of the special quality recommended by the manufacturers for external use.

General Workmanship

- A. The priming, undercoat and finishing coats shall each be of different tints and the priming and undercoat shall be the correct brands and tints to suit the respective finishing coats, all in accordance with the manufacturer's directions.
- B. All surfaces must be thoroughly cleaned down prior to painting and decorating work and no external painting may be done in rainy weather. All paint must be thoroughly well worked on, and excess paint must be avoided.
- C. All brushes, tools and receptacles are to be kept clean and free from dirt or old paint and are to be thoroughly cleaned each time after use.
- D. Each coat is to be well brushed into the surface so that every part, including joints, angles, etc., is adequately covered, but care is to be taken to avoid excessive or uneven thickness of paint film, particularly at edges and in angles, etc.
- E. Each coat of paint, etc., shall be properly dry and shall be well rubbed down with fine sand paper, and be brushed clean before the next coat is applied. The paintwork shall be finished smooth and free from brush marks.
- F. All ironmongery, metal or plastic plates and electrical outlets and fittings and the like shall be removed before painting is commenced, and re-fixed on the completion of the work.
- G. No spray or roller painting shall be allowed unless permission is given by the Architect.
- H. The Contractor shall so arrange his programme of work that all other trades are completed and away from the area to be painted when painting begins.

Sample Colours

- J. All colours will be selected by the Architect. Samples and colour cards of all paints, distempers, and materials shall be submitted for approval of the Architect before the same are applied, and sample panels shall be executed for the Architect's approval where and when directed. Such samples, when approved shall become the standard for the work.

Preparation and Priming of Painting Surfaces

Plastered Surfaces

- K. Plaster surfaces are to be perfectly smooth, free from defects and ready for decoration. All such surfaces shall be allowed to dry for a minimum period of four weeks and rubbed down with No.2 grade sand paper to remove trowel marks, stains etc. After the priming coat all cracks and imperfections are to be made good with Polyfilla (or similar approved hard filler) wall rubbed down and then touches up with the priming coat.
- L. Priming for plastic emulsion paint shall be the paint thinned with 25% water.
- M. Priming for oil paint shall be with an alkali-resistant primer.

Cement Plastered Concrete and Block Walls

- A. Surfaces shall be brushed so as to be entirely free of dust, dirt, loose material, etc., immediately prior to decorating.
- B. Priming for plastic emulsion paint shall be the paint thinned with 25% water.
- C. Priming for oil paint shall be with an alkali-resistant primer.

Ferrous Metalwork

- D. All surfaces shall be thoroughly brushed down with wire brushes to remove all scale, rust, etc., and rubbed down with No.2 grade sand paper, and brushed and left perfectly clean immediately prior to decorating.
- E. Shop-primed surfaces to receive oil paint shall have all bare places touched up with approved metal zinc chromium primer.
- F. Unprimed surfaces shall be given one coat primer as last.
- G. Galvanized surfaces shall be treated before painting with mordant solution. The surfaces shall then be thoroughly washed down with clean water, allowed to dry and primed as last.
- H. Coated surfaces already treated with bituminous solution shall receive an insulating coat of anti-bitumen primer or shellac knotting.

Fibre board Surfaces

- J. Surfaces shall be brushed down to remove all dirt, dust and loose particles and have all nail holes or other defects stopped with an approved stopping compound, rubbed down smooth and left with a texture to match surrounding material. Nail heads shall be treated with zinc chromate primer prior to stopping.
- K. Priming for plastic emulsion paint shall be the paint thinned with 25% water.
- L. Priming for oil paint shall be with an alkali-resistant primer.

Hardboard Surfaces

- M. Surfaces shall be brushed down to remove all dirt, dust and loose particles and have all nail holes or other defects stopped with an approved stopping compound rubbed down smooth and left with a texture to match surrounding material. Nail heads shall be treated with zinc chromate primer prior to stopping.
- N. Priming for plastic emulsion shall be the paint thinned with 25% water.
- O. Priming for oil paint shall be with a thin oil primer.

Wood Surfaces to receive paint

- A. The woodwork shall have all knots or resinous parts carefully treated with self knotting aluminium primer, all cracks, nails or other holes shall be thoroughly cleaned out and after priming, all such cracks, etc., shall be filled with matching hard stopping which is to be rubbed down flush with the adjoining surface.
- B. Priming for oil paint shall be with self knotting aluminium primer.
- C. The bottom edges of all doors shall be primed before hanging.
- D. The back of all joinery work is to be primed before fixing.

Preparation. Priming etc.. for wood surfaces to receive clear treatment

- E. All wood surfaces to receive clear treatment such as varnish, polyurethane etc., shall be rubbed down to a satin finish with fine sand paper immediately prior to application.

Covering up and Protection

- F. Cover up all floors, etc., as far as is practicable with dust, sheets when executing all painting and decorating work.

Leave Clean

- G. Paint splashes, spots and stains shall be removed from floors, woodwork, etc., and damaged surfaces touched up and the whole of the woodwork left clean and perfect upon completion to the satisfaction of the Architect.

DRAINAGE WORK

Materials

- H. Glazed earthenware drain pipes and fittings shall be of first quality to comply with B.S. 65 with modified sockets for use with flexible joints and shall be obtained from an approved manufacturer.
- J. Cast iron pipes and fittings shall be coated and comply with B.S. 437 with special fittings complying with B.S. 1130.
- K. Concrete pipes and fittings shall be coated and comply with B.S. 556.
- L. Cast iron manhole covers and frames shall be coated to comply with B.S. 497.
- M. Cast iron step irons to be coated and shall comply with B.S. 457.
- N. Materials for concrete and block work shall be all as previously described.

Cast Iron Pipes and Specials

- A. Cast iron pipes for general drainage Works, including drains under buildings shall comply in all respects with B.S. 437.
- B. Specials shall, except where otherwise indicated, comply in all respects with B.S. 1130 and shall be coated in accordance with B.S. 437. Cast iron access fittings with small square doors shall not be used otherwise than on drop pipes in manholes. Pipes shall be cut or special castings provided so that all work shall be constructed in desired positions. Where connections are to be made between stoneware and cast iron pipes or specials, the cast iron pipes or specials shall be provided with large sockets where required taking the stoneware spigots.

