

HSCC (India) Limited
MINISTRY OF HEALTH & WELLNESS
REPUBLIC OF MAURITIUS

Date: 21.01.2022

Amendment No. – VII

Project Name: Construction of Renal Transplant Unit at J. Nehru Hospital, Mauritius including internal & external Electrical, HVAC, PHE, fire fighting, developments works etc. including their maintenance during Defect Liability period.

Tender no: HSCC/Mauritius/Renal/2021.

Dear Sir,

This has reference to the captioned subject works,

Please find enclosed the following revised BOQ of HVAC as an Amendment-VII:-

1. Annexure-I Revised BOQ of HVAC Work.

The above shall be treated as a part of tender to be submitted online duly signed & stamp along with tender.

All other terms & conditions of tender shall remain unchanged.

Prospective bidders are advised to regularly scan through HSCC e-tender portal <http://www.tenderwizard.com/HSCC>, Republic of Mauritius websites health.govmu.org and <http://www.hsccltd.co.in> as corrigendum/ amendments etc., if any, will be notified on these websites only and separate advertisement will not be made for this.

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HSCC (India) Limited

<u>RENAL TRANSPLANT UNIT AT JLN HOSPITAL, MAURITIUS</u>			
<u>SUMMARY SHEET FOR HVAC WORKS</u>			
SECTION	DESCRIPTION OF WORK		AMOUNT (MUR)
PART-1	HVACWORKS		
A	EQUIPMENTS		
B	PIPING		
C	AIR DISTRIBUTION		
D	ELECTRICAL		
	TOTAL FOR HVAC WORKS		

BILL OF QUANTITIES (B.O.Q) OF HVAC WORKS FOR "RENAL TRANSPLANT UNIT AT JLN HOSPITAL, MAURITIUS"						
Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6 Amount (MUR) 7
The prices are to be quoted in the below mentioned form and shall include the supply, installation, testing & commissioning at site of all the equipments, ancillary materials as specified and all such items what so ever which may be required to fulfill the intent and purpose as laid down in the specifications and or the drawings.						
A)	EQUIPMENTS					
1.0	WATER CHILLING UNITS. (AHRI/Eurovent Certified)					
1.1	Supply, installation, testing & commissioning of 700 KW (actual) capacity air cooled water chilling units as specified and shown in equipment schedule complete as per specifications with-					
	a. Screw Compressors with motor.					
	b. Drive package.					
	c. Mounting frames for all components					
	d. Air cooled condenser with accessories. The condenser shall be coated as per manufacturer standard for use in saline air.					
	e. Chiller with accessories.					
	f. Refrigerant piping, fittings, accessories and valves etc.					
	g. Insulation of chiller and suction line.					
	h. First charge of refrigerant and oil.					
	i. Base frame with Vibration isolators.					
	j. Bellows in suction and discharge line for vibration isolation of suitable capacity.					
	k. Automatic capacity control arrangement.					
	l. Lot Safety controls, flow switches, pressure gauge, thermometer etc. as per specifications.					
	m. Suitable capacity motor with necessary insulation, starter panel complete with all necessary switchgears and control complete as required.					
	n. Necessary water drain & air purge valves wherever required.					
	o. Necessary lubrication device as per specifications complete.					
	p. Microprocessor based control panel complete with accessories as per specifications and BMS compatible BACNET / Modbus Protocol.					
	q. COP as per ASHRAE 90.1(Latest).					
	r. Acoustic treatment of complete chiller to mitigate noise level.					
	Chilled Water Leaving temp. 44 deg. F					
	Chilled Water Entering temp. 54 deg. F					
	Chiller fouling factor = 0.0005 (FPS units)					
	Ambient Temperature = 35 deg. C					
	AHRI/ Eurovent certified.					
	Complete water chilling machine as above. (2W+1S)	3	Nos		Zero Mauritian only	

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
2.0	WATER CIRCULATION PUMPS					
2.1	Primary Chilled Water Pumps					
	Supply, installation, testing and commissioning of split casing end suction type centrifugal chilled water pump sets factory assembled and tested for rated efficiency mounted on a common base frame etc each capable of delivering specified flow rate complete with following as per specifications & schedule of equipments.					
	a. Pump with IP 55 TEFC induction motor with class F insulation, IE-3.					
	b. Channel base with vibration isolators, coupling, coupling guard etc.					
	c. Cladded insulation and anti corrosive coating inside and outside casing etc. of chilled water pump.					
	d. 2 Nos.- 150 mm dia dial type pressure gauge					
	e. Pumps shall be suitable for operation on 400+/- 10% Volts/ 3ph / 50 Hz/ AC power supply.					
	f. Bellows in suction and discharge line for vibration isolation of suitable capacity.					
	The pump characteristic shall be as follows:					
2.1.1	Water flow rate= 480 USGPM					
	Head = 18 Metre WC					
	Primary chilled water pumps as described above. (2W+1S)	3	Nos		Zero Mauritian only	
2.2	Secondary Pumps & Variable Speed Pumping System					
	Supply, installation, testing and commissioning of split casing type centrifugal chilled water recirculation pumps mounted on a common base etc each capable of delivering specified flow rate complete with following as per specifications & schedule of equipments.					
	a. Pump with IP 55 TEFC induction motor with class F insulation, IE-3 .					
	b. Channel base with vibration isolators, coupling, coupling guard etc.					
	c. Cladded insulation and anti corrosive coating inside and outside casing etc. of chilled water pump.					
	d. 2 Nos.- 150 mm dia dial type pressure gauge					
	e. Pumps shall be suitable for operation on 400+/- 10% Volts/ 3ph / 50 Hz/ AC power supply.					
	f. The price will include control software and networking hardware and software for integration and compatibility with BMS (BACNET Protocol).					

