

PROPOSED BMC GENERAL HOSPITAL & STAFF QUARTERS
On Plot bearing CTS No. 11A/4,Chandivali, Sangharsha Nagar, Kurla 400072

SUMMARY - PNEUMATIC TUBE SYSTEM

Sr. No.	Description	Amount(Rs.)
A)	PNEUMATIC TUBE SYSTEM	₹ 6,62,41,807.00
	TOTAL	₹ 6,62,41,807.00

MUNICIPAL CORPORATION OF GREATER MUMBAI

**PROPOSED BMC GENERAL HOSPITAL & STAFF QUARTERS
On Plot bearing CTS No. 11A/4,Chandivali, Sangharsha Nagar, Kurla 400072**

BILL OF QUANTITIES PNEUMATIC TUBE TRANSPORT SYSTEM

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
		Control and Annunciation Equipments				
1	RBH18-PTS-FA-01	S/I/T/C of Compact automatic Linear Multi - Zone Transfer unit	1.00	Set.	1,13,99,615.00	1,13,99,615.00
		Compact Automatic Linear Multi-zone Transfer unit with 2 standerd zones and 4 power Lines and expandable to 12 standard zones including 6 powerlines NW160 for connecting and interchange of all zones and powerlines . Capable of storing carriers; with priority by-pass; with powerline & powertrain capabilities for sending multiple carriers in runs and With capabilities of carrier cradle moving from zone to zone at very high speeds				
2	RBH18-PTS-FA-02	S/I/T/C of Control Software with license dongle key with accessories	1.00	Set.	41,03,190.00	41,03,190.00
		Control Software Transposnet 5.0 (License upto 10 stations) with basic features like : Supervision; Real time monitoring; Priority settings; Network viewing; System access and controls for each device on the network; Traffic flow analysis; Delay analysis; Logging of each transaction and error; Inventory controls; Location of carriers, Password controls, Carrier re-distribution; Pro-remote accessibility; Automatic Return feature of carriers to origin or to station with highest deficit; Programmable timetable for recurring functions; Divert Carrier function in case of absence; Various Priority Settings for urgent and emergency transports; Optimisation of pathways with intelligent alternate routing of carriers; Mechanical and electrical Control of all devices; System configuration; Access and timetable features; User Groups and group conditions and functions; Carrier Management; PowerLine and Powertrain for multi-carrier transports for optimized frequency and over long distances; Print module for reports and stastics, analysis reports; User profiles and rights; System graphic visualisations; Reports editing Software operable & accessible via License Dongle Key only				
3	RBH18-PTS-FA-03	S/I/T/C of side channel blowers	4.00	Nos.	16,14,171.00	64,56,684.00
		Blower Unit Complete with Accessories and attachments 5.5 Kw. The unidirectional side channel blower confirms to EC machines directives 98/37/EC and low voltage director 73/23/EEC f.; DIN EN292 for safety of machines; EN60034-1 / DIN VDE 0530 Part 1 for rotating electrical machines; EN 60034-5 / DIN VDE 0530-5 classification of degree of protection DIN EN 60204 for safety of machine electrical equipment of machine Part 1 of Electric Motors and DIN VDE 0-1 insulation coordination for equipment wthin low volate systems. Complete with silencer, filters, dampers & installation accessories and air switch device. Automatic activation through centralized control system.				
4	RBH18-PTS-FA-04	S/I/T/C of standered stations NW160	22.00	Nos.	7,15,405.00	1,57,38,910.00
		The receiving and sending stations for automatic receiving and sending of materials in the carriers. To conform to EU Director for Electromagnetic tolerance 2004/108/EC; EEC directive for low voltage devices 93/68/EEC; EEC machines directors 98/37/EEC. To have ergonomically adapted sending and receiving heights. Wall mountable stations; Each device equipped with state-of-art maintenance free gear drive mechanism & self adjusting optical seals for moving parts for noise-less operations.				
5	RBH18-PTS-FA-05	S/I/T/C of Compact Stations NW160	4.00	Nos.	6,62,046.00	26,48,184.00