Laying and Jointing Pipes

- C. Rates for laying and jointing pipes shall include for laying to current alignment and even falls, for jointing with approved joints made in accordance with the practice approved by the Architect and Local Authority and for cutting and waste.
- D. No pipe work is to be covered until authorized by the Architect and/or Engineer.

Concreting of Pipes

- E. Where pipes are directed and required to be bedded and haunched or surrounded, they shall be laid on a bed of concrete (1:3:6 – 38 mm) 150 mm thick of the requisite width to give at least 150 mm cover on each side of the external diameter of the pipe barrels when laid. After the pipes have been jointed, tested and approved by the Architect or his representative, concrete (1:3:6 – 18 mm) shall be worked into the joint holes under and around the pipes. The concrete shall be carried up to half pipe height to the full width and then sloped tangentially to the pipes to form a haunch, or carried around and over the pipes to form a 150 mm surround.
- F. The concrete shall be lowered into position and packed in such a manner that the pipes and joints are not damaged or the pipes displaced. Except where otherwise indicated, concreting to salt glazed ware pipes shall be as follows:-
 - (a) All drains passing under buildings shall be surrounded with concrete.
 - (b) All drains with less than 1.20 meters cover under roads and areas subjected to vehicular traffic, or with less than 450 mm of cover elsewhere, shall be surrounded with concrete.

Manhole Chambers

- G. Manhole chambers shall be constructed to an approved design. Workmanship shall be as previously described under the various Trade Sections.

Testing Drainage System

- H. Rates shall include for providing all equipment, labour, water and other facilities for testing drains during the progress of the work and on completion of the work and for any further testing required until approved by the Architect and the Local Authority and for replacing any defective work and for making good all works disturbed thereby.

TERRACES , DRIVEWAYS AND PARKING

TERRACES

- A The waterproofing membrane system to be used throughout the project shall be a double layer system incorporating the application of two 4mm torch-on membranes, over cement:sand screed or concrete to falls, at all concrete terraces, driveways, parking, flat roofs, canopies, basements, etc..The membrane type shall be DERBIGUM, as manufactured by Derbigum Manufacturing (Pty) Limited of South Africa, or prior-approved equal.

DRIVEWAYS AND PARKING

- B All driveways and parking areas shall incorporate the application of two 4mm torch-on DERBIGUM membranes, and on top of this double-layer membrane system, two complete layers of specially-designed premix asphalt shall be applied over the entire area.

SPECIALIST SERVICES

All Provisional and PC Sums stated are NETT delivered to site, unless otherwise described. The Contractor must add profit, if required, to the item following each sum.

ATTENDANCE

The Contractor must allow for attendance upon all Nominated Sub contractors.
"Attendance" unless otherwise described shall mean:

- 1) Taking delivery at site, checking, unloading, storing as necessary in contractors sheds
- 2) Hoisting
- 3) The provision of all facilities to and attendance on the particular supplier and fixer
- 4) Giving of all reasonable assistance
- 5) Provision of water, power or the like
- 6) Provision of necessary builders' scaffolding, adjusting as required, maintaining and moving for the execution of the work
- 7) Making good in all trades after completion of the work
- 8) Protecting from injury and
- 9) The availing of toilet facilities.

In the case of Nominated suppliers " taking delivery" unless otherwise described, shall mean taking delivery at site, checking, unloading and storing as necessary in contractors sheds until required for fixing.

ADJUSTMENT OF PROFIT AND ATTENDANCE

Profit

The profit allowed in the contractor's original Bills of Quantities will be deemed to have been worked as a percentage markup on the Provisional or PC sum and will be adjusted aligning with the final cost of the item, excluding any value of increased costs.

Attendance

Attendance on the other hand will not be adjusted unless the scope of work has been varied or unless the contractor allowed the attendance as a percentage in which case it will be adjusted to align with the final cost of the item, but excluding any value of increased costs.

TENDERING FOR PROVISIONAL AND PC SUMS

In addition to specific specialist sub contractors, the main contractor shall be permitted to tender for such Provisional and PC sums. Should the main contractors tender be accepted in this regard, any profit and attendance in the original Bills of Quantities will be adjusted as advised above. Any additional Preliminary and General allowances as well as conditions required by the contractor shall be included in his tender for the work covered by such provisional or PC sum as no additional allowances will be allowed after the tender.

ITEM	DESCRIPTION	UNIT	QTY	RATE	BILL NO. 2 DEMOLITIONS AND ALTERATIONS K n
	<p style="text-align: center;"><u>BILL NO. 2</u></p> <p style="text-align: center;"><u>PROPOSED PREMIUM BANK BRANCH</u></p> <p style="text-align: center;"><u>PREAMBLES TO DEMOLITIONS AND ALTERATIONS</u></p>				
	<u>NATURE OF WORK</u>				
A	<p>The tenderer is advised to visit the site and satisfy himself as to the extent and nature of work. The Contractor must conform to the instructions of the Architect in carrying out any portion of the work which in his opinion requires to be expedited and the Contractor shall give priority to such work as and when directed</p>	item			
	<u>SAFETY</u>				
B	<p>The high Safety Standards shall be observed for the whole duration of works</p>	item			
	<u>ELECTRIC WIRES,PIPES,ETC</u>				
C	<p>Special care is to be taken not to interfere unnecessarily with any electric light, power or telephone wires and fittings that may be met with and notice is to be given to the Architect when any disconnections or removal of wires, etc, are necessary, and the Contractor is to afford every facility to the person carrying out this work.</p>	item			
D	<p>Any water supply, waste 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 Architect to whom due notice must be given of any alterations to the exsiting services</p>	item			
	<u>PROTECTION</u>				
E	<p>In taking down and removing existing work utmost care is to be taken to avoid any structural or other damage to the remaining portions of the building, and the work is to be carried out in a workmanlike, practical and safe manner under the constant supervision of a competent foreman. The Contractor must also protect all work not removed such as walls, floors, doors, windows, or other joinery, loose and fixed fittings and eletrical appliances, etc. from damage during the progress of the work and provide all necessary materials for doing so. The Contractor will be held responsible for any damage to persons or property and for the safety of the structure throughout the whole of this Contract and must be made good at his own expense any damage that may occur</p>	item			
	Carried to Collection			K	
	2/1				