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	g. All pumps to be provided with separate VFD's (variable frequency drives). Separate control panel. Panel should also consist of cooling fan.					
	h. Electronic Differential Pressure Transmitters and separate PLC s for each sets..					
	i. The cost will include making necessary flanged suction and delivery headers in Heavy-Class MS.					
	j. Complete set system to be mounted on a common MS base frame and shall follow following duty.					
	k. Bellows in suction and discharge line for vibration isolation of suitable capacity. The pump characteristic shall be as follows:					
2.2.1	Water flow rate= 480 USGPM Head = 26 Metre WC					
	Secondary chilled water pumps as described above (2W+1S)	3	Nos		Zero Mauritian only	
3.0	AIR HANDLING UNITS (AHR)/ Eurovent Certified)					
3.1	Supply, installation, testing and commissioning of sectional construction draw through type Air Handling Units (double skin type) as specified & shown in schedule of equipment complete with the following :-					
	a. Fan Section and canvas connection, Mixing Box, Thermal break profile. (double skin type)					
	b. Centrifugal blower plug type.					
	c. Coil section with cooling coil, heating coils as per specifications, minimum 2 bend PVC eliminators.					
	d. Pre filters with filter section in all AHUs.					
	e. Fine and hepa filters with filter section wherever specifically specified .					
	f. Drain pan, drain connection.					
	g. Squirrel cage induction IP 55 TEFC , Insulation class 'F', Duty S1 , IE-3 drive motor, drive arrangement, guard etc.					
	h. Necessary vibration isolators & supporting arrangement.					
	i. Fresh air intake arrangement, necessary water drain & air purge valves wherever required etc.					
	j. Canvass connections, necessary foundations, 2 nos pressure gauge, 2 nos thermometer etc					

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
	k. Controls for AHUs comprising of a set of PN-16 rating 2 Way pressure independent dynamic balancing cum control valve of required size fitted with modulating actuators having manual override facility on each AHU alongwith wiring for interconnections with 1.5 sq. mm Cu Conductor multicore armoured complete as required. The actuator shall have required shut off capability of minimum 4 bar rating. The acuator shall be compatible with BMS.The valve actuator shall be capable of accepting 2-10 volt DC, 4-20 mA electric signal and shall provide similar transduced feedback output signal to control system.						
	l. Pre Filter : 90% down to 10 micron (EU-4 / MERV-7), Fine filter : 99% down to 3 micron (EU-8/ MERV-14), HEPA filter 99.97% down to 0.3 micron (EU-13/ MERV-17).						
3.1.1	AH-BF-01 - 4000cfm/ 6RD Cooling Coil/80 mm static (with pre & fine filter)	1	Nos.		Zero Mauritian only		
3.1.2	AH-GF-01 - 9000cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.1.3	AH-GF-02 - 9500cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.1.4	AH-GF-03 - 23500cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.1.5	AH-1F-01, 1F-02-14500cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	2	Nos.		Zero Mauritian only		
3.1.6	AH-1F-03-16000cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.1.7	AH-2F-01 - 12000cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.1.8	AH-2F-02, 2F-03 - 14000cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	2	Nos.		Zero Mauritian only		
3.1.9	AH-3F-01 - 8500cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.1.10	AH-3F-02 - 13000cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.1.11	AH-3F-03 - 11000cfm/ 6RD Cooling Coil/135 mm static (with pre, fine & HEPA filter)	1	Nos.		Zero Mauritian only		
3.2	OT AHUs (AHRI/ Eurovent Certified)						

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
	Supply, installation, testing and commissioning of sheet metal sectionalised construction draw thru type in double skin construction. Each Air Handling Units shall be with pre filter section with pre filters, mixing chamber, minimum 2 bend GSS/PVC eliminators, chilled water cooling coil of copper tube & Al fins construction, Oil duct heater of 3KW capacity with wall mounted electric panel, supply and return fans with vfd starter mounted on AHU, motor efficiency class IE-3 suitable for 400+/- 10% V, 50 Hz 3 Phase AC supply suitably designed for variable frequency drive, backward curved centrifugal direct driven plug fans for supply and return air, fine filters section, suitable pan type humidifier with humidifier section, suitable vibration isolation arrangement. Coil size shall be selected for a maximum face velocity of 500 FPM and static pressure shall be 135 mm WG. The air moving capacities shall be as detailed below. These units shall be in accordance with drawings and specifications. (The heaters shall be controlled through electro magnetic type contractors and safety thermostats / geysers as specified complete with wiring for interconnections with 1.5 sq. mm. copper conductor multi core armoured cable. The oil tank shall be 2mm thick ss 304L, pipe 19 mm dia of ss304 L) (All these AHUs shall be with thermal break profile and all its fans shall be AMCA/ equivalent certified)					
3.2.1	AH-3F- OT-01- 3000cfm/ 6RD Cooling Coil/135 mm static ((with pre & fine filter)	1	Nos.		Zero Mauritian only	
3.2.2	AH-3F- OT-02- 3500cfm/6RD Cooling Coil/135 mm static ((with pre & fine filter)	1	Nos.		Zero Mauritian only	
3.2.3	AH-3F-OT-03- 4000cfm/ 6RD Cooling Coil/135 mm static (with pre & fine filter) including Heat (latent+sensible) recovery & exhaust blower of 3200 CFM.	1	Nos.		Zero Mauritian only	
	(Hepa filters shall be supplied and installed at terminals by OT Vendor, the cost of these HEPA filters not to include in AHU cost)					
3.3	CEILING SUSPENDED UNITS (AHRI/ Eurovent Certified)					
	Supply, installation, testing and commissioning of draw through type Air Handling Units (double skin type) of ceiling suspended type as specified & shown in schedule of equipment complete with the following :-					
	a. Fan Section and canvas connection, Thermal break profile. (double skin type)					
	b. Centrifugal blower direct driven.					
	c. Coil as per specifications.					
	d. Pre filters as required					
	e. Drain pan, drain connection.					

