

ORIGINAL

Section - 6

SPECIFICATIONS

**(General specifications have been mentioned in drawings
and Bills of Quantities)**

• Section - 7

• **BILLS OF QUANTITIES**

- 1. Include Preliminary Bill items as Bill No. 1**
- 2. VAT Component shall be filled in Bills of Quantities and it shall not be carried to Form of Bid.**
- 3. Any discount offered will not be considered for Provisional Sum Items**

**Proposed Substation Building for No. 104-B, Sir James Peiris Mawatha, Colombo -02 Bid
number: ME/PH/BN/17/2021**

Bill Number 01 - Preliminaries

Serial No	Description	Unit	Amount in Rs.
1	Provincial sum for providing a Performance security.	Provisional sum	2,000.00
2	Provincial sum for providing a Advance Payment security.	Provisional sum	9,000.00
3	Provincial sum for insurance of works, Machinery & Equipment, Plant, Material, third party persons & property and Employer's personnel & property at site as per the Contract.	Provisional sum	3,000.00
4	Provincial sum for insurance against accidents and injury to Contract's personnel as per the contract.	Provisional sum	3,000.00
	Contract's Facilities		
5	Allow lump sum for constructing, maintaining, dismantling and removal on completion of the Works, a temporary site office of adequate size including staff rest room and toilets and other facilities for the Contractor's site management staff in accordance with the plans prepared by the contractor and concurred by the Engineer.	Item	
6	Allow lump sum for constructing, maintaining, dismantling and removal on completion of the Works, building to be used as workshops and stores for perishable materials. Buildings shall be constructed in accordance with the drawings prepared by the contractor and concurred by the Engineer. The Lump sum shall also include for altering, modifying, or dismantling and re-erecting within the site all temporary buildings/structures if required.	Item	
7	Allow lump sum for constructing, maintaining, dismantling and removal on completion of the Works, temporary building in accordance with the plans prepared by the contractor and concurred by the Engineer to accommodate the following: 1. Worker's rest room, canteen facilities, kitchen 2. Toilet and wash areas. 3. Sick/First - Aid room 4. Accommodation for contractor's staff and workmen including sanitary facilities on site of applicable. facilities to workman shall conform to the latest public health and industrial regulations.	Item	
8	Allow lump sum for providing accommodation including sanitary facilities and transport for contractor's staff and workmen off site.	Item	

Serial No	Description	Unit	Amount in Rs.
9	Allow lump sum for providing telephone and facsimile facilities, electricity and water servicers for contractor's site office for their use in connecting with the works.	Item	
10	Allow lump sum for maintenance, rental, consumption chargers etc. For telephone and facsimile facilities, electricity and water servicers for contractor's site office for their use in connecting with the works.	Item	
11	Allow lump sum for contractor's transport facilities at site.	Item	
12	Allow lump sum for employing a licensed land surveyor to define the building site work etc., check levels and carry out such other surveys as may be necessary to establish accurately the placing of forms and pouring of concrete and all other setting out in both vertical and horizontal plane.	Item	
13	Allow lump sum for setting out of works in accordance with drawings and other written information given by the Engineer.	Item	
	Quality, Standards and progress		
14	Allow lump sum for provision of provision of progress reports including photographic records and other schedules included in the ICTAD publication Guidelines for effective construction management. (ICTAD/CM/01), relevant to contract administration as directed by Engineer	Item	
15	Allow lump sum for all cost in connection with preparing samples for testing, making arrangement for testing of Materials, goods etc, as stipulated in the specification, obtaining test reports and submitting the same to the Engineer.	Item	
16	Allow lump sum for provision of shop drawings, bar schedules etc for Engineer's approval.	Item	
17	Allow lump sum for provision of 2 sets of (hard copies and soft copies) as-built drawings of all services, for Engineer's approval.	Item	
	Health, Safety and Environment		
18	Allow lump sum for following services throughout the period of construction for the Engineer's Office, contractor's site office and worker's rest room and other facilities; a. Employing workmen to clean and maintain all areas to be in good hygienic conditions including toilets, wash areas, kitchen etc. b. Supplying adequate drinking water, water for washing purposes, soap, detergent, etc. throughout the period of construction.	Item	