ITEM	DESCRIPTION	UNIT	QTY	RATE
	<u>PREAMBLES TO DEMOLITIONS AND ALTERATIONS</u> <i>(Cont'd)</i>			
	<u>MATERIALS FROM DEMOLITIONS</u>			
A	All the materials from demolitions are to become the property of the contractor, except where stated otherwise, and are to be removed from site and CREDIT is to be allowed for the same under the work section stated	item		
B	Any sound material which is in good condition may, with the Architect's written consent, be re-used. Old materials specified to be set aside for re-use are to be carefully removed, cleaned, stored, protected from injury and made good as required	item		
	<u>DUST PROTECTION</u>			
C	Supply, install or erect all equipment and materials necessary for the complete dust protection of all areas in operation during the execution of work in such areas to the satisfaction of the Architect and remove when directed	item		
	<u>NOTICES</u>			
D	Give all notices to the Municipality and/or Authorities and pay all charges legally payable and include for the removal or alteration or disconnection of electric wires or cables, telephone wires, etc, which may be met	item		
	<u>IMMEDIATE AND DIRECT REMOVAL</u>			
E	All demolition materials to be removed should be removed immediately carted away from site leaving it clean	item		
	<u>GENERALLY</u>			
G	Allow for unblocking and cleaning of the all existing rainwater pipes	item		
	Carried to Collection			K

ITEM DESCRIPTION UNIT QTY RATE

TEMPORARY HOARDINGS AND SCREENS
(ALL PROVISIONAL)

- A Temporary hoarding in IBR sheets 2.00m high, on and including timber column supports at 4.00m intervals with three rows of purlins, and with double door entrance for entry and removal of rubble from demolitions, and remove on completion

m 5

DEMOLITIONS OF EXISTING WORKS
(ALL PROVISIONAL)

Concrete

- B Break up existing reinforced concrete slab approximate size 1.30 x 1.30m for column bases excavations, make good works disturbed and clear away debris from site

No 5

- C Break up existing reinforced concrete slab approximate 17.00m² for Vault and ATM base excavations, make good works disturbed and clear away debris from site

item

Walls (inclusive of beams within)

- D Demolish 190mm internal block walls approximately 3.60m high to floor slab level, make good works disturbed and clear away debris from site

m 4

Shopfronts and Entrance Screens (inclusive of Doors within)

- E Carefully take out existing aluminium shopfronts approximately 3.20m high, and hand over to the Employer for own use, make good work disturbed and clear away debris from site

m 6

- F Carefully take out existing aluminium Entrance Screens approximately 3.20m high, and hand over to the Employer for own use, make good work disturbed and clear away debris from site

m 8

Doors and Frames

- G Carefully take out existing steel door and metal frame approximate door size 1.50 x 2.00m, and hand over to the Employer for own use, ditto

No 1

ALTERATIONS

Reinforced Concrete Grade 25

- H 150mm Thick reinforced concrete approximate 8.00m² in reinstating removed floor slab including all necessary hardcore under, damp - proof membrane, mesh reinforcement, formwork and jointing all round to existing concrete floor slab

item

Carried to Collection

K

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 DEMOLITIONS AND ALTERATIONS K n
<u>Reinforced Concrete Grade 25 (Cont'd)</u>					
A	Form opening in existing 200mm block wall for window size 2,905 x 2,700mm, make good works disturbed and clear away debris from site	No	1		
B	Ditto size 5,890 x 2,700mm ditto	No	1		
Carried to Collection				K	
					COLLECTION K n
				Page No	
				2/1	
				2/2	
				2/3	
TOTAL FOR DEMOLITIONS AND ALTERATIONS				K	
<u>CREDIT FOR OLD MATERIALS</u>					
Allow credit for salvageable materials from demolitions that become the property of the Contractor				K	()
DEMOLITIONS AND - TOTAL CARRIED TO SUMMARY ALTERATIONS END OF BILL NO. 2				K	

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 SUBSTRUCTURE K n
<p style="text-align: center;"><u>SUBSTRUCTURE</u> <u>(ALL PROVISIONAL)</u></p> <p style="text-align: center;"><u>EXCAVATIONS AND EARTHWORKS</u></p> <p><u>EXCAVATIONS as described</u></p>					
A	Excavate not exceeding 1500mm deep for isolated column bases and get out	m3	14		
<p><u>SURFACE TREATMENT</u></p>					
B	Compact bottoms of column bases to 93% modified AASHTO density	m2	8		
<p><u>FILLING</u></p>					
C	Return, fill in and well ram in layers not exceeding 150mm selected excavated material around foundations as described	m3	13		
<p><u>DISPOSAL</u></p>					
D	Load and transport surplus excavated material to a tip to be provided by the Contractor	m3	1		
<p><u>ANT PROOFING BY AN APPROVED REPUTABLE PESTICIDE COMPANY GIVING A WRITTEN 10 YEAR GUARANTEE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS</u></p>					
E	Ant repellent solution applied to bottoms of column bases	m2	8		
F	Ditto applied to vertical sides of column bases	m2	34		
<p><u>DISPOSAL OF WATER</u></p>					
G	Include for keeping all excavations free from rain, surface and percolating water, mud and silt by pumping, bailing or other means and for cleaning bottoms of excavations prior to pouring the concrete		Item		
<p><u>PLANKING AND STRUTTING</u></p>					
H	Include for supporting the faces of all excavations with and including all necessary planking and strutting		Item		
<p><u>CONCRETE WORK</u></p> <p><u>MASS CONCRETE CLASS 15</u></p>					
J	50mm Blinding under column bases	m2	8		
Carried to Collection				K	
2/5					

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 SUBSTRUCTURE K n
<u>VIBRATED REINFORCED CONCRETE CLASS 25 filled into formwork and well packed around reinforcement (both measured separately)</u>					
A	In column bases	m3	3		
B	In stub columns	m3	0.8		
<u>CONCRETE TEST CUBES as decribed</u>					
C	150 x 150mm Concrete test cubes 150mm high cast in groups of three in the presence of the Architect from the concrete representative of that used in the works including forwarding for testing, obtaining certificate of testing and handing to the Architect	No	5		
<u>STEEL ROD REINFORCEMENT as described</u>					
D	Reinforcement in any diameter	kg	437		
<u>SAWN FORMWORK as described to concrete</u>					
E	Vertical sides of column bases	m2	3		
F	Vertical sides of stub columns	m2	1		
Carried to Collection				K	
					COLLECTION K n
				Page No	
				2/5	
				2/6	
SUBSTRUCTURE - TOTAL CARRIED TO SUMMARY END OF BILL NO. 2				K	