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
	f. Squirrel cage induction drive motor IP 55, TEFC , Insulation class 'F', duty S1, IE-3 drive arrangement, guard etc.					
	g. Necessary vibration isolators & supporting arrangement.					
	h. Fresh air intake arrangement,necessary water drain & air purge valves wherever required etc.					
	i. Canvass connections,suspension arrangement, 2 nos pressure gauge, 2 nos thermometer etc					
	j. Controls for AHUs comprising of a set of PN-16 rating 2 Way pressure independent dynamic balancing cum control valve of required size fitted with modulating actuators having manual override facility on each AHU alongwith wiring for interconnections with 1.5 sq. mm Cu Conductor multicore armoured complete as required. The actuator shall have required shut off capability of minimum 4 bar rating. The acuator shall be compatible with BMS.The valve actuator shall be capable of accepting 2-10 volt DC, 4-20 mA electric signal and shall provide similar transduced feedback output signal to control system.					
	k. Pre Filter : 90% down to 10 micron (EU-4 / MERV-7), Fine filter : 99% down to 3 micron (EU-8/ MERV-14), HEPA filter 99.97% down to 0.3 micron (EU-13/ MERV-17).					
3.3.1	CS-GF-01 - 3000cfm/ 4RD Cooling Coil / 65 mm static (with pre & fine filter)	1	Nos.		Zero Mauritian only	
4.0	Inline Fans/ Ventilation fans					
4.1	Supply, installation, testing and commissioning of Inline Fans (with acoustic lining and low noise) with anti vibration mounting as shown in drawings and as per equipment schedule .Each fan shall be complete with centrifugal blowers. Fan motor shall be suitable for single phase AC supply. Item shall be complete with starter & cabling.					
	Inline Fans					
4.1.1	Duty: Toilet Exhaust					
	Air Quantity :600 CFM	2	Nos.		Zero Mauritian only	
	Static Pressure :20 mm wg					
4.1.2	Duty: Dirty Coridor Exhaust					
	Air Quantity :800 CFM	2	Nos.		Zero Mauritian only	
	Static Pressure :20 mm wg					
4.1.3	Duty: Isolation Room Exhaust					
	Air Quantity :500 CFM	13	Nos.		Zero Mauritian only	
	Static Pressure :20 mm wg					

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
4.1.4	Duty: Dirty Utility Exhaust						
	Air Quantity :200 CFM	2	Nos.		Zero Mauritian only		
	Static Pressure :20 mm wg						
4.1.5	Duty: Dirty Utility Exhaust						
	Air Quantity :100 CFM	5	Nos.		Zero Mauritian only		
	Static Pressure :20 mm wg						
4.2	Centrifugal Fans (SISW)						
	Supply, installation, testing and commissioning of SISW CENTRIFUGAL FANS for ventilation system. Each fan shall be complete with TEFC type IP 55 motor with class F insulation, belt drive, pulley mounted on motor & fan shaft, belt guard, motor mount, casing and vibration isolators as per specifications and shop drawings. All expose fan shall be covered with G/S housing as per approved shop drawings to protect fan and motors from weather. Casing to be epoxy painted for protection from saline air. Fan motor shall be suitable for 3 Phase, 400+/- 10% V, 50Hz AC supply . Fan shall be complete with gravity louvers. Fan shall be epoxy painted to resist saline air.						
	Duty: Toilet Exhaust						
4.2.1	Air Quantity : 3000 CFM	1	Nos.		Zero Mauritian only		
	Static Pressure : 35 mm wg						
	Duty: Toilet Exhaust						
4.2.2	Air Quantity : 3500 CFM	1	Nos.		Zero Mauritian only		
	Static Pressure : 35 mm wg						
	Duty: Electrical Room Ventilation (exhaust)						
4.2.3	Air Quantity : 5500 CFM	1	Nos.		Zero Mauritian only		
	Static Pressure : 30 mm wg						
	Duty: Basement Ventilation (exhaust)						
4.2.4	Air Quantity : 9500 CFM	2	Nos.		Zero Mauritian only		
	Static Pressure : 30 mm wg						
	Ventilation Fans						
4.3	Tube Axial Flow Fans						
	Supply, installation,testing and commissioning of tube axial flow fans as shown in drawings, Each fan shall be direct driven. Fan motor shall be suitable for 3 Phase, 400+/- 10% V, 50Hz AC supply with IP 55 protection, class 'F' insulation and IE-3 class. Fan shall be complete with gravity louvers, vibration isolators. Fan shall be epoxy painted to resist saline air.						
	Floor / Services ventilation (Fresh Air Supply)						

