

2500 + 2150 + 2500 + 890

MB SHEET RA-01

Project -The Lucknow Seating D-21 Airport (Lucknow)

Sr No	Item Name	UOM	Boq Qty.	No.	Length	Width	Height	Total	Remarks
<b>BOQ for Civil &amp; Interior Work for LKN Dom Seating space D-21a</b>									
1	GENERAL NOTES								
2	GENERAL NOTES								
3	FS-01 Furniture Construction and fabrications Fixed Seating -01 BWP board base framing Supply and instal BWP Board (Boiling water proof board) base framing for furniture units as per specifications and drawings. Cut and shape the BWP board frame to match the dimensions specified in the drawings or as directed by the Site engineer. Securely combine the furniture structure using appropriate screws, nails or adhesives as per industry standards. Sand the edges and surfaces of the BWP board furniture structure to ensure smoothness and remove any rough edges, splinters Length - 26 ft	SqFt	440.00						
	75mm Ledge wall	Sqm		2.00	7.99		1.20	19.18	✓
	Seating Top	Sqm		1.00	7.00		0.60	4.20	✓
	Seating Sides	Sqm		2.00	0.60		0.45	0.54	✓
	Seating facia	Sqm		1.00	7.00		0.45	3.15	✓
	ledge 75mm Top	Sqm		1.00	7.99	0.08		0.60	✓
	Sides	Sqm		2.00		0.08	1.20	0.18	✓
	<b>Total Qty in Sqm</b>							27.85	✓
	<b>Total Qty in Sqft</b>						10.76	299.73	✓
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							299.73	
4	MS framing 25 x 25mm MS hollow pipe seating structure, primer painted and enamel painted, Welding and bolting from the floor, complete base structure	RFT	200.00						
	Ledge Horizontal member	Rmt		4.00	7.99			31.95	✓
	Ledge Vertical member	Rmt	15	<del>12.00</del>	1.08			16.28	✓
	seating Vertical	Rmt	3	<del>4.00</del>	7.50			30.00	✓
	Seating Vertical member	Rmt		15.00	<del>0.66</del> 500			8.25	✓
	Seating Front Vertical	Rmt		15.00	0.40			6.00	✓
	Fixed seating -02 Ms framing	Rmt		4.00	2.25			9.00	✓
	Seating Bottam Horizontal	Rmt		6.00	0.54			3.24	✓
	Seating Facia vertical	Rmt		6.00	0.45			2.70	✓
	<b>Total Qty in Rmt</b>							109.43	✓
	<b>Total Qty in Eft</b>						3.28	359.35	✓
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							369.35	✓
									-200
5	Brick Tile Cladding Providing laying approved shade brick cladding tile of size 50 x 230 mm(thickness to be mentioned by the manufacturer) of 1st quality laid on 20mm thick cement mortar 1:4 (1 cement 4 coarse sand including pointing the joints with approved epoxy grout as schedule for the specified area as per the drawing in proper line and level in all direction)with silicone coating above the tile to provide good finish with proper cleaning	Sqft	130.00						
6	Leatheria Cushioning Seatrest Assembly Providing fixing of approved colour , seats shall have 12mm thk plyboard base finished with wooden finish laminate. Seat foam The Seat is made of PU foam having an additional top layer of PU foam. Seat is upholstered with leatherite.	SqFt	60.00						
7	MS Hollow pipe Providing fixing MS pipe 14 gauge in specific dia mentioned below - ms hollow pipe metal for the specified fixed seating as per design. Finished with powder coating with specific color as mentioned in BOQ Fabricate the metal base according to the approved design or as per the specifications provided. The design includes specific shapes, dimensions, seating style, and other design elements. Utilize skilled craftsmanship to ensure precise welding, proper alignment, and secure attachment of the metal base components for structural integrity	RFT	30.00						
8	Stone - Granite top ledge top and table top Providing and fixing 17-18mm thick granite over ledge top and table top	sqft	20.00						
9	Fixed Seating -02 FS-01 Furniture Construction and fabrications BWP board base framing Supply and instal BWP Board (Boiling water proof board) base framing for furniture units as per specifications and drawings. Cut and shape the BWP board frame to match the dimensions specified in the drawings or as directed by the Site engineer. Securely combine the furniture structure using appropriate screws, nails or adhesives as per industry standards. Sand the edges and surfaces of the BWP board furniture structure to ensure smoothness and remove any rough edges, splinters	sqft	35.00						
	Fixed seation -02 Bottam	Sqm		1.00	2.25	0.56		1.26	✓
	fixed seation -02 front Facia	Sqm		1.00	2.25	<del>0.45</del> 370		1.01	✓
	Seating back	Sqm		1.00	<del>2.25</del>	<del>0.45</del>		1.01	✓
	Sides	Sqm		2.00	0.60	0.45	370	0.54	✓