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 CONCRETE WORK K n
<u>CONCRETE WORK (ALL PROVISIONAL)</u>					
<u>VIBRATED REINFORCED CONCRETE GRADE 30 filled into formwork and well packed around reinforcement (both measured separately)</u>					
A	In beams	m3	2.56		
B	In Vault and ATM Bases	m3	3.4		
C	In Vault and ATM Walls	m3	11.1		
D	In Vault and ATM Suspended slab	m3	2.88		
<u>BOND-DEK COMPOSITE SLAB</u>					
E	100mm Bond-dek suspended slab comprising concrete class 25/19 with and including a layer of "conforce 257" fabric reinforcement and 1.2mm thick profiled steel bond-dek decking and all shear connectors and studs	m2	76		
<u>CONCRETE TEST CUBES as decribed</u>					
F	150 x 150mm Concrete test cubes 150mm high cast in groups of three in the presence of the Architect from the concrete representative of that used in the works including forwarding for testing, obtaining certificate of testing and handing to the Architect	No	5		
<u>REINFORCEMENT</u>					
G	In any diameter in structural members	Kg	2,190		
<u>SAWN FORMWORK as described to concrete</u>					
H	Sides and soffits of beams	m2	51		
J	Horizontal side of suspended slabs	m2	14		
K	Walls to the vault and ATM	m2	112		
CONCRETE WORK - TOTAL CARRIED TO SUMMARY END OF BILL NO. 2				K	-

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 BRICKWORK AND BLOCKWORK K n
<u>BRICKWORK AND BLOCKWORK (ALL PROVISIONAL)</u>					
<u>BLOCKWORK IN HOLLOW PRECAST CONCRETE OR SAND CEMENT BLOCKS IN CEMENT MORTAR (1:4) described</u>					
A	140mm Walls	m2	107		
B	190mm Walls	m2	129		
<u>Sundry Labours</u>					
C	Cut, tooth and bond 140mm wall to existing	m	31		
D	Cut, tooth and bond 190mm wall to existing	m	45		
<u>SUNDRIES</u>					
E	Two strand 3.25mm diameter steel wire brick reinforcement 110mm wide and build into walls (measured net; no allowance made for laps)	m	178		
F	Two strand 3.25mm diameter steel wire brick reinforcement 160mm wide and build into walls (measured net; no allowance made for laps)	m	215		
<u>THREE PLY BITUMINOUS FELT DAMP PROOF COURSE (measured net; no allowance made for laps)</u>					
G	Three ply horizontal bituminous felt damp proof course 140mm wide laid in walls or concrete under same (measured net; no allowance made for laps)	m	41		
H	Three ply horizontal bituminous felt damp proof course 190mm wide laid in walls or concrete under same (measured net; no allowance made for laps)	m	23		
BRICKWORK AND - TOTAL CARRIED TO SUMMARY BLOCKWORK END OF BILL NO. 2				K	

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 CARPENTRY, JOINERY AND IRONMONGERY K n
<u>CARPENTRY, JOINERY AND IRONMONGERY</u> <u>(ALL PROVISIONAL)</u>					
<u>JOINERY</u>					
<u>CEILINGS INTERNALLY</u>					
A	12.5mm Thick Fibre acoustic recessed edge lay-in ceiling tiles 600 x 600mm in 600 x 600mm concealed suspension metal grid system suspended perfectly level	m2	138		
B	9.5mm Thick "Rhino board" gypsum plasterboard ceiling fixed perfectly level to metal suspension system with taped joints including setting with skim coat of retarded semi-hydrate finishing gypsum plaster Rhinolite	m2	106		
C	9.5mm Thick "Rhino board" gypsum plasterboard bulkhead fixed to ditto	m2	145		
D	9.5mm Thick "Rhino board" gypsum plasterboard bulkhead fixed vertically ditto	m2	96		
E	Shadow-line trim to joint of ceiling with wall	m	838		
<u>DOORS</u>					
<u>QUALITY SOLID ROSEWOOD DOORS AND DOOR FRAMES</u>					
D	Rosewood door frame size 825 x 2160mm overall	No	5		
<u>IRONMONGERY AND FIXING as described</u>					
E	Union three lever mortice upright lock with silver anodised lever handles furniture	No	5		
F	150 x 150mm Silver anodised aluminium plate with fire extinguisher symbol engraved	No	4		
G	Ditto with escape symbol engraved	No	2		
H	Ditto with power symbol engraved	No	1		
J	150 x 150mm Silver anodised aluminium plate with designation singage symbol engraved on doors	No	4		
K	Anodised silver aluminium symbol plate with male or female sign engraved	No	2		
M	825 x 150mm Anodised silver aluminium kick plate fixed to doors	No	6		
<u>SUNDRIES</u>					
P	Union rubber door stop and plug and screw to floor finish	No	11		
Carried to Collection				K	
2/9					

ITEM DESCRIPTION

UNIT

QTY

RATE

BILL NO. 2
CARPENTRY,
JOINERY AND
IRONMONGERY
K n

SUNDRIES *(Cont'd)*

A 6mm Polished plate glass silvered mirror size 450 x 900mm with
bevelled and polished edges, four times holed through and plug and
screw and fix to wall with and including brass screws and chromium
plated finished detachable dome screws and make good around

No

2

Carried to Collection

K

COLLECTION
K n

Page No

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**CARPENTRY, JOINERY - TOTAL CARRIED TO SUMMARY
AND IRONMONGERY AT END OF BILL NO. 2**