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
4.3.1	Air Quantity : 3000 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.3.2	Air Quantity : 3500 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.3.3	Air Quantity : 4500 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.3.4	Air Quantity : 5500 CFM, 25 mm st. pr.	1	Nos.		Zero Mauritian only	
4.3.5	Air Quantity : 6000 CFM, 25 mm st. pr.	1	Nos.		Zero Mauritian only	
4.3.6	Air Quantity : 7500 CFM, 25 mm st. pr.	3	Nos.		Zero Mauritian only	
4.3.7	Air Quantity : 8000 CFM, 25 mm st. pr.	3	Nos.		Zero Mauritian only	
4.3.8	Air Quantity : 9500 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.3.9	Air Quantity : 10500 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.3.10	Duty: Lift Lobby pressurisation Air Quantity : 11000 CFM	1	Nos		Zero Mauritian only	
4.3.11	Static Pressure : 25 mm wg					
4.3.11	Duty: Lift well pressurisation Air Quantity : 7000 CFM Static Pressure : 25 mm wg	3	Nos		Zero Mauritian only	
4.4	Tube Axial Fans (Fire rated)					
	Supply, installation, testing and commissioning of tube axial flow fans as shown in drawings. Each fan shall be direct driven.. Fan motor shall be suitable for 3 Phase, 400+/- 10% V, 50Hz AC supply with IP 55 protection, class H insulation and IE-3 class. Fan shall be complete with vibration isolators, gravity louvers. Fan shall be 400 deg C, 2hrs fire rated. Fan shall be epoxy painted to resist saline air.					
4.4.1	Air Quantity : 3000 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.4.2	Air Quantity : 3500 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.4.3	Air Quantity : 4500 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
4.4.4	Air Quantity : 6000 CFM, 25 mm st. pr.	1	Nos.		Zero Mauritian only	
4.4.5	Air Quantity : 7500 CFM, 25 mm st. pr.	3	Nos.		Zero Mauritian only	
4.4.6	Air Quantity : 8000 CFM, 25 mm st. pr.	3	Nos.		Zero Mauritian only	
4.4.7	Air Quantity : 10500 CFM, 25 mm st. pr.	2	Nos.		Zero Mauritian only	
5.0	MONSOON REHEAT ARRANGEMENT FOR OTs AND ICUs					

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
	Supply, installation, testing & commissioning of monsoon reheating arrangements fixed in ducts/ plenums complete with strip heaters, fixing frame work, insulators, fire protection insulation in duct, controls such as heating thermostats, humidistats etc. The heaters banks shall be controlled by independent thermostats/ humidistats through electro magnetic type contactors and safety thermostats/ geysers as specified complete with wiring for interconnections with 1.5 sq.mm copper conductor multi core armoured cable. The heater capacity shall be as per schedule of equipment and specifications, drawing etc.					
5.1	3Kw (1.5 KW x 2 banks)	4	Sets		Zero Mauritian only	
6.0	EXPANSION TANK					
	Supply, installation, testing and commissioning of pressurised closed type Expansion tank with air separator and dosing pumps (1w+1s) etc. The expansion tank shall be complete with all necessary valves, vent connection. The tank shall be epoxy painted to resist saline air. Quoted price shall include of 75 mm thick 32 kg/mt cu density TF quality Expanded polystyrene insulation and cladded with 24 gauge aluminum sheet for chilled water tank . Tank shall be equiped with 15 mm dia vent, 450 mm dia manhole with cover, 40 mm dia make up with overflow connection (ball valve shouldbe provided at the make up line), 50 mm dia drain and over flow withnecessary valves and 50 mm dia insulated pipe connection to nearestchilled water return line. All outdoor accessories shall be epoxy coated to resist saline air.					
6.1	1000 ltrs.	1	No.		Zero Mauritian only	
	Total EQUIPMENTS					
	B) PIPING					
7.0	INSULATED CHILLED WATER PIPING					
	MS PIPING					

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
7.1	Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with following closed cell elastometric nitrile rubber of class 'O' insulation applied by adhesive conforming to standard specifications and finally applying 0.63mm aluminium sheet cladding complete with type3 , grade 1 roofing feltstrip at joints and repairing of damage to building etc. as per specifications and as required complete in all respect. Note:-The Pipes of sizes 150mm & below shall be M.S. heavy class and pipes size above 150mm shall be welded black steel pipe heavy class , from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.						
7.1.1	250 mm dia (40 mm insulation)	40	RM				Zero Mauritian only
7.1.2	200 mm dia (40 mm insulation)	150	RM				Zero Mauritian only
7.1.3	150 mm dia (40 mm insulation)	300	RM				Zero Mauritian only
7.1.4	125 mm dia (40 mm insulation)	150	RM				Zero Mauritian only
7.1.5	100 mm dia (32 mm insulation)	180	RM				Zero Mauritian only
7.1.6	80 mm dia (32 mm insulation)	250	RM				Zero Mauritian only
7.1.7	65 mm dia (32 mm insulation)	150	RM				Zero Mauritian only
7.1.8	50 mm dia (32 mm insulation)	100	RM				Zero Mauritian only
7.1.9	40 mm dia (32 mm insulation)	80	RM				Zero Mauritian only
7.1.10	32 mm dia (32 mm insulation)	40	RM				Zero Mauritian only
7.1.11	25 mm dia (32 mm insulation)	30	RM				Zero Mauritian only
7.1.12	20 mm dia (32 mm insulation)	30	RM				Zero Mauritian only
8.0	INSULATED VALVES & STRAINERS						
	Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications.						
8.1	Butterfly valves (Manual) : below mentioned valves sizes PN-16 of CI body SS disc from above 80 mm sizes and of Gun Metal up to 80 mm size to BS-1010/ BS-5155						
8.1.1	200 mm dia.	2	Nos				Zero Mauritian only
8.1.2	150 mm dia.	18	Nos				Zero Mauritian only
8.1.3	125 mm dia.	2	Nos				Zero Mauritian only
8.1.4	100 mm dia.	2	Nos				Zero Mauritian only
8.1.5	80 mm dia.	18	Nos				Zero Mauritian only
8.1.6	65 mm dia.	6	Nos				Zero Mauritian only
8.1.7	50 mm dia.	8	Nos				Zero Mauritian only