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Sr No	Item Name	UOM	Boq Qty.	No.	Length	Width	Height	Total	Remarks
	<b>Total Qty in Sqm</b>							3.83	
	<b>Total Qty in Sqft</b>						10.76	41.17	
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							41.17	35
10	Leatherite Cushioning Seatrest Assembly Providing fixing of approved colour , seats shall have 12mm thk plyboard base finished with wooden finish laminate. Seat foam The Seats made of PU	Sqll	32.00						
11	Brick Tile Cladding Providing laying approved shade brick cladding tile of size 50 x 230 mm(thickness to be mentioned by the manufacturer) of 1st quality laid on 20mm thick cement mortar 1 4 (1 cement 4 coarse sand including pointing the joints with approved epoxy grout as schedule for the specified area as per the drawing , in proper line and level in all direction)with silicone coating above the tile to provide good finish with proper cleaning	Sqft	50.00						
12	MS Hollow pipe Providing fixing an m 14 gauge 25mm, 10mm.6mm da ms hollow pipe metal for the specified fixed seating as per design Fabricate the metal base according to the approved design or as per the specifications provided. The design includes specific shapes, dimensions, seating style, and other design elements. Utilize skilled craftsmanship to ensure precise welding, proper alignment, and secure	RFI	10.00						
13	High table		0.00						
14	BWP board base framing Cut and shape the BWP board to match the design and dimensions specified in the drawings or as directed by the site engineer. Consider factors such as the shape, thickness, and size of the table top.	Sqft	20.00						
	High Table top	Sqm		1.00	2150	0.45		1.35	✓
	High Table RHS Mirror Wall	Sqm		1.00	3.53	0.45		1.59	✓
	<b>Total Qty in Sqm</b>							2.94	
	<b>Total Qty in Sqft</b>						10.76	31.83	
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							31.83	
15	Granite marble at the table top Providing fixing a 15-17mm thick granite marble at the counter top surface of the table, applied over the BWP board. Ensure the BWP board surface is clean, dry, and free from any dirt, dust, or imperfections that may affect the adhesion of the granite marble.	Sqft	30.00						
16	MS Hollow pipe Providing fixing an m 14 gauge 25mm, 10mm 6mm dia ms hollow pipe metal for the specified fixed seating as per design, powder coated in specific color Fabricate the metal base according to the approved design or as per the specifications provided. The design includes specific shapes, dimensions, seating style, and other design elements. Utilize skilled craftsmanship to ensure precise welding, proper alignment, and secure	FI (PER SEATIN	18.00						
17	Flooring		0.00						
18	Tile Flooring Providing laying approved shade vitrified floor tile of size 600 x 600 mm (thickness to be mentioned by the manufacturer) of 1st quality laid on 20mm thick cement mortar 1 4 (1 cement 4 coarse sand) including pointing the joints with approved epoxy grout as schedule for the specified area as per the drawing , in proper line and level in all direction with proper cleaning and covering after completing the job. (make mentioned in the	Sqll	360.00						
	Flooring	Sqm		1.00	11.40	3.87		44.12	✓
	Curved area	Sqm		1.00	1.80	0.60		1.08	✓
	Fixed seating -2 area flooring	Sqm		1.00	1630	2.75		4.68	✓
	<b>Total Qty in Sqm</b>							49.87	
	<b>Total Qty in Sqft</b>						10.78	536.83	
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							536.83	360
19	Brick Tile Flooring (op a) Providing laying approved shade brick floor tile of size 50 x 230 mm(thickness to be mentioned by the manufacturer) of 1st quality laid on 20mm thick cement mortar 1 4 (1 cement 4 coarse sand including pointing the joints with approved epoxy grout as schedule for the specified area as per the drawing , in proper line and level in all direction)with silicone coating above the tile to provide good finish with proper cleaning	sqft	280.00						
20	Brick Tile Flooring (op b) Providing laying approved shade vitrified floor tile of size 600 x 600 mm (thickness to be mentioned by the manufacturer) of 1st quality laid on 20mm thick cement mortar 1 4 (1 cement 4 coarse sand) including pointing the joints with cnc grooving of size 50 x 90 mm as schedule for the specified area as per the drawing , in proper line and level in all direction with proper cleaning and covering after completing the job (make mentioned in		0.00						
21	Wall Tile Cladding -1 Brick TILE ) Providing laying approved shade brick floor tile of size 50 x 230 mm(thickness to be mentioned by the manufacturer) of 1st quality laid on 20mm thick cement mortar 1 4 (1 cement 4 coarse sand including pointing the joints with approved epoxy grout as schedule for the specified area as per the drawing , in proper line and level in all direction)with silicone coating above the tile to provide good finish with proper cleaning	Sqft	90.00						