K

ITEM	DESCRIPTION	UNIT	QTY	RATE	BILL NO. 2 STRUCTURAL STEELWORK K n
	<u>STRUCTURAL STEELWORK</u> <u>(ALL PROVISIONAL)</u>				
	<u>THE FOLLOWING IN FRAMED STEELWORK WITH WELDED AND BOLTED CONNECTIONS including erecting, hoisting and fixing in position</u>				
	<u>Preamble</u>				
	<u>All steelwork to be in accordance with BS 5950,</u>				
	<u>All welds to be 12mm continuous fillet welds and all structural steel shall be cleaned of all loose mill scale, rust weld slag, oil, grease or other foreign matter by means of wire brushing or other suitable means</u>				
	<u>Beams</u>				
A	203 x 133 x 25 Universal beam (25.1kg/m)	kg	723		
B	305 x 102 x 25 Universal beam (24.8kg/m)	kg	1,183		
	<u>Columns</u>				
C	152 x 152 x 30 Universal Columns (30.0kg/m)	kg	486		
	<u>The following to Steel Staircase</u>				
D	200 x 75mm PFC Channel in landing beams and stringer (23.4kg/m)	kg	285		
E	4mm MS Chequer plate to steps and landing (34.0kg/m ²)	kg	284		
F	3mm x 40mm MS flat to 130mm risers (0.899kg/m ²)	kg	2		
	<u>Fittings</u>				
G	Include for all fittings, caps, bases, stiffeners, cleats and the like and bolts for all steel work	Item			
	<u>Sundries</u>				
J	20mm Thick end plate size 150 x 406mm eight times holed for M20 bolts(measured separately)	No	8		
K	20mm Thick end plate size 203 x 133mm four times holed for M20 bolts(measured separately)	No	16		
L	20mm Thick end plate size 305 x 102mm six times holed for M20 bolts(measured separately)	No	18		
M	20mm Thick base plate size 275 x 275mm four times holed for M10 bolts (measured separately)	No	5		
	Carried to Collection			K	
	2/11				

ITEM	DESCRIPTION	UNIT	QTY	RATE	BILL NO. 2 STRUCTURAL STEELWORK K n
<u>Sundries (Cont'd)</u>					
A	M10 Holding down bolts complete with nut ad washers	No	8		
B	M20 Fixing bolts complete with nut ad washers	No	206		
C	M20 400mm long anchor bolts complete with nut ad washers	No	20		
<u>Painting</u>					
D	Clean steel of all loose mill scale, rust, welding slag, oil, grease, dirt or foreign materials by wire brushing and apply lead oxide primer to structural steel surfaces before erection	item			
E	Prepare and apply two coats of aluminim based paint by spraying on structural steel surfaces after erection	item			
<u>Fire Protection</u>					
F	Prepare and apply a 2 hours fire retardant to structural steel surfaces	item			
Carried to Collection				K	
				Page No.	COLLECTION K n
				2/11	
				2/12	
STRUCTURAL STEELWORK - TOTAL CARRIED TO SUMMARY AT END OF BILL NO. 2				K	

2/12

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 METALWORK K	n
<u>METALWORK (ALL PROVISIONAL)</u>						
<u>MILD STEEL</u>						
A	10mm Plate 110mm high fixed to edge of bond-dek slab	m	43			
<u>HIGH QUALITY INDUSTRIAL ALUMINIUM RETRACTABLE SECURITY DOOR AND DOOR FRAME COMPLETE WITH ALL IRONMONGERY AS SHOWN ON relevant Drawings</u>						
B	Trellidor overall size 1500 x 2300mm overall	No	1			
<u>STRONG ROOM DOORS AND BUILD IN as described</u>						
C	<u>Take from Employer's yard, deliver and fix only</u> ATM strong room door including all necessary fittings	No	1			
D	Ditto Vault strong room door ditto	No	1			
<u>DOORS IN BLACK POWDER COATED ANODISED ALUMINIUM FRAMING GLAZED WITH 6.38mm CLEAR LAMINATED SAFETY GLASS, INCLUDING ALL IRONMONGERY AND BUILD IN as described</u>						
E	Doors size 800 x 2000mm	No	1			
F	Doors size 800 x 2200mm	No	4			
G	Doors size 900 x 2200mm	No	6			
H	Doors size 1000 x 2200mm	No	4			
<u>"HILLALDAM FOLDASIDE 868" ALUMINIUM BOTTON ROLLING, SLIDING AND FOLDING DOOR GLAZED WITH SINGLE-GLAZED UNITISED CURTAIN WALL PERFORMANCE GLASS WITH ALL HARDWARE, IRONMONGERY AND ACCESSORIES AS PER MANUFACTURER AND FIXING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS</u>						
J	Door size 3515 x 3200mm overall in three equal panels, each panel comprising bottom rolling,sliding and folding bottom part complete with glazing, hardware for commercial aluminium bottom rolling, sliding and folding doors and three point double cylinder lock	No	1			
K	Door size 4015 x 3200mm overall in four equal panels, each panel comprising bottom rolling,sliding and folding bottom part complete with glazing, hardware for commercial aluminium bottom rolling, sliding and folding doors and three point double cylinder lock	No	1			
Carried to Collection				K		
2/13						

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 METALWORK K	n
<u>PARTITIONING IN CHARCOAL BLACK POWDER COATED ALUMINIUM FRAMING GLAZED WITH 6.38MM CLEAR LAMINATED SAFETY GLASS, INCLUDING ALL IRONMONGERY, FITTINGS AND FIXING all as per Architect's Drawings</u>						
A	Partition size 705 x 2670mm overall	No	1			
B	Partition size 1050 x 2670mm overall	No	1			
C	Partition size 2960 x 2670mm overall	No	2			
D	Partition size 2450 x 2670mm overall	No	2			
E	Partition size 2770 x 2670mm overall	No	1			
F	Partition size 1350 x 2670mm overall comprising single door size 800 x 2200mm with and including 470mm fixed fanlight over, and side fixed lights	No	2			
G	Partition size 1800 x 2670mm overall comprising single door size 1000 x 2200mm with and including 470mm fixed fanlight over, and side fixed lights	No	1			
H	Partition size 2000 x 2670mm overall comprising single door size 900 x 2200mm with and including 470mm fixed fanlight over, and side fixed lights	No	1			
J	Partition size 2400 x 2670mm overall comprising single door size 1000 x 2200mm with and including 470mm fixed fanlight over, and side fixed lights	No	1			
K	Partition size 2400 x 2670mm overall comprising 2No. single door size 1000 x 2200mm with and including 470mm fixed fanlight over, and side fixed lights	No	1			
L	Partition size 2450 x 2670mm overall comprising single door size 900 x 2200mm with and including 470mm fixed fanlight over, and side equal fixed lights	No	1			
M	Partition size 4780 x 2670mm overall comprising single door size 900 x 2200mm with and including 470mm fixed fanlight over, and side equal fixed lights	No	1			
N	Partition size 7100 x 2670mm overall circular on plan to a mean radius of approximate 2045mm comprising single door size 900 x 2200mm with and including 470mm fixed fanlight over, and side equal size fixed lights	No	1			
Carried to Collection				K		