Serial No	Description	Unit	Amount in Rs.
19	Allow lump sum for providing all necessary safety measures to workmen at site conforming to the latest industrial safety regulations and as directed by the Engineer.	Item	
20	Allow lump sum for making adequate provisions against air and noise pollution of surrounding areas. Hoarding and dust screens shall be provided to control dust escaping to surrounding areas.	Item	
21	Allow lump sum for maintaining the site clean and orderly manner at all times and during the entire contract period.	Item	
22	Allow lump sum for demobilization, removal of all rubbish & debris and clearing up site on completion, leaving all in good order and handing over.	Item	
23	Allow lump sum for employing and adequate number of security personnel and security systems on full time basis throughout the period of construction, and providing for necessary security lighting and warning system.	Item	
24	Allow lump sum for providing and maintaining necessary fencing, hoarding and gates for safeguarding the works, materials and plant, as directed by the Engineer	Item	
25	Allow lump sum for protection of public and private services at site. The Contractor shall take due care to protect, water supply and drainage systems, telephone and over head/ buried electrical cable etc. Whose locations are identified and make available to bidders at the time of bidding, unless earmarked for demolition, during the execution of the works. The contractor is to make good any damage due to any cause within his control at his own expenses or pay any cost and charges in connection therewith.	Item	
26	Allow lump sum for supply of water for the works and paying all charges and other expenses in connection with the supply from water mains or any other alternative method of water mains or any other alternative method of water supply, storage and reticulation.	Item	
27	Allow lump sum for supplying temporary electricity for the Works including connection, distribution system for the works, internal arrangements and all payments to the authorities for consumption.	Item	
28	Allow lump sum for providing hoisting equipment and other plants for the use of the works on site (dry Hire)		
29	Allow lump sum for providing small machinery and equipment for the use of the works at site	Item	

Serial No	Description	Unit	Amount in Rs.
30	Allow lump sum for erecting and maintaining scaffolding and / or self climbing platform. Such scaffolding etc. shall be removed on completion and all works disturbed shall be made good.	Item	
31	Allow lump sum for stamp duty in accordance with the prevailing regulations of the Government	Item	
32	Allow lump sum for providing and maintaining a name board to the specification and/ as directed by the engineer	Item	
33	Allow lump sum for excavating for trial pits/ trial trenchers as specified or as directed by the Engineer as for locating services etc. and reinstating the ground and making good disturbed work to the satisfaction of the Engineer.	Item	
	Total carried over to summary		

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	BILL NO.F CONCRETE WORK F1 - INSITU CONCRETE Note: Rates shall be included for 1. Mixing, handling, hoisting and depositing into position. 2. Packing around reinforcement and vibrating. 3. Curing and clearing as specified. Grade 15 Lean concrete 20mm aggregate for followings.				
02-F1-01	In 50mm thick under wall foundations	7.00	m ²		
	Grade 25 reinforced concrete 20mm aggregate for followings-(Reinforcement & Form work paid separately).				
02-F1-02	For Rubble wall footing and cable trench footings	1.50	m ³		
02-F1-03	Plinth beam	1.00	m ³		
02-F1-04	Roof beam	0.70	m ³		
02-F1-05	Floor concrete	2.00	m ³		
02-F1-06	Lintol Concrete	0.40	m ³		
02-F1-07	600 x 300 Concrete cover slabs R/F with 10mm TS Rods 100 mm cts both ways.	4.00	m ²		
	F2 - FORM WORK Note: Quality of the form work should be approved by the engineer prior to erection. A. Rates shall include for • All necessary boarding, supports, applications of mould oil as necessary, erecting, framing, cutting angles, cleaning, wetting and treatment before placing concrete and striking or removal etc. • Formwork to be measured net contact surface between concrete & formwork. • Formwork to beams, columns, and casings deemed to include ends.				