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Sr No	Item Name	UOM	Boq Qty.	No.	Length	Width	Height	Total	Remarks
22	Floor Transition S.S. Profile Providing fixing 6mm thick S.S. transition profile strip on junction in flooring as mentioned in the drawing and in detail.	Rft	90.00						
23	False Ceiling		0.00						
24	Gypsum false ceiling (Measurement shall be taken of the plan area only nothing extra for cove or verticle designs upto 3-8 height) Suspending system and frame work shall match to compliment the layout of A.C. Ducts grills, electrical fire protection wiring fixtures, Return Air grills etc. Rate to include provision of extra frame work needed due to layout referred above and fixtures etc. Rates to include necessary scaffolding Providing fixing Gypsum Board False ceiling with Saint Gobain ULTRA Main ceiling sections at 1200 c c Cross members at 450 c c. The grid work to be suspended from ceiling with Hangers at every 1200 c c both directions. The Frame work to be as per manufacturer s specifications. False ceiling is finished with 12.5 mm thk. gypsum board for (Saint gobain make) to be screwed to the frame. The board is finished with filign the tapered edges of the board with jointing compound and finishing with PAPER tape of INDIA GYPSUM. The ceiling is finished with a top coat as per approved manufacturer. The item includes all necessary cut outs for electrical air conditioning grills and necessary frame work for them. Item includes Cove	Sqft	355.00						
	Flat Area	Sqm		1.00	11.40	3.87		44.12	✓
	Less wooden ceiling	Sqm		-1.00	7.53	1.90		-14.30	✓
	Curved area	Sqm		1.00	1.80	0.60		1.08	✓
	Fixed seating -2 area Ceiling	Sqm		1.00	1630	1.70	2.75	4.68	✓
	vertical Patta level 3100 to 2950	Sqm		1.00	2.31	0.15		0.35	✓
	vertical Patta level 3100 to 2790	Sqm		1.00	2.15	0.31		0.67	✓
	vertical Patta level 3100 to 2790	Sqm		1.00	1.15	0.31		0.36	✓
	<b>Total Qty in Sqm</b>							<b>36.94</b>	
	<b>Total Qty in Sqft</b>						10.76	<b>397.67</b>	
	<b>Previous bill Qty</b>							<b>0.00</b>	
	<b>This Bill Qty</b>							<b>397.67</b>	
25	HDHMR false ceiling HDHMR board ceiling as per drawing and detail supported from existing ceiling with MS wooden ceiling flat	sqft	500.00						
	wooden ceiling flat	Sqm		1.00	7.53	1.90		14.30	✓
	Side Vertical	Sqm		2.00	7.53	0.26	200	3.76	✓
	Side Vertical	Sqm		2.00	1.90	0.26	200	0.95	✓
	<b>Total Qty in Sqm</b>							<b>19.01</b>	
	<b>Total Qty in Sqft</b>						10.76	<b>204.62</b>	
	<b>Previous bill Qty</b>							<b>0.00</b>	
	<b>This Bill Qty</b>							<b>204.62</b>	
26	Ceiling paint with acrylic emulsion paint	Sqft	310.00						
27	Ceiling bottom surface finished with mirror finish acrylic sheets	Sqft	170.00						
28	. with 25mm flat PVD profile and	rft	130.00						
29	aluminum LED profile	rft	70.00						
30	Finishing		0.00						
31	Ceiling paint Providing applying double (02) coats of approved paint on ceiling including scraping, primer, filling with putty, etc. complete with the final coat with no brush mark to be visible	Sqft	530.00						
32	WALLPAPER Providing and fixing of custom printed wallpaper base with proper oil based paint and	Sqft	65.00						
33	Wooden Paneling		0.00						
34	BWP plyboard paneling Providing and fixing of BWP plyboard paneling with necessary wooden battens with	Sqft	60.00						
	Mirror Wall	Sqm		1.00	3.51	3.10		10.88	✓
	<b>Total Qty in Sqm</b>							<b>10.88</b>	
	<b>Total Qty in Sqft</b>						10.76	<b>117.12</b>	
	<b>Previous bill Qty</b>							<b>0.00</b>	
	<b>This Bill Qty</b>							<b>117.12</b>	
35	Plyboard partition Providing and fixing of BWP plyboard boxing partition with necessary wooden battens	Sqft	130.00						
	DB wall	Sqm		1.00	1.65	2.95		4.96	✓
	LHS wall	Sqm		1.00	2.25	2.95		7.72	✓
	<b>Total Qty in Sqm</b>							<b>12.68</b>	
	<b>Total Qty in Sqft</b>						10.76	<b>136.51</b>	
	<b>Previous bill Qty</b>							<b>0.00</b>	