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
8.1.8	40 mm dia.	4	Nos		Zero Mauritian only	
8.1.9	32 mm dia	4	Nos		Zero Mauritian only	
8.2	Balancing valves with built in measuring facility with gun metal up to 80 mm dia & PN 16 pressure rating for chilled water circulation as specified. And to BS-7350					
8.2.1	150 mm dia.	3	Nos		Zero Mauritian only	
8.2.2	125 mm dia.	3	Nos		Zero Mauritian only	
8.2.3	100 mm dia.	4	Nos		Zero Mauritian only	
8.2.4	80 mm dia.	12	Nos		Zero Mauritian only	
8.2.5	65 mm dia.	4	Nos		Zero Mauritian only	
8.2.6	50 mm dia.	4	Nos		Zero Mauritian only	
8.2.7	40 mm dia.	2	Nos		Zero Mauritian only	
8.2.8	32 mm dia.	2	Nos		Zero Mauritian only	
8.3	Non return/Check valves : of PN 16 pressure rating for chilled / hot water circulation including insulation as specified.					
8.3.1	150 mm dia.	6	Nos		Zero Mauritian only	
8.4	Y- strainers with micromesh basket and magnet for chilled / hot water circulation including insulation as specified.					
8.4.1	150 mm dia.	6	Nos		Zero Mauritian only	
8.4.2	100 mm dia.	2	Nos		Zero Mauritian only	
8.4.3	80 mm dia.	10	Nos		Zero Mauritian only	
8.4.4	65 mm dia	2	Nos		Zero Mauritian only	
8.4.5	50 mm dia	4	Nos		Zero Mauritian only	
8.4.6	40 mm dia	3	Nos		Zero Mauritian only	
8.4.7	32 mm dia	4	Nos		Zero Mauritian only	
8.5	Providing and fixing in position the following Gate Valves duly insulated as per specifications:					
8.5.1	50 mm dia Valves	2	Nos.		Zero Mauritian only	
8.5.2	40 mm dia Valves	2	Nos.		Zero Mauritian only	
8.5.3	32 mm dia Valves	2	Nos.		Zero Mauritian only	
8.6	Auto Air Vent Valves					
8.6.1	15 mm dia	12	Nos.		Zero Mauritian only	
8.6.2	20 mm dia	10	Nos.		Zero Mauritian only	
8.6.3	25 mm dia	10	Nos.		Zero Mauritian only	
8.7	Ball Valve with strainer					
8.7.1	25 mm	6	Nos.		Zero Mauritian only	
8.7.2	20 mm	6	Nos.		Zero Mauritian only	
8.8	Ball valve without strainer					
8.8.1	32 mm	5	Nos.		Zero Mauritian only	

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
8.8.2	20 mm	5	Nos.		Zero Mauritian only	
8.9	Supply, installation, testing and commissioning cooling-heating thermostats :-					
8.9.1	For AHUs	17	Nos.		Zero Mauritian only	
8.10	DRAIN PIPING					
	Supply, laying/fixing, testing and commissioning of uPVC non pressure pipes with necessary clamps, supports, anti vibration mountings, hangers and solvent welded fittings such as bends, tees, reducers etc. duly insulated with 9 mm thick closed cell elastomeric insulation and finally applying 0.63 mm aluminium cladding as per specifications for condensate drain from air handling units and chillers etc.					
8.10.1	50 mm dia	130	RM		Zero Mauritian only	
8.10.2	40 mm dia	50	RM		Zero Mauritian only	
8.10.3	32 mm dia	40	RM		Zero Mauritian only	
8.10.4	25 mm dia	40	RM		Zero Mauritian only	
	Total PIPING					
C)	AIR DISTRIBUTION					
9.0	G/S DUCTING					
9.1	Supply, installation, balancing and commissioning of G/S duct work to SMACNA and ASHRAE norms complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.					
9.1.1	Thickness 1.25 mm sheet	500	Sqm.		Zero Mauritian only	
9.1.2	Thickness 1.00 mm sheet	700	Sqm.		Zero Mauritian only	
9.1.3	Thickness 0.80 mm sheet	800	Sqm.		Zero Mauritian only	
9.1.4	Thickness 0.63 mm sheet	1500	Sqm.		Zero Mauritian only	
10.0	SS DUCTING					
10.1	Stainless Steel 304 sheets, to SMACNA and ASHRAE norms c/w all bends, tees, branch-outs, splitters, spigots, (Material meeting BS 476 Part 6 and part 7 norms)					
10.1.1	Thickness 1.25 mm sheet	60	Sqm.		Zero Mauritian only	
11.0	ALUMINIUM DUCTING					
11.1	Supply, fabrication, installation and testing of aluminium ducts in accordance with the approved shop floor drawing and specifications.					
11.1.1	Thickness 0.80 mm sheet	350	Sqm.		Zero Mauritian only	
11.1.2	Thickness 1.00 mm sheet	200	Sqm.		Zero Mauritian only	

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
12.0	FIRE DAMPERS					
	Supplying, Fixing,testing and commissioning of fire dampers in supply air duct/main branch and return air path as and where required of required sizes i/c control wiring,the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications.					
12.1	Fire/smoke Damper	35	Sqm		Zero Mauritian only	
12.2	Actuator	40	sets		Zero Mauritian only	
13.0	VOLUME CONTROL DAMPERS					
13.1	Supply, installation, testing and commissioning of G/S volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	50	Sqm.		Zero Mauritian only	
14.0	CEILING DIFFUSERS					
14.1	Supplying, fixing testing commissioning of supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core.	60	Sqm.		Zero Mauritian only	
14.2	Supplying, fixing testing commissioning of Return air diffusers of powder coated aluminium without volume control dampers with anti smudge ring & removable core.	60	Sqm.		Zero Mauritian only	
14.3	Supplying, fixing, testing, commissioning of swirl diffusers made of pressed aluminium sheet complete with coller and duly powder coated finish.	20	Sqm.		Zero Mauritian only	
14.4	Supplying, fixing, testing, commissioning of Slot diffusers made of pressed aluminium sheet complete with coller and duly powder coated finish.	20	Sqm		Zero Mauritian only	
14.5	Supplying, fixing, testing, commissioning of Jet Nozzle Diffusers complete with coller and duly powder coated finish.	10	Sqm		Zero Mauritian only	