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	<p>B. The contractor shall provide sufficient formwork and moulds to ensure the adequate progress of the work and the Engineer may direct the contractor to provide at Contractor's expense such additional formwork and moulds as they may deem necessary if in his opinion the proper progress of the work is retarded by their absence.</p> <p>C. Rate to be included erecting and dismantling of scaffolding and formwork.</p> <p>D. Formwork for footing, column, beams, lintel, walls, and slabs are of 15mm thick ply-boards.</p> <p>Formwork shall be properly designed formwork as described in specification and it should be sufficiently strong, rigid and should have an even smooth surface and grout tight and should provide a basic finish.</p>				
02-F2-01	Sides of Plinth Beam	8.00	m ²		
02-F2-02	Sides of Roof Beam	5.25	m ²		
02-F2-03	Sides of lintels	6.00	m ²		
02-F2-04	Concrete cover slabs	6.00	m ²		
	<p>F3 - REINFORCEMENT IN INSITU CONCRETE Note: Rates shall be included for</p> <p>1. Cleaning, cutting, bending, fabricating with gauge 18 binding wire and placing in position.</p> <p>2. Holding and supporting including temporary fixing supports, hangers, binding wire spaces & for steel stools which is required for the proper completion of the work.</p> <p>3. Providing all necessary laps.</p> <p>4. Plain rounded Mild steel of characteristic strength 250 N/mm² to BS4449</p> <p>5. High Yield steel of characteristic strength 460 N/mm² to BS4449 & 4461</p>				
02-F3-01	Mild steel bar for Plinth beam	18.00	kg		
02-F3-02	Mild steel bar for Roof beam	18.00	kg		
02-F3-03	Mild steel bar for Lintols	10.00	kg		
	High-yield for steel bars diameter n.e. 10mm for the following items.				
02-F3-04	In Plinth Beam	44.00	kg		
02-F3-05	In Roof Beam	44.00	kg		
02-F3-06	In Lintol	14.00	kg		
	Total carried over to summary				

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	BILL NO G				
	MASONRY WORKS				
	Note:				
	a. Brick should be of superior quality subject to take prior approval by the Engineer.				
	b. Mortar used for brick work shall be 1:5 cement and sand mixture unless otherwise specified.				
	G1 - BRICK/BLOCK WORKS				
02-G1-01	225mm thick brick work wall in 1:5 cement sand mortar.	51.00	m ²		
	G2 - STONE WORKS				
02-G2-01	Random rubble masonry in cement & sand mortar 1:5 in wall foundation	4.25	m ³		
	Total carried over to summary				
	BILL NO H				
	WATER PROOFING				
	Note:				
	The water proofing contractor (or sub contractor) should be a registered specialist contractor at the ICTAD in the category of water proofing.				
	The contractor shall submit a written warranty of at least 10 year to cover on the quality of the material, suitability of the material for the situation and the workmanship including water tightness.				
	The water proofing material shall confirm to relevant British, Euro or ASTM specifications.				
	Horizontal D.P.M.				
02-H-01	Gauge 700 Polythene damp proof membrane with 150 mm laps and laid under floor.	2.00	m ²		
	Total carried over to summary				