ITEM	DESCRIPTION	UNIT	QTY	RATE	BILL NO. 2 METALWORK K	n
	<u>SHOPFRONTS, ENTRANCE SCREENS AND WINDOWS IN BLACK POWDERE COATED ANODISED ALUMINIUM FRAMING GLAZED WITH 6.38mm LIGHT TINT LAMINATED SAFETY GLASS COMPLETE WITH FYSCREENS, INCLUDING ALL IRONMONGERY AS SHOWN ON WINDOW INCLUDING ALL IRONMONGERY AS SHOWN ON WINDOW SCHEDULES AND BUILD IN as described</u>					
A	Window size 1500 x 400mm overall	No	4			
B	Shopfront size 2905 x 2700mm overall comprising 3No. 970 x 800mm fixed fanlight over, and 3No. 970 x 1900mm equal fixed lights	No	1			
C	Shopfront size 5890 x 2700mm overall comprising 6No. 980 x 800mm fixed fanlight over, and 6No. 980 x 1900mm equal fixed lights	No	1			
	<u>90MM THICK 1HOUR FIRE RESISTANT DRY WALL PARTITIONING IN 0.5MM GAVANISED STEEL SHEET FRAMING WITH DOUBLE 12.5MM RINO FIRESTOP BASE LAYER AND 12.5MM FIRESTOP FACE LAYER, INCLUDING 100mm ALUMINIUM SKIRTING ON BOTH SIDES all as per manufacturers installation manual</u>					
D	3670mm High drywall partitions fixed to concrete floor and suspended ceiling tees	m	14			
	<u>THE FOLLOWING IN HANDRAILS AND BALLUSTRADES IN BRUSHED STAINLESS STEEL TUBULAR PIPES</u>					
E	1250mm High frameless glass system as 'EZ-Rails' comprising stainless tubular handrails, infilled with 12mm thick stafety glass and substrate fixing all in accordance with the manufactures instructions	m	9			
F	50mm Diameter stainless steel wall mounted hand rail on manufacturer supplied wall mounts installed to manufacturer's instruction as EZ-Rails Stainless Steel Wall Mounted Hand Rail System or Similar approved	m	6			
	<u>Ironmongery and fixing to aluminium</u>					
G	Standard heavy duty overhead door closer	No	5			
	<u>Door Grilles</u>					
H	Door grille size 300 x 300mm as 'EUROPAIR DG' complete with cill and all necessary ancillaries and fixings	No	2			
	Carried to Collection			K		

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ITEM DESCRIPTION

UNIT QTY

RATE

BILL NO. 2
METALWORK
K n

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K n

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METALWORK - TOTAL CARRIED TO SUMMARY
AT END OF BILL NO. 2

K

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 PLUMBING INSTALLATIONS K n
<u>PLUMBING INSTALLATIONS</u> <u>(ALL PROVISIONAL)</u>					
<u>SANITARY FITTINGS</u>					
A	Vaal Sanitaryware ceramic fireclay white wash hand basin size 595 x 455mm oval self rimming "Cameo" vanity type (code 7028) with one semi-punched centre tap hole complete with and including one 15mm diameter Cobra 'Melia' pillar tap, square pattern (Product code ME-214-15)	No	2		
B	Vaal Sanitaryware vitreous china "Orchid" back inlet 90 degrees wall hung open rim water closet with floor bracket (code 8082Z0) in white with Flushmaster FM1.100 with C-FM8.80 extension lever, or equivalent and DPI flushfit Marley SG47 pan collar or equivalent Product Code 439016	No	2		
C	Single bowl single drainer stainless steel kitchen sink complete 19mm sink mixer complete with swivel nozzle and plug and chain	No	1		
D	Chrome plated bracket type toilet roll holder to architect approved sample and fix to wall	No	2		
E	Franke Rodan soap dispenser overall size 200 x 140 x 85mm wall mounting for liquid soap, comes with flat front cover, cylinder lock with Franke standard key, suitable for liquid soaps, including 1 litre soap tank, push button on front, screwed with stainless steel screws (code 2120095)	No	2		
F	Franke wall mounted paper towel dispenser, inoxplus-coated main housing and front panel size 300 x 120 x 326mm (EXOS600X) (code 2120154)	No	2		
G	Franke waste bin inoxplus-coated main housing and front panel size 300 x 250 x 573mm (EXOS605X) (code 2120157)	No	2		
<u>WATER HEATERS</u>					
H	15 Litre capacity white enamelled under sink pressure type water heater complete with 20mm diameter inlet, 20mm diameter outlet and overflow as 'Kwikot' or any other equal and approved	No	1		
PLUMBING - TOTAL CARRIED TO SUMMARY INSTALLATIONS AT END OF BILL NO. 2				K	

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 ELECTRICAL INSTALLATIONS K n
<u>ELECTRICAL INSTALLATIONS</u> <u>(ALL PROVISIONAL)</u>					
<u>Note: The following specialist works are only to be excuted by specialist contractors. The tenderer is to disclose his domestic subcontractor before excuting the works.</u>					
<u>DISTRIBUTION BOARDS</u>					
<u>Supply, deliver, erect, install, connect and set to work the following Distribution Boards and accessories all as specified and indicated on all relevant drawings c/w labelling and blank covers as described</u>					
A	Allow a Provisional Sum of K26,000.00 for 2No Distribution Boards	item			
<u>SMALL POWER FITTINGS</u>					
<u>Supply, deliver, install, connect and set to work all conduits and conduit fittings, all cables and cable connections for the following light fittings and small power fittings with and including supply of Switches, Switched Socket Outlets, Isolators and Hand Driers but excluding the supply of light fittings which are measured separately. Refer to relevant drawings</u>					
Lighting circuits in 2 x 1.5mm PVC/CU+1.5 mmsq ECC Power circuits in 2 x 2.5 mm sq. PVC/CU+1.5 mmsq ECC Power circuits in 3C x 2.5 mm sq. PVC Flex Cable					
B	Light Points (conduiting and wiring only; light fitting measured separately)	No	139		
C	10A One Gang One Way, flush type light switch as 'LEGRAND'	No	9		
D	10A One Gang Two Way, light switch flush type as 'LEGRAND'	No	2		
E	10A Two Gang One Way, light switch flush type as 'LEGRAND'	No	3		
F	10A Two Gang Two Way, light switch flush type as 'LEGRAND'	No	4		
G	13A Single switch socket outlet wall mounted as 'LEGRAND ARTEOR 5721 30, white	No	1		
H	13A Double switch socket outlet wall mounted as 'LEGRAND ARTEOR 5721 30, white	No	15		
J	HDMI Socket outlet as 'LEGRAND'	No	2		
K	TV Socket outlet as 'LEGRAND/MK'	No	2		
Carried to Collection				K	
2/18					