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Sr No	Item Name	UOM	Boq Qty.	No.	Length	Width	Height	Total	Remarks
	<b>This Bill Qty</b>							136.51	
36	Sold teak wood battens with clear polish- 25 x 50mm size of teak wood	RFT	140.00						
37	6mm thick mirror to be finished and pasted over plyboard	Sqft	64.00						
38	Misc.		0.00						
39	Signage <i>Providing and fixing of acrylic signage with side fit in multi color acrylic - Lucknow</i>	LS	1.00						
40	Neon Signage <i>Providing and fixing of Neon signage - Halls</i>	LS	1.00						
41	Signage <i>Providing and fixing of Neon Signage on granite wall</i>	LS	3.00						
42	WATERPROOFING		0.00						
43	Providing and laying a proprietary chemical waterproofing system consisting of polymer-modified acrylic base coating in two coats in form of a slurry (total consumption of 1.5 Kg Sqm) as approved by the PM and as directed by the approved manufacturer of waterproofing coating, with sandwiched fiber mesh and protective screed. The work shall include cleaning the surface, grouting porous surfaces making 'V' grooves at junctions, cracks with nonshrink crystalline base cementitious grout, etc. Further including horizontal and vertical surfaces protected with 20mm screeding in 1:4 mortar (1 cement 4 sand), finished in ready to receive Architectural finish, in the correct line, level, and <i>depth, curing, grouting, testing, etc. all according to the entire satisfaction of the PM</i>	Sqft	530.00						
<b>Total Civil And Interior</b>									
<b>BOQ for Fire Work for LKN Dom Seating space D-21a</b>									
44	Supply, laying, testing, Commissioning of C class heavy duty MS pipe conforming to IS 3589 - 1239 for hydrant and sprinkler applications including fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. fixing the pipe on the wall ceiling with suitable clamps, U bolt and including painting of two coats of Red Oxide, painting with two or more coats of synthetic enamel paint of Post office red shade complete as required. The installation includes all civil openings, breakages and making good the same. ( Final								
45	25 mm dia	Mtr.	14.00						
	Branches	Rmt		3.00	0.55			1.64	
		Rmt		1.00	5.52			5.52	
		Rmt		1.00	4.10			4.10	✓
	<b>Total Qty in Rmt</b>							11.26	
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							11.26	✓
46	32 mm dia	Mtr.	6.00						
		Rmt		1.00	1.40			1.40	
		Rmt		1.00	4.08			4.08	
	<b>Total Qty in Rmt</b>							5.48	
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							5.48	✓
47	40 mm dia	Mtr.	3.00						
		Rmt		1.00	3.27			3.27	
	<b>Total Qty in Rmt</b>							3.27	
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							3.27	✓
48	50 mm dia	Mtr.	3.00						
		Rmt		1.00	5.50			5.50	
	Main Header Connection	Rmt		1.00	2.50			2.50	
	<b>Total Qty in Rmt</b>							8.00	✓
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							8.00	
49	Supply, installation, testing and commissioning of Brass ball valves of following sizes as required.	Each	1.00						
	50 mm dia ball valve	Nos		1.00				1.00	
	<b>Total Qty in Rmt</b>							1.00	
	<b>Previous bill Qty</b>							0.00	
	<b>This Bill Qty</b>							1.00	✓
50	Supply, fixing, testing, commissioning of 15 mm dia size, quartzoid bulb sprinkler heads suitable for 68 degree centigrade rating of the following type	Each	8.00						
	Sprinklar	Nos		8.00				8.00	
	<b>Total Qty in Rmt</b>							8.00	
	<b>Previous bill Qty</b>							0.00	✓