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	BILL NO K METAL WORK Note: <p>The work shall include supplying, fabricating and installation of partition & doors etc. made of powder coated aluminium sections having a minimum powder coating of 60+5 microns thickness & colour bonded. Rate shall be included for 5mm thick clear glass, rubber beadings, stainless steel screws, rawl plugs, neoprene gaskets, locks, aluminium hinges, bar hinges and push plates etc. (Extrusions to be of 1.8mm for minimum thickness for doors & 1.5mm for window frame). Samples shall be submitted for the approved of Engineer before use</p> <p>The Aluminum alloy to be used shall conform to the requirements of BS 1474:1987 - AA 6063 surface treatment shall conform to BS 1615 & BS 3987.</p>				
02-K-01	Supply and fix four sash Galvanized framed Zn/Al colour bonded sheet panel door with aluminium louvers on top. Including locking arrangement, hooks & hinges as per detail drawing. (D1-2700mm x2700mm)	01	nr		
02-K-02	Supply and fix Double sash Galvanized framed Zn/Al colour bonded sheet panel door with aluminium louvers on top. Including locking arrangement, hooks & hinges as per detail drawing. (D2-2700mm x1400mm)	01	nr.		
02-K-03	Supply and fix powder coated aluminium louvers with Galvanized Iron frame as per detail. (L - 800mm x 800mm).	04	nr.		
02-K-04	Supplying and fixing plastic coated wire mesh (G24 No 10 Woven mesh) as per the detail	6.00	m ²		
	Total carried over to summary				

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	BILL NO. P				
	ROOF COVERING & ROOF PLUMBING				
	Rates for Roof Covering shall include laps, straight cutting and waste, nails, screws, clips rivets, straps and the like including hoisting and fixing complete.				
02-P-01	Supply and fix zinc aluminium profile roofing sheet (minimum base metal thickness of 0.47mm and minimum total thickness 0.47mm) laid on existing purlin of joints to be properly connected with an adequate side slope and to ensure water tightness along the entire length and complete to working order	37.00	m ²		
02-P-02	Supply and fixing 500mm width zinc aluminium valance board & barge board (minimum base metal thickness of 0.47mm and minimum total thickness 0.47mm) fixed complete with necessary fittings	13.00	m		
02-P-03	Supply and lay 3mm thick double sided aluminium foil heat reflecting material to underside of roof, supported with Gauge 18, 3" x 3" GI mesh and complete to working order. Rate shall include for scaffolding.	37.00	m ²		
02-P-04	Aluminium flashing of 2'-0" wide in gauge 24 Aluminium sheets, bent to shape and fix to wall. (without timber boarding)	6.00	m		
02-P-05	Supplying and fixing zinc aluminium colour bond standard ridge cap to existing sheet roof using new fasteners.	6.50	m		
	Roof frame work				
02-P-06	50mmx50mmx6mm Medium duty G.I. Box bar frame work and 50mmx50mmx3 mm medium duty cross bars for the roofing structure according to given detail and fixing with 12 1/2 mm anchor bolt. Rate shall include the application of two coats of anti-corrosive paint for the frame work.	37.00	m ²		
	Total carried over to summary				

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	BILL NO.S ELECTRICITY Note: All electrical constructions should be according to Detail drawing and subject to the instructions of the electrical officer concerned. Jobs attend beyond condition will not be approved please. All light fittings shall be approved by the project architect/ electrical engineer prior to the installation and follow the attached specifications and drawings				
02-S-01	Supply & install approved type 1200mm Diffuser type fluorecent lamp 36W as shown in the electrical layout .2 year warranty .orange or similar shall be used.	3	Nrs		
02-S-02	Light point wired through a 10Amp three gang one way plate switch using 2x1.5mm ² cu/pvc/pvc cables as per the specifications in conduits ground floor level	1	Nrs		
02-S-03	Supply & install approved type 13A with switches as shown in electrical layouts & complete wiring by using 2.5mm ² Cu/PVC/PVC cable + 2.5mm ² Cu/PVC earth cable	1	Nrs.		
02-S-04	Supply and install an approved recessed type Distribution Board (DB) ABC and consists following items of approved type and connect supply from the meter using 2x10mm ² Cu/PVC/PVC cable as the load wire. 32A 2P MCB 01 Nr. 40A 2P RCCB 01 Nr.(30mA sensitivity) 16A 1P MCB 01 Nrs. 6A 1P MCB 01 Nrs.		Item		
02-S-05	Supply and install a 50mm dia. GI pipe of length 1800mm as an earth electrode. Earthing should be done properly by using 6mm ² Cu/PVC earth cable+conduits. Electrode underground should be covered by a gully of 1'x1' and shall be available for visual inspection.		Item		
02-S-06	Supplying and fixing wooden board to take the CEB Supply		Item		
02-S-07	30A , 1 phase supply for the DB from LV board		Provisio nal sum		50,000.00