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
14.6	Supplying, fixing, testing, commissioning of Plaque diffusers made of pressed aluminium sheet Diffusers complete with collar and duly powder coated finish.	20	Sqm.		Zero Mauritian only	
15.0	GRILLES					
	Supply, installation, testing and balancing of supply/return air grilles with/without volume control dampers of powder coated aluminium construction suitable for installation in walls, false ceiling boxing etc as per specifications and drawings.					
15.1	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	40	Sqm.		Zero Mauritian only	
15.2	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as required.	40	Sqm.		Zero Mauritian only	
16.0	Ceiling Extract Grille					
	Egg - crate aluminium ceiling extract grille with back damper, 600x600 dimension	10	Nos.		Zero Mauritian only	
17.0	LINEAR GRILLES					
	Supply, installation, testing and balancing of air linear grilles of powder coated aluminium construction suitable for installation in walls/false ceiling, boxing etc as per specifications and drawings.	100	Sqm.		Zero Mauritian only	
18.0	GRILLE DAMPERS					
	Supply, installation and balancing of aluminium construction volume control dampers for linear grilles.	50	Sqm.		Zero Mauritian only	
19.0	LAMINAR FLOW DIFFUSERS					
	Providing & fixing of 18swg aluminium powder coated non-respiratory 100% air tight laminar flow diffusers. LFDs shall have 50% perforation. The perforated front face is openable hinge type complete with key operated opposed blade dampers from front.					
19.1	Size: 1200 x 600	30	Nos.		Zero Mauritian only	
20.0	FRESH AIR GRILLES with bird screen					
	Supply, installation, testing, commissioning and balancing of fresh air opening comprising of powder coated extruded aluminium louvers with bird screen, projection with frame and volume control damper with lever mounting arrangement etc. as per specifications and drawings.	25	Sqm.		Zero Mauritian only	

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
21.0	DUCT INSULATION						
21.1	Supplying and fixing of following thickness duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50 mm wide and 3 mm thick self adhesive nitrile rubber tape insulation complete as per specifications and as required.						
21.1.1	25 mm	3500	Sqm.		Zero Mauritian only		
21.1.2	25mm (UV Protection with GC)	250	Sqm.		Zero Mauritian only		
22.0	ACOUSTIC						
22.1	DUCT ACOUSTIC LINING						
	Supply and fixing of acoustic lining of supply air duct and plenum with 25 mm thick resin bonded glass wool having density of 32 kg/m ³ , with 25 mm X 25 mm GI section of 1.25 mm thick, at 600 mm centre to centre covered with Reinforced Plastic tissue paper and 0.5 mm thick perforated aluminum sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications.	100	Sqm.		Zero Mauritian only		
	Note:- No lining inside supply / return duct or plenum shall be done if the airside system is equipped with fine, hepa filters.						
	Total AIR DISTRIBUTION						
D)	ELECTRICAL						
23.0	MAIN HVAC PANEL						
	Supply, installation, testing and commissioning of A/C Panel, Type Tested Assembly (TTA), as per IEC 61439 cubicle type IP-55, totally enclosed, free standing type, dust, damp and vermin proof panel, powder coated, made up of CRCA sheet, complete with aluminum busbars, danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, necessary interlocking, and having incoming and outgoing switchgears as mentioned below. Complete as per technical specifications and as required.						
	Note :						
i	All ACBs shall have spare contacts						
ii	All ACBs should have Icw =Ics=Icu=50 KA for 1 sec						
iii	All MCCBs shall have Ics=Icu=100%						

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
iv	Separate fault indication for O/L, S/C, & E/F to be provided on Panel Door for all outgoing having microprocessor based MCCB						
v	All indication Lamps will be LED Type .						
vi	All starters of this panel shall be provided with digital ampere meter with suitable CTs, thermal overload relay, inbuilt/separate single phase preventer, contactors, timers, spare NO-NC contacts, push buttons, ON, OFF, TRIP indication (LED Type) and potential free contacts and relay for interlocking to FDA etc. complete as required.						
vii	100 VA transformer 220v/24v AC for control wiring with 10 no.s 6A SP MCB 10 KA in all AHU panel is also in the scope of supply						
23.1	Main/ Emergency Air-conditioning MCC in plant room						
A	INCOMER						
i	2 No. ACB Panels each having following:						
	800A , 400 V, Motorised, Fully Drawout type (EDO), Four Pole, Air Circuit Breaker with microprocessor based overload, short circuit, Instantaneous & Earth Fault trip and lockable trip push button.						
	R, Y & B Phase indicating lamps (LED type) with 6A control SP MCBs.						
	Indicating lamps (LED Type) with 6A protection MCBs to indicate OPEN, CLOSE, TRIP for ACB.						
	Push button to Close the ACB.						
	1 Digital multifunction meter with suitable CTs.						
B	BUSBARS						
	800 Amps TPN busbars of Copper with temperture rise of 40 degree celsius over and above ambient temperture of 45 degree celsius.						
C	Bus Coupler						
i	1 No. ACB Panels each having following:						
	800A, 400 V, Motorised, Fully Drawout type (EDO), Four Pole, Air Circuit Breaker with microprocessor based overload, short circuit, Instantaneous & Earth Fault trip and lockable trip push button.						
	Indicating lamps (LED Type) with 6A protection MCBs to indicate OPEN, CLOSE, TRIP for ACB.						
	Push button to CLOSE the ACB.						
	1 Set of Digital Ammeter with ASS and CTs.						
D	OUTGOING						