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Sr No	Item Name	UOM	Boq Qty.	No.	Length	Width	Height	Total	Remarks
								8.00	
<b>This Bill Qty</b>									
51	Supply Fixing ISI marked ( IS 15683 ) Portable Fire Extinguisher, ABC type, finished externally with red enamel paint, complete in all respects including initial fill and wall suspension of following capacity.	Each	1.00						
52	Supply Fixing ISI marked ( IS 15683 ) Portable fire Extinguisher, Carbon-dioxide type (I)al base including valve, discharge hose of not less than 10 mm dia, min. 600 mm long complete in all respects including initial fill with CO2 gas conforming to IS 307-1966 filled	Each	1.00						
53	Supply Fixing ISI marked ( IS 15683 ) Portable fire Extinguisher, k type (I)al base including valve, discharge hose of not less than 10 mm dia, min. 600 mm long	Each	1.00						
<b>Total Fire Fighting Work</b>									
<b>BOQ for IIVAC High Side for LKN Dom Seating space D-21a</b>									
54	Ceiling Suspended AHU Supplying, installing, testing and commissioning of double skin construction draw thru type Ceiling Suspended AIR HANDLING UNITS as per specification, each complete with ESP Filter (94% down to 3 microns), pre-filter section (90% down to 10 microns), min 6 Row Deep Chilled water coil of copper tube aluminium fins construction, squirrel cage induction motor, alfol centrifugal fan belt drive and vibration Isolators, coil size shall be selected for a maximum face velocity of 500 feet minute and static pressure shall be as indicated. The motor selected shall be energy efficient having efficiency (IE2) at full load ranging between 82.5% to 92% in accordance with motor rating as per specification. Motor shall be suitable for 415±10% volts, 50 cycles, 3 phase AC supply. Fan motor assembly (as whole) shall be statically and dynamically balanced to grade G 6.3 as per ISO-1940 AMCA 204-3. All units shall be complete with opposed blade volume control dampers at outlet. Duct flexible connector (fire proof) shall be provided at outlets of AHU. ( Temporary bypass arrangement In Chilled Water Line with related accessories to be considered to facilitate flushing during precommissioning and commissioning of the System).	No.	1.00						
<b>Total HVAC High Side</b>									
<b>BOQ for IIVAC Low Side for LKN Dom Seating space D-21a</b>									
55	(FOR FACTORY FABRICATED DUCTS AS PER 'SMACNA' STANDARDS		0.00						
56	Supply, Fabrication, installation and testing of factory fabricated sheet metal ducts with sleeve joints and supports complete with the approved shop drawings and as required by the specifications and hanging of the ducts to be done by thread wire on metal		0.00						
57	24G sheet	sq m	40.00						
58	26G sheet	sq m	5.00						
59	Supplying and erecting GI sheet of fabricated at site and mentioned gauge to be used for fabrication of ducting 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	sq m	5.00						
60	Supply, installation, testing and balancing of powder coated Extruded Aluminum Supply air Grilles with volume control dampers in accordance with the approved shop drawings and specifications. (Minimum Checkable area should be 0.1 Sqm Per Gr.)	SQMT	1.00						
61	Supplying fixing of opposed blade volume control dampers in supply air duct collars as per approved drawings and specifications. Volume control damper shall be provided at the junction of each branch duct with main duct. Dampers shall be 2 gauge heavier than the gauge of large duct but should not be less than 20 gauge, and shall be rigid in construction so as not to	SQMT	1.00						
62	Supply, fabrication, installation and testing the flexible connections constructed of fire resistance flexible double canvas sleeve as per the approved shop drawings	Nos.	1.00						
63	Supply, installation, testing and balancing of powder coated Extruded Aluminum Return air Grilles without volume control dampers in accordance with the approved shop drawings and specifications. (Minimum Checkable area should be 0.1 Sqm Per Gr.)	sq m	2.00						
64	Supply, installation and testing of Acoustic lining with Open cell nitrile rubber with in supply and return air ducts of specified thickness as per the specifications. All ducts shown cross hatched on the approved shop drawings shall be provided with a acoustic lining as per the specifications	sq m	10.00						
65	Supplying and fixing of following thickness duly laminated aluminum foil of mat fresh closed cell Nitrile rubber(Class'O') insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50mm wide and 3mm thick self adhesive nitrile rubber tape insulation complete as per specifications and as required.	sq m	40.00						
66	Supplying, installing and testing of UPVC pipe ( heavy duty) with 8 mm thick nitrile rubber insulation with protective coating on condensing water piping and fitting like bends, elbow, tee and union etc. as per the approved shop drawings and specifications. 25mm Dia	Rmt	5.00						
67	Supply Installation Testing and commissioning of ERW heavy duty C Class MS pipes as	Rmt	10.00						
68	Providing and fixing in position following ball valves 32 mm dia valves	Nos.	2.00						
69	Providing and fixing in position the following 'Y' Strainers 32 mm dia strainers	Nos.	1.00						
70	Supplying, installation, testing and commissioning of Auto air vents . 25 mm dia pipes	Nos.	1.00						
71	Providing and fixing in position SS 304 the industrial dial type pressure gauges with gun metal bushes	Nos.	2.00						
72	Providing and fixing in position SS 304 the mercury-in- glass industrial dial type thermometers	Nos.	2.00						
73	Supply, installation, testing and commissioning of THERMOSTAT for cooling. The thermostat shall be electronic room temperature controller with digital display fan speed control, capable of providing individual space temperature control for cooling application. The controller shall produce a dual output to cooling coils in response to load change in rooms. The controller shall be designed to modulate two control devices such as 2 way	No.	1.00						