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 ELECTRICAL INSTALLATIONS K n
<u>SMALL POWER FITTINGS (Cont'd)</u>					
A	Floor Box (287 x 207 x 100mm) complete with 2No. 13A single socket outlet (S/S/O) - Red in colour, 2No. 13A S/S/O white, 1No. Telephone and 1No. Data outlet as "CABSTRUT/LEGRAND	No	8		
<u>LIGHTING INSTALLATIONS</u>					
<u>LIGHT FITTINGS</u>					
<u>Supply, instal, connect and set to work the following Light Fittings to be inclusive of of lamps and all required accessories. Refer to relevant drawings</u>					
B	4.1W Dougle sided Emergency "EXIT" light with 1 hour battery back up complete with all required accessories as 'GENLUX LIGHTING KLO1'	No	2		
C	9W LED Recessed down light tiltable fitting c/w philips driver and all required accessories as 'GENLUX LIGHTING GME-DL3-BS09W/P-F, 4000K'	No	82		
D	9W LED interior wall light fitting c/w philips and all required accessories	No	7		
E	9W LED vertically hanging tubular chandeliers ceiling mounted c/w all required accessories	No	20		
F	Rope light LED R3528B60P-B, Red in colour 4.8W per meter complete with all required accessories as NVC LIGHT LED R3528B60P-B	m	122		
G	42W LED Maintained recessed panel light fitting to fit ceiling grid 600 x 600mm c/w philips driver, 1 hour battery back up as 'GENLUX LIGHTING' GME-PL606042SL-F C/W BATTERY-4000K or equivalent'	No	24		
H	Motion Sensor ceiling mounted as PHILIPS OCCUSWITCH	No	4		
<u>ACCESS CONTROL SYSTEM</u>					
<u>Acess Control System complete with main panel, batteries, charger, all necessary conduits, conduit fittings cables,cable connections, cuttings, wastage, and fixing all as specified and as shown on relevant drawing and demontsrating to the Architect</u>					
J	Biometric Card Scanner	No	4		
K	Panic button under the working desk	No	13		
Carried to Collection				K	
2/19					

ITEM	DESCRIPTION	UNIT	QTY	RATE	BILL NO. 2 ELECTRICAL INSTALLATIONS K n
<u>VENTILATION EQUIPMENT</u>					
<u>Fans</u>					
A	Extract Fan as 'EXPELAIR' GX6 Extract Performance: 250m3/hr Power Source: 220V/1Phase/50Hz Power Consumption: 40W	No	4		
<u>TRUNKING AND ACCESSORIES</u>					
<u>Supply, install, connect and set the following PVC trunking and all required accessories.</u>					
B	PVC three compartment two cover horizontal skirting trunking as 'LEGRAND' complete with covers, built in splices, end splices, all outlet cover plates pre-punched to carry the specified trunking mounted outlets and fix to wall at floor level	m	6		
C	<u>Extra over</u> the foregoing skirting trunking for stop ends	No	12		
D	Ditto for elbows	No	5		
E	PVC three compartment trunking in concrete floors complete with bends,end caps, and all other accessories and make good works disturbed	m	10		
<u>GENERALLY</u>					
F	Allow for bonding of galvanised steel pipes	Item			
G	Allow for giving any and all notices, inspections and tests as required by ZESCO	Item			
H	Allow for all testing of the Electrical Installations as required	Item			
J	Allow for "as fixed" drawings and hand to the Architect.	Item			
Carried to Collection				K	
				Page No	COLLECTION K n
				2/18	
				2/19	
				2/20	
ELECTRICAL - TOTAL CARRIED TO SUMMARY INSTALLATIONS END OF BILL NO. 2				K	
2/20					

ITEM	DESCRIPTION	UNIT	QTY	RATE	
	<u>FLOOR, WALL AND CEILING FINISHES</u> <u>(ALL PROVISIONAL)</u>				
	<u>IN-SITU FINISHINGS</u>				
	<u>CEMENT AND SAND (1:4) GROUNDS AND SCREEDS as described</u>				
	<u>Internal</u>				
A	12mm Grounds to blockwalls to receive wall tiling and stone slates (both measured separately)	m2	55		
B	28mm Screeds finished to receive porcelain floor and carpet tiles (measured separately)	m2	83		
	<u>POWER FLOAT FINISH</u>				
C	Power float finish to unset concrete surface beds	m2	12		
	<u>TWO COATS INTERNAL PLASTER (1:4) finished with a steel trowel on the following surfaces</u>				
D	Blockwalls small part on concrete	m2	314		
	<u>ONE COAT SAINT GOBAIN SKIM PLASTER finished to receive paint (measured separately) on the followings surfaces</u>				
E	Plastered walls and drywalls internally	m2	314		
F	Drywalls internally	m2	39		
	<u>SAND DOWN PREVIOUSLY DECORATED SURFACES AND APPLY ONE COAT SAINT GOBAIN SKIM PLASTER finished to receive paint (measured separately) on the followings surfaces</u>				
G	Previously decorated walls internally	m2	166		
	<u>GRANITE VANITY TOP</u>				
H	"L" Shaped 32mm Thick Granite Vanity 2550mm long and 600mm wide with bull nosed finish to one long edge, including making holes for kitchen sink and fixing to wall.	No	1		
J	"L" shaped 20 x 150 x 2550mm long granite splashback	No	1		
	Carried to Collection			K	