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
		The receiving and sending stations for automatic receiving and sending of materials in the carriers. To conform to EU Director for Electromagnetic tolerance 2004/108/EC; EEC directive for low voltage devices 93/68/EEC; EEC machines directors 98/37/EEC. To have ergonomically adapted sending and receiving heights. Wall mountable stations; Each device equipped with state-of-art maintenance free gear drive mechanism & self adjusting optical seals for moving parts for noise-less operations.				
6	RBH18-PTS-FA-06	S/I/T/C of Free run stations NW160 Free Run Stations are required to locate the lost carriers in the control Room.	1.00	Nos.	5,27,563.00	5,27,563.00
7	RBH18-PTS-FA-07	S/I/T/C of Horizontal lab reciving / Automatic Multi Receiving stations NW160 The station Device for in-stallation in laboratories with much reduced space capacity and always taking in consideration the ergonomically aspect. Conforms to EU Director for Electromagnetic tolerance 2004/108/EC; EEC directive for low voltage devices 93/68/EEC; EEC machines directors 98/37/EEC. With built in special turn-around function, the carriers slow down, turn from a vertical position in the station to a horizontal position and roll horizon-tally in the arrival area. Receiving area at 93degrees with 2000mml; the device is compact size and connected to dedicated and independent powerlines.The device is wall / table top mountable; Each device should be equipped with state-of-art maintenance free gear drive mechanism & self adjusting optical seals for moving parts for noise-less operations.	1.00	Nos.	11,59,521.00	11,59,521.00
8	RBH18-PTS-FA-08	S/I/T/C of Diverter Units NW160 The diverter units are switching device used at branching points in the system to direct the path of the carrier from a single tube at one end to three selectable tubes at the other end. The ends of the diverters are attached with forwarding tube network using steel clamps that are easily removable during servicing. To conform to EU Director for Electromagnetic tolerance 2004/108/EC; EEC directive for low voltage devices 93/68/EEC; EEC machines directors 98/37/EEC. Diverters are fitted with moveable tube that gently guides the carrier through the diverter in pre and auto-selected direction. The tube is positioned precisely at the selected port using proximity sensor built-in. The units are equipped with state-of-art maintenance free linear gear drive mechanism & self-adjusting proximity digital sensors & noise-less operations.	6.00	Nos.	6,13,994.00	36,83,964.00
9	RBH18-PTS-FA-09	S/I/T/C of System control cable along with necessary Tie-Strips Data-Com-Power Composite. Single control cable of high grade composite with grounding, power and data-com all three in one and fully screen and use grounded system concept to minimize electromagnetic and radio-frequency interference. Instrumentation wire type 2 x 2 x 0,22 x 1,9 ² ; Compatible with system on low voltage supply of 36V for human protection. All devices are connected with LVDC 36V using RS232 to RS485 platform using unicore cable based on RS485 connectivity which provides composite LV power supply and communication to all stations and devices in the network and hence are digital in nature and maintaining a real time live connectivity speed of minimum 70 – 120 devices per second which can be constantly monitored Live and Real Time on the PC monitor. Conforming to CE or EN standards along with necessary Tie-Strips for tying Control Cable Data -com-power with installed tubes & bends.	1,700.00	mtrs	1,798.00	30,56,600.00
10	RBH18-PTS-FA-10	S/I/T/C of Power Booster pack The entier system network work on 36-40 LVDC supply (except 3 phase blower) to enhance the network communication signal, speed and DC Voltage supplied at periodic lengths depending up on the network, 200 VA / 36 LVDC power & communication booster packs (power packs) are installed	7.00	Nos.	1,92,076.00	13,44,532.00
11	RBH18-PTS-FA-11	Providing of Carriers or capsules NW 160	54.00	Nos.	43,069.00	23,25,726.00