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74	Supply, installation, testing and commissioning of Electronic Self Balancing Valve pressure independent with independent type dynamic balancing valve for AHUs with integrated 2 way modulating control valves in a single body. The actuator shall be capable of accepting 2-10 VDC 4-20 mA electric signal and shall provide similar transduced feedback output signal to control system for flow measurement. The minimum close off pressure actuator must be 1.5 times shut off head of pump 5 bars whichever is maximum. The valves shall be suitable for following pipe sizes	No.	1.00						
75	Supply, Installation, Testing and Commissioning of BMS compatible ultrasonic BTU Meter complete with flanged type water flow meter (pressure drop across water meter not exceeding 0.1 bar at the specified nominal flow rate), temperature sensors, LCD display panel inbuilt Lithium battery backup with minimum six years life. The units shall be capable to calculate and store maximum values, display flow rates and temperature difference across supply and return. The quoted price shall be inclusive of necessary wiring, conduiting between the flow meter and the display panel. The unit shall be housed in a totally laminar proof box. The size of the RTU meter is as under	No.	1.00						
76	CONTROL PANEL FOR AHU (WITH DOL SD STARTER) Design, manufacture, supply, installation, testing and commissioning of the following cubicle-type, dead front, sheet steel, wall mounted control panels including anchoring into the wall, wiring, incoming, earthing terminating into MCCB in each panel shall be provided by the electrical contractor. All internal wiring power cabling and copper earthing of air handling unit motors from the panel shall be included. All outgoing shall be provided with Stop Manual Auto selector switch to facilitate operation through BAS. All starters shall be provided with potential free Contact for Connections to Building Automation System. The panel shall include the following components and accessories. a) MCCB as per the ratings given below, suitable for motor duty and able to withstand fault level of 20 KA. b) DOL SD starter as per HP ratings c) Terminal block for power distribution. d) Contactor, over load relay with built in single phasing protection. e) Phase indicating lights and indicating light for ON status. f) Digital voltmeter and digital ammeter with selector switches. g) Time delay relay for delayed automatic restart of air handling unit motor. h) For on off remote and local operation, 3 pole single throw switch shall be provided in each AHU panel to facilitate override of the automatic operation. i) All starters shall be provided with suitable potential free contact for connections to the	No.	1.00						
<b>Total HVAC Low Side</b>									