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	FIRST AID FIRE EXTINGUISHER				
	Suppling and Installing of first aid fire extinguishers of following types				
02-S-08	5Kg CO2 fire extinguishers	1	Nrs		
02-S-09	5Kg Powder fire extinguishers	1	Nrs		
02-S-10	Chartered Engineer's certificate for the installation. Shall be done in presence of the Engineer	1	Item		
	Total carried over to summary				
	BILL NO: T				
	FLOOR/ WALL FINISHES				
	T1 - FLOOR FINISHES				
	20mm thk 1:3 cement and sand rendering smooth with gray cement putty in following items				
02-T1-01	In floor	16.00	m ²		
	T2 - WALL FINISHES				
02-T2-01	16mm thick plastering to plinth wall in cement sand 1:3 including cement floating to depth of 150 mm below normal ground level.	5.50	m ²		
02-T2-02	Plastering 16mm thick to walls in cement, lime or equivalent chemical product (Febmix) and sand 1:1:5 finished semi-rough with wooden float. (Sand to be sieved).	43.00	m ²		
02-T2-03	Plastering 16mm thick to reveals width not exceeding 300mm in cement, lime or equivalent chemical product (Febmix) and sand 1:1:5 finished semi-rough with wooden float.	28.00	m		
02-T2-04	Plastering 16mm thick to reveals width not exceeding 300mm in cement, lime or equivalent chemical product (Febmix) and sand 1:1:5 finished smooth with lime putty.	28.00	m		
02-T2-05	Plastering 16mm thick to walls in cement, lime or equivalent chemical product (Febmix) and sand 1:1:5 finished with applying two coats of skim coat filled, levelled, and cut with pre coat for walls. (Sand to be sieved).	37.00	m ²		
	Total carried over to summary				

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	BILL NO V				
	PAINTING				
02-V-01	Painting walls with one coat of primer and two coats of weather shield paint including preparing surface.	47.00	m ²		
02-V-02	Painting walls with one coat of primer and two coats of emulsion paint including preparing surface.	41.00	m ²		
	Total carried over to summary				
	BILL NO X				
	EXTERNAL WORKS				
	Note: 1.The work should be carried out by a contractor licensed by the CMC and in accordance with the regulations of the CMC for soil drainage. 2. Backfilling of excavations in trenches and pits for drains and manholes must be compacted and excess to be disposed as directed at expenses of the contractor. Rate to be included for dewatering, pumping, shoring and cleaning the site on completion.				
02-X-01	Supply & fix/lay 75 mm dia. PVC Type 1000 pipes.	10.00	m		
02-X-02	Supply & fix/lay 110 mm dia. PVC Type 1000 pipes.	5.00	m		
02-X-03	Supply & fix/lay 160 mm dia. PVC Type 1000 pipes.	5.00	m		
02-X-04	Construction of Earth pit internal size of 600mm x600mm & depth up to 600mm as per detail drawing. Rate to include for excavation, necessary formwork, lifting hooks, grade 20 concrete and 20mm thick cement & sand rendering in 1:2 mix trowel smooth with neat grey cement to all internal surfaces, exposed external surfaces and forming channel with 1:6 benching. Including 75mm thick RCC cover slab reinforced with 6mm dia mild steel at 100mm c/c both ways.	03	nr.		
02-X-05	Supply and fix Rain fall cover for front door as per detail drawing from CEB	Item			
	Total carried over to summary				

Updated on
27/10/2021 and
replaced @R
27/10/2021

Section -8
DRAWINGS