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
i	3 Nos. MCCB feeder as per following details/ specifications: For Water Chilling Machines					
	630 Amp, 400 volts, 50 KA, Four Pole, MCCB with Microprocessor based release having variable current settings of O/L, S/C & inbuilt E/F protection.					
	Extended rotary operating mechanism with door interlock, defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps (LED Type) with 6A protection MCBs to indicate ON, OFF, TRIP.					
	Digital ammeter with selector switch with one set Suitable C.Ts.					
ii	3 Nos. MCCB feeder as per following details/ specifications:					
	63 Amp 400 volts, ,50 KA FP MCCB with thermal magnetic release having variable current settings of O/L, S/C protection.					
	Extended rotary operating mechanism with door interlock, defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	3 Phase, fully automatic Star Delta Starter for 25 HP primary chilled water pumps.					
iii	3 Nos. MCCB feeder as per following details/ specifications:					
	125 Amp 400 volts, ,50 KA FP MCCB with thermal magnetic release having variable current settings of O/L, S/C protection.					
	Extended rotary operating mechanism with door interlock, defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	3 Phase, fully automatic Star Delta Starter for 25 HP Secondary chilled water pumps.					
iv	3 Nos. MCCB feeder as per following details/ specifications:					
	100 Amp 400 volts, ,50 KA FP MCCB with thermal magnetic release having variable current settings of O/L, S/C protection.					
	Extended rotary operating mechanism with door interlock, defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps (LED Type) with 6A protection MCBs to indicate ON, OFF, TRIP.					
	Digital ammeter with selector switch with one set Suitable C.Ts.					
v	7 Nos. MCCB feeder as per following details/ specifications:					

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
	63 Amp 400 volts, 50 KA FP MCCB with thermal magnetic release having variable current settings of O/L, S/C protection.						
	Extended rotary operating mechanism with door interlock, defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.						
	Indicating lamps (LED Type) with 6A protection MCBs to indicate ON, OFF, TRIP.						
	Digital ammeter with selector switch with one set Suitable C.Ts.						
vi	4 Nos. MCCB feeder as per following details/ specifications:						
	32 Amp 400 volts, 50 KA FP MCCB with thermal magnetic release having variable current settings of O/L, S/C protection.						
	Extended rotary operating mechanism with door interlock, defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.						
	Indicating lamps (LED Type) with 6A protection MCBs to indicate ON, OFF, TRIP.						
	Digital ammeter with selector switch with one set Suitable C.Ts.						
	Main HVAC panel Complete as above	1	Each		Zero Mauritian only		
23.2	AHU Distribution Panels						
	Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, wall mounted/Free standing type, powder coated, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as per technical specification and as required.						
	NOTE						
i	All MCCBs shall have Ics=Icu=100%						
ii	100 VA transformer 220v/24v AC for control wiring with 10 no.s 6A SP MCB 10 KA in all AHU panel is also in the scope of supply						
iii	All starters shall be provided with digital ampere meter with suitable CTs, thermal overload relay, inbuilt/separate single phase preventer, contactors, Timers, spare NO-NC contacts, Push Buttons ON, OFF, TRIP indication (LED Type) and potential free Contact & relays for interlocking to FDA etc. complete as required.						
iv	All indication Lamps will be LED Type.						

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
v	All MCCBs shall have extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
23.2.1	AHP- 0F-01, 2F-01						
	INCOMER :						
	1 nos. 160 Amp 400 volts, 35 KA FP MCCB with Microprocessor Based having variable current settings of O/L, S/C protection.						
	R,Y&B phase indicating lamp (LED type) with 6A control SP MCB & ON, OFF, TRIP Indication.						
	1 No. 0 to 500 V Digital voltmeter with selector switch.						
	Digital ammeter with selector switch with one set Suitable C.Ts.						
	Bus Bar						
	300 A TPN Copper bus bar 400 V , 50 Hz.						
	OUTGOINGS :						
i	1 set - 100 A, 400 volts, 10 KA C- Curve, Four Pole, Miniature Circuit Breaker.						
	3 Phase, fully automatic Star Delta Starter for 20/25 HP fan motor as required.						
ii	2 set - 63 A, 400 volts, 10 KA C- Curve, Four Pole, Miniature Circuit Breaker.						
	3 Phase, fully automatic DOL Starter for 10/12.5 HP fan motor as required.						
iii	2 set - 32 A, 400 volts, 10 KA C- Curve, Four Pole, Miniature Circuit Breaker.						
	3 Phase, fully automatic DOL Starter for 5/7.5 HP fan motor as required.						
iv	8 set - 16 A, 400 volts, 35 KA C- Curve, Four Pole, Miniature Circuit Breaker.						
	3 Phase, fully automatic DOL Starter for 1-3 HP Ventilation fan motor as required.						
	Complete panel as above	2	Panel		Zero Mauritian only		
23.2.2	AHP- BF-01, BF-02, GF-02, 1F-02, 2F-01, 2F-02, 3F-01, TF-01, TF-02						
	INCOMER :						
	1 nos. 200 Amp 400 volts, 35 KA FP MCCB with thermal magnetic release having variable current settings of O/L, S/C protection.						
	R,Y&B phase indicating lamp (LED type) with 6A control SP MCB & ON, OFF, TRIP Indication.						
	1 No. 0 to 500 V Digital voltmeter with selector switch.						