BOQ for Electrical Work for LKN Dom Seating space D-21a

77	DISTRIBUTION BOARDS 6 WAY V-TPN DB - LPDB Incomer 63A, FP, MCB, 10KA 1 Nos Sub Incomer 32A, DP, RCCB, 100mA 3 Nos Outgoings 6 10 16 A SP MCB C Type	Nos.	1.00						
78	MV CABLES		0.00						
79	POWER CABLING Supply and laying, effecting proper connections, testing commissioning of the following sizes of 1.1 KV XLPE FRLS armoured unarmoured PVC insulated PVC sheathed aluminium copper conductor cables conforming to IS 1554 and IS 694 for Flexible copper cable Part I - 1976 with latest amendments laid over MS supports in existing RCC ducts laid in ground laid on Cable Trays including clamping the cables to supports in an approved manner as required complete with all accessories All cables shall have thermo setting insulation XLPE and low emission of smoke and corrosive gas when affected by fire. Necessary Markers shall be provided at the intervals as per the	Mtr.	30.00						
80	CABLE TERMINATION Making cable and terminations including brass single compression glands and crimping		0.00						
81	3.5C x 70 Sq mm AL	Nos.	2.00						
82	4C x 6 Sq mm.	Nos.	2.00						
83	POINT WIRING		0.00						
84	Point wiring LENGTH from DB to SB or First Light point control MCB shall be avg. of 15Mtr. of 3C x 2.5 sq mm FRLS PVC insulated stranded copper conductor wires. For SB to SB the length shall be measured in Mtr. The secondary Loop point length shall be 10Mtr from Light fixture to light fixture. If secondary point shall be operated from MCB then the length shall be 10 Mtr. All sockets to be checked with a Clock Plug socket tester for live-neutral reverse, no earth, neutral fault, live earth reverse, neutral earth reverse. The Circuit No. and DB no label shall be provided on all UPS, RAW sockets and switchboards with label printer. The Length shall be paid as per the actual measurements as per following manner. Wiring for the following light points with 3 x 2.5 Sq mm FRLS PVC insulated stranded copper conductor wires in GI conduits in F ceiling walls ceiling as directed including providing 6 amps flush type switches, 5 sided GI Boxes for housing switches and earth-		0.00						
85	First point controlled by one no. 6 amp switch. (upto 10Mtr.)	Nos.	15.00						
86	First point controlled by one no. 6 amp switch. For Emergency Light (upto 10Mtr.)	Nos.	6.00						
87	Same as item No. 4.2.1 4.2.2 above but LOOP POINT i.e. wiring of point looped from first point with 3C x 2.5 sq. mm FRLS PVC insulated copper conductor wire in concealed	Nos.	12.00						
88	Same as item No. 4.2.3 4.2.4 above but LOOP POINT i.e. wiring of point looped from first point with 3C x 2.5 sq. mm FRLS PVC insulated copper conductor wire in concealed	Nos.	8.00						
89	First point controlled by existing MCB in D.B.	Nos.	10.00						
90	Same as item No 4.5.1 above but LOOP POINT i.e. wiring of point looped from first point with 3C x 2.5 sq mm FRLS. insulated copper conductor wire in concealed exposed GI conduit and	Nos.	30.00						

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MB SHEET RA-01

Project -The Lucknow Seating D-21 Airport (Lucknow)