ITEM	DESCRIPTION	UNIT	QTY	RATE	
	<u>TILE, SLAB AND BLOCK FINISHINGS</u>				
	<u>STONE SLATES cut to regular length and width, laid in square pattern on grounds (measured separately) with tylon adhesive and grouted and pointed with flush joints in tinted grout to match</u>				
A	Tiling to walls	m2	13		
	<u>600 x 600 x 8mm FULL BODY PORCELAIN TILES laid in square pattern on grounds (measured separately) with tylon adhesive and grouted and pointed with flush joints in tinted grout to match</u>				
B	Tiling to walls	m2	42		
	<u>600 x 600 x 12mm FULL BODY PORCELAIN TILES laid in square pattern on cement and sand screed (measured separately) with tylon adhesive and grouted and pointed with flush joints in tinted grout to match</u>				
C	Tiling to existing floors including all necessary levelling	m2	122		
D	One tile high skirting to match floor tiles	m	101		
	<u>600 x 600 x 12mm FULL BODY PORCELAIN LAMINATED TILES laid in square pattern on cement and sand screed (measured separately) with tylon adhesive and grouted and pointed with flush joints in tinted grout to match</u>				
E	Tiling to existing floors including all necessary levelling	m2	34		
	<u>ANTI-STATIC HEAVY DUTY RUBBER TILES laid in square pattern on existing floors with tylon adhesive and grouted and pointed with flush joints in tinted grout to match</u>				
F	Tiling to existing floors including all necessary levelling	m2	3		
	<u>PLAIN SHEET FINISHINGS</u>				
	<u>500 x 500 x 7mm BELGOTEX INDUNA RESINBAC TILES LAID IN IRREGULAR PATTERN ON EXISTING FLOORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION AS SUPPLIED BY THE COMMERCIAL DIVISION OF BELGOTEX CARPETS</u>				
G	Carpeting with backing including all square cutting, fitting and edge fixing	m2	52		
	Carried to Collection			K	

ITEM DESCRIPTION

UNIT QTY RATE

BILL NO. 2
FLOOR, WALL AND
CEILING FINISHES
K n

COLLECTION
K n

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K

FLOOR, WALL AND - TOTAL CARRIED TO SUMMARY
CEILING FINISHES AT END OF BILL NO. 2

ITEM DESCRIPTION		UNIT	QTY	RATE	BILL NO. 2 PAINTING AND DECORATING K n
<u>PAINTING AND DECORATING</u> <u>(ALL PROVISIONAL)</u>					
<u>PREPARE AND APPLY ONE UNDERCOAT AND TWO COATS</u> <u>OF WASHABLE PVA PAINT ON THE FOLLOWING SURFACES</u> <u>as described</u>					
A	Soffits of gypsum plasterboard bulkhead internally	m2	347		
B	Skimmed drywall surfaces	m2	39		
C	Skimmed wall surfaces internally	m2	480		
<u>PREPARE AND APPLY TWO COATS OF "RONSEAL" VARNISH</u> <u>ON THE FOLLOWING ROSEWOOD as described</u>					
D	General surfaces of doors internally	m2	20		
PAINTING AND DECORATING - TOTAL CARRIED TO SUMMARY AT END OF BILL NO. 2				K	

ITEM	DESCRIPTION	UNIT	QTY	RATE	BILL NO. 3 P.C. AND PROVISIONAL SUMS K n
	<u>BILL NO. 3</u>				
	<u>PRIME COST AND PROVISIONAL SUMS</u>				
	This Section covers materials supplied only or supplied and fixed by a specialist or work that must be executed by specialists or other persons selected by the Architect/Project Manager				
	<u>Attending Upon:</u> Prices for all items for attending upon must allow for giving every facility to, attending upon, the erection and moving as necessary maintaining and removing at completion a temporary shed of size necessary for the proper storage of materials and for the use of workmen employed under the Specialists and for protecting any completed work from injury, making good in all trades after the Specialists and for providing the use of all ordinary scaffolding and plant, electricity and water.				
	<u>NOTE:</u> profit and attendance items in this Bill shall not be subject to escalation. Tenderers are referred to the definition of general attendance on nominated sub-contractors given in the Preliminaries				
	<u>NOTE:</u> Where special attendance includes the provision of hosting facilities for a sub-contractor then the contractor shall				
	<ul style="list-style-type: none"> - ensure that the capabilities of the hoisting equipment is sufficient to deal with the masses and the quantities of items to be hoisted - schedule the times of availability of the hoisting equipment for each sub contractor - providing all necessary personnel to operate the hoisting equipment 				
	all to enable the sub contractor to execute the hoisting or lowering of his material, etc using the facilities provided by the Contractor.				
	Carried to Collection			K	-
	3/1				

ITEM	DESCRIPTION	UNIT	QTY	RATE	BILL NO. 3 P.C. AND PROVISIONAL SUMS K n
<u>PRIME COST SUMS</u>					
<u>PLUMBING PIPEWORK, BRASSWORK AND SUNDRIES ETC.</u>					
A	Allow a Provisional Sum of K 10,000.00 for Plumbing Pipework, Brasswork and Sundries etc.		Item		10,000.00
<u>CONNECTION TO EXISTING SEWER LINE</u>					
B	Allow a Provisional Sum of K10,000.00 for Connection to Existing Sewer line		Item		10,000.00
<u>CONNECTION TO EXISTING WATER SUPPLY LINE</u>					
C	Allow a Provisional Sum of K5,000.00 for Connection to Existing water supply line		Item		5,000.00
<u>CASH IN TRANSIT SECURITY DOOR</u>					
D	Allow a Provisional Sum of K30,000.00 for Cash in Transit Security Door		Item		30,000.00
Carried to Collection				K	
					COLLECTION K n
BILL NO. 3 - TOTAL CARRIED TO GENERAL SUMMARY					K

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Page No

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K

**PROPOSED PREMIUM BANK BRANCH AT
AGORA VILLAGE, THABO MBEKI ROAD – LUSAKA
FOR ZAMBIA NATIONAL COMMERCIAL BANK**

GENERAL SUMMARY

BILL NO.1: Preliminary and General Items

Page No.

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BILL NO.2: Premium Bank Branch

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BILL NO.3: Prime Cost and Provisional Sums

3/2

Should the Contractor desire to make any general percentage increase or decrease, it is to be made here. The percentage is to be calculated on the above total excluding P.C and Provisional Sums included in the foregoing Bills

K

K

K

ADD: CONTINGENCIES @ 10% on the above Total

10%

K

TOTAL AMOUNT OF TENDER (BEFORE VAT)

K

ADD: VAT @ 16 %

16%

K

TOTAL AMOUNT TO FORM OF TENDER (WITH VAT)

ZMW

Construction Period..... Weeks

NO FLUCTUATIONS CLAUSE

There will be no fluctuations on this contract. The Contract is FIXED in Zambian Kwacha and payment for work done will be made in same currency.

Date:...../...../ **2022**

Name of Tenderer.....

Signature of Tenderer.....

GENERAL SUMMARY
K n