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words)	6	Amount (MUR) 7
	Digital ammeter with selector switch with one set Suitable C.Ts.						
	Bus Bar						
	300 A TPN Copper bus bar 400 V , 50 Hz.						
	OUTGOINGS :						
i	2 set - 63 A, 400 volts, 10 KA C- Curve, Four Pole, Miniature Circuit Breaker.						
	3 Phase, fully automatic DOL Starter for 15/20 HP fan motor as required.						
ii	4 set - 32 A, 400 volts, 10 KA C- Curve, Four Pole, Miniature Circuit Breaker.						
	3 Phase, fully automatic DOL Starter for 5/7.5 HP fan motor as required.						
iii	7 set - 16 A, 400 volts, 35 KA C- Curve, Four Pole, Miniature Circuit Breaker.						
	3 Phase, fully automatic DOL Starter for 1-3 HP Ventilation fan motor as required.						
	Complete panel as above	9	Panel		Zero Mauritian only		
24.0	CABLING						
24.1	LT CABLES						
	Supply and laying cable of Include for (i) all cable glands,lugs, cable identification tags, etc. (ii) all underground/ underfloor yellow/orange PVC sleeves, in-situ conduits/sleeves, warning tape, cable trays, etc.(iii) all pressure type puddle flanged sleeves and masking plates for all pipes/sleeves penetrations through external walls below ground level incuding sealing with expansive foam and sikaflex compound after passage/installation of cables (v) all proprietary terminations for the following multicore copper conductor PVC armoured XLPE cable as per as per BS 5467 /IEC 60502						
24.1.1	5 Core 25 Sqmm.	400	Metre		Zero Mauritian only		
24.1.2	5 Core 35 Sqmm.	50	Metre		Zero Mauritian only		
24.1.3	5 Core 50 Sqmm.	300	Metre		Zero Mauritian only		
24.1.4	5 Core 95 Sqmm.	100	Metre		Zero Mauritian only		
24.1.5	5 Core 185 Sqmm.	300	Metre		Zero Mauritian only		
24.1.6	5 Core 240 Sqmm.	300	Metre		Zero Mauritian only		
24.1.7	5 Core 300 Sqmm.	80	Metre		Zero Mauritian only		
24.1.8	5 Core 16 Sq mm	300	Metre		Zero Mauritian only		
24.1.9	5 Core 10 Sq mm	350	Metre		Zero Mauritian only		
24.1.10	5 Core 6 Sq mm	400	Metre		Zero Mauritian only		
24.1.11	5 Core 4 Sqmm.	400	Metre		Zero Mauritian only		
25.0	CABLE TRAYS						

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
25.1	Fabrication and Installing following size Hot Dipped Perforated Galvanised Cabletrays/Cable ladders as per BS729 cluding Horizontal and vertical bends, reducers, tee, crossmember and other accessories as required and duly Suspended from the ceiling with M.S 12 mm rod suspenders and including painting etc. as required.					
25.1.1	300 mm width	200	Mtr		Zero Mauritian only	
25.1.2	200 mm width	100	Mtr		Zero Mauritian only	
25.1.3	150 mm width	300	Mtr		Zero Mauritian only	
25.1.4	100 mm width	300	Mtr		Zero Mauritian only	
26.0	EARTHING					
26.1	Supply and installation of one number earth pit with advance maintainance free Earthing System consisting of one Number,copper bonded steel electrode of minimum 25 mm dia. (as per IE C62561-2) With a minimum coating thickness of 250 microns and length of 3 meters, 22 kg/Electrode of earth enhancing compound (tested as per IEC-62561-7) fill the 100mm augered hole surrounding to the electrode , SS Universal Clamp of Size 175X50X3 mm for terminal Connection including Poly Propylene Heavy duty Pit cover including all accessories , excavation of earth, filling with back fill compound, and earth pit marking. The Complete installation shall be as per the drawing, technical specifications and as required	4	Set		Zero Mauritian only	
26.2	Providing and fixing25mmX5mm Copper strip on surface/on existing cable trench/RCC pipe/GI pipe or in recess for earth electrode as required.					
26.2.1	25mmx 5mm	500	Mtr		Zero Mauritian only	
27.0	CONTROL CABLING					
	Supply, laying, effecting proper connections, testing & commissioning of 1.5 sq.mm. PVC insulated copper multicore cables (as per relevent BS Standards) from AHU's and AC equipments to central control console.					
27.1	10 core cable	100	Mtr		Zero Mauritian only	
27.2	8 core cable	1000	Mtr		Zero Mauritian only	
27.3	6 core cable	150	Mtr		Zero Mauritian only	
27.4	3 core cable	100	Mtr		Zero Mauritian only	
27.5	2 core cable	500	Mtr		Zero Mauritian only	
28.0	CONTROL CONSOLE/DESK					

Item No. 1	Description 2	Total Qty 3	Unit 4	Rate in MUR. (in Figure) 5	Rate in MUR (in words) 6	Amount (MUR) 7
	Supplying, installation, testing & commissioning of floor mounted desk type control console cum indicating panel IP-55 in the A.C. plant room containing various indications and controls for the complete air-conditioning system comprising chilling units, chilled/ Hot/ condenser fans, Ex. blower, Fans etc , Hot water generator with test push button facility. The panel shall be fabricated from minimum 1.6mm thick M.S. powder coated sheet of approved design. The air-conditioning module of the central control cum indicating panel shall contain the following accessories.					
	Status indication (ON, OFF & fault) of each compressor for each chilling machine, hot water boiler etc.					
	Push buttons and indicating lamps for remote start & stop and status indication for every nos of the water circulating pumps, Ex blower, Fans etc.					
	Hooter and flashing lamp to indicate operation of any safety/ shut down with necessary contactors, accept, reset and test push buttons.					
	Complete wiring with copper conductor PVC insulated multicore 2.5 sq.mm stranded cable (excluding supply of cable, tray, clamps etc) from various equipments in the A.C. plant room, AHU's Terrace plant room etc to the control console panel as required.					
	Complete Panel As above for Following blocks					
	For Plant room	1	Panel		Zero Mauritian only	
	Total ELECTRICAL					
	TOTAL FOR HVAC WORKS					