Sr No	Item Name	UOM	Boq Qty.	No.	Length	Width	Height	Total	Remarks
91	Wiring for UPS Raw plug outlets points with 3C x 4 sqmm FRLS PVC Insulated and PVC sheathed flexible cable with bright annealed electrolytic copper conductor , 1100 volt grade conforming to IS 694-1990 with latest amendments, in existing Channels conduit in ceiling walls floor including all cable termination accessories) (including body earth for	Mtr.	200.00						
92	Wiring for UPS Raw plug outlets points with 4C x 4 sqmm FRLS PVC Insulated and PVC sheathed flexible cable with bright annealed electrolytic copper conductor , 1100 volt grade conforming to IS 694-1990 with latest amendments, in existing Channels conduit in ceiling walls floor including all cable termination accessories) (including body earth for	Mtr.	125.00						
93	20 mm dia GI Conduit	Mtr.	100.00						
94	MODULAR SWITCHES Supply, installation, testing, commissioning of following types of modular switches, cover plates, 5 sided G.I. Boxes for housing the modular switches earthing complete as required. GI Boxes to have earth pin for body earthing. The Circuit No. and DB no. label shall be provided on all UPS, RAW sockets and switchboards with label printer (Make-		0.00						
95	6A One Way Switch	Nos.	22.00						
96	6A 5 pin Socket - 1Nos. 6A Switch - 1Nos.	Nos.	22.00						
97	GENERAL EARTHING <i>Supply and testing upto Copper conductor of following sizes &amp; SWG</i>	Mtr.	30.00						
98	LIGHT FIXTURES INSTALLATION Receiving from Store, Installation, testing, commissioning of following light fixtures with complete installation hardwares including Anchor fastener, supporting Hook Rods as per		0.00						
99	DOME LIGHT	Nos.	13.00						
100	CYLINDRICAL SURFACE MOUNT LIGHT	Mtr.	36.00						
101	MISCELLANEOUS WORKS		0.00						
102	Supply, fixing in position approved shock treatment chart written in English, Hindi and <i>1 or all language. These charts shall be framed in wooden frame, covered with clear</i>	Nos.	1.00						
103	Supply, fixing in position the best quality danger notice boards of approved shape, size as reqd. by the local Electrical Inspecting Authority written in English, Hindi, local <i>languages</i>	Nos.	1.00						
104	CCTV System								
105	2 Megapixel Fixed Lens Camera IR Dome Type 1/2.8 Progressive Scan CMOS, 1920 x 1080 at 25fps, 2.8mm Fixed lens, 0.028 Lux at F1.2, ICR, ONVIF, support H.265, H.264, MJPEG, 120db WDR, 3D Digital Noise Reduction, Three individually configurable stream, 12 VDC PoE, IR range 40m, Support on-board storage up to 128 GB (SD card not included), IP67, IK10, Edge Analytics- Line crossing detection, Intrusion detection, Motion detection, Scene	Nos.	4.00						
106	NVR 16 Channel, Connect Up to 16 IP Cameras, Dual OS, Up to 8 Megapixels Resolution, HDMI output with 4k output and VGA output with 2MP Output, Support H.265, H.264, MJPEG, Incoming Bandwidth 160 Mbps, 4 SATA Hard Disks, ANR Technology, 2 SATA interfaces for 2 HDDs and capacity of each HDD up to 6TB, 2 USB at least 1 x USB with 3.0, Serial interface 1 RS-485, 1 RS-232, Alarm I/O 16 4 2 RJ-45 10/100 1000 Mbps self-adaptive Ethernet interface, Multiple network monitoring, Web viewer, CE.	Nos.	1.00						
107	16 Port Network Switch Gigabit POE 16 x gigabit PoE ports, 1 x gigabit RJ45 port, and 1 x gigabit SFP fiber optical port, IEEE 802.3at standard	Nos.	1.00						
108	CAT 6 Connector	Nos.	8.00						
109	Hard Disk 6 TB	Nos.	2.00						
110	Supply, installation of Computer system as required	Nos.	1.00						
111	Installation labour charges	Job	1.00						
112	Supply, Drawing and Testing of 4 pair, 100 Ohm, 24 AWG UTP Cat 6 Cable as per latest amendments of TIA/EIA 568 B.2 specifications for Data Telephone points in existing MS PVC conduits including making connections to Information outlets and patch panels with ferruling at both ends for identification with necessary tools for punching, stripping	Mtr.	80.00						
113	Supply and laying of HDMI Cable	Nos.	1.00						
114	Supply and Laying of RIGID PVC Medium Duty Conduits ISI marked conduits complete with accessories such as bends, junction boxes, pull boxes etc. in recess or on surface including cutting chases in the walls/floors and making good the same complete as required.	RM	32.00						
115	Supply, Installation, Testing and Commissioning of Wall mounted Communication rack with glass doors, handles, Jock, Top and Bottom Cable entries, Supports for mounting rack on wall, Cable managers, one Fan, Equipment mounting hardware, power supply box for supplying power to switches, fans etc along with earth continuity kit, MCB, indicator, moulded power supply cable.	Nos.	1.00						
116	UPS System Supply, Installation, testing and commissioning of following type of Online UPS Inverter as per drawings and specifications with all other accessories. Online UPS 1.20KVA UPS12V DC 25AH maintenance free batteries for 30 minutes battery backup. Input supply voltage -230-250 Volts Output voltage -220-240V+/-1% Voltage Regulation -Less than or equal to +/-1% Output frequency -50 Hz +/-0.05 Hz Type of cooling -Forced air cooled Inverter Efficiency -Better than 85%	Nos.							
<b>Total Electrical Work</b>									

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