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C AMOUNT	TOTAL
		330mmx120mm. Special carriers with caps for secure use; fully integrated rubber seal; payload up to 3 kg; Impact resistant and crystal clear polycarbonate middle body; With Loading Dimensions of 330mmH x 120mm ID; with Unique flip-top or Swivel caps for secure use; Metal-free design through rotation welding procedure; Impact resistant and crystal clear polycarbonate middle body, with integrated radio-frequency identification system					
12	RBH18-PTS-FA-12	S/I/T/C of System tube network bends grey PVC NW 160 alongwith necessary accesories Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves Thread rod and nuts and bolts @ every 2 meters Etc.	220.00	Nos.	35,246.00		77,54,120.00
		Wall thickness 3.2mm, Radius 800mm. Special Imported U-PVC forwarding bends conforming to DIN6660 for characteristics, ; with following features - Physical tensile strength: 55N/mm3; E-module:3000N/mm3; Resistance to impact:High resistance at 20 degrees Celsius without breaking; Thermal Coefficient of Linea Expansion: 80 x 10-6 K-1; Heat conductivity:0.16 W/mk; Inherent stability up to: 60 degrees Celsius; Electric surface resistance: -1012; General average density:1.38 g/cm3; Absorption of water during 24 hours:0.03%; Combustability: Self extuinigishing; Difficult to inflame; Tolerance of Diameter: +0.35 – 0.50mm alongwith necessary accesories Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves Thread rod and nuts and bolts @ every 2 meters Etc.					
13	RBH18-PTS-FA-13	S/I/T/C of System tube network Straight tube grey PVC NW 160 alongwith necessary accesories Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves Thread rod and nuts and bolts @ every 2 meters Etc.	900.00	mtrs	3,036.00		27,32,400.00
		Wall thickness 3.2mm. Special Imported U-PVC forwarding tubes conforming to DIN6660 for characteristics; with following features - Physical tensile strength: 55N/mm3; E-module:3000N/mm3; Resistance to impact:High resistance at 20 degrees Celsius without breaking; Thermal Coefficient of Linea Expansion: 80 x 10-6 K-1; Heat conductivity:0.16 W/mk; Inherent stability up to: 60 degrees Celsius; Electric surface resistance: -1012; General average density:1.38 g/cm3; Absorption of water during 24 hours:0.03%; Combustability: Self extuinigishing; Difficult to inflame; Tolerance of Diameter: +0.35 – 0.50mm alongwith necessary accesories Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves Thread rod and nuts and bolts @ every 2 meters Etc.					
14	RBH18-PTS-FA-14	S/I/T/C of System tube network bends transparent PVC NW 160 alongwith necessary accesories Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves, Thread rod and nuts and bolts @ every 2 meters Etc	20.00	Nos.	77,009.00		15,40,180.00
		Wall thickness 3.2mm, Radius 800mm. Special Imported U-PVC forwarding bends conforming to DIN6660 for characteristics, ; with following features - Physical tensile strength: 55N/mm3; E-module:3000N/mm3; Resistance to impact:High resistance at 20 degrees Celsius without breaking; Thermal Coefficient of Linea Expansion: 80 x 10-6 K-1; Heat conductivity:0.16 W/mk; Inherent stability up to: 60 degrees Celsius; Electric surface resistance: -1012; General average density:1.38 g/cm3; Absorption of water during 24 hours:0.03%; Combustability: Self extuinigishing; Difficult to inflame; Tolerance of Diameter: +0.35 – 0.50mm alongwith necessary accesories Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves Thread rod and nuts and bolts @ every 2 meters Etc.					
15	RBH18-PTS-FA-15	S/I/T/C of System tube network straight tube transparent PVC NW 160 alongwith necessary accesories Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves, Thread rod and nuts and bolts @ every 2 meters Etc	40.00	mtrs	23,845.00		9,53,800.00

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C AMOUNT	TOTAL
		Wall thickness 3.2mm. Special Imported U-PVC forwarding tubes conforming to DIN6660 for characteristics; with following features - Physical tensile strength: 55N/mm3; E-module:3000N/mm3; Resistance to impact:High resistance at 20 degrees Celsius without breaking; Thermal Coefficient of Linea Expansion: 80 x 10-6 K-1; Heat conductivity:0.16 W/mk; Inherent stability up to: 60 degrees Celsius; Electric surface resistance: -1012; General average density:1.38 g/cm3; Absorption of water during 24 hours:0.03%; Combustability: Self extuinigishing; Difficult to inflame; Tolerance of Diameter: +0.35 – 0.50mm alongwith necessary accesorries Tubeclips, tube clamps, special Glue, Special Cleaner, Pvc sleeves Thread rod and nuts and bolts @ every 2 meters Etc.					
18	RBH18-PTS-FA-16	S/I/T/C of Optical Tube Switch Modular switch provided with built-in various devices, portable in nature, easily replaceable, connectable to various devices through the system with single control cable of high grade composite with grounding, power and data-com all three in one and fully screen and use grounded system concept to minimize electromagnetic and radio-frequency interference. Instrumentation wire type 2 x 2 x 0,22 x 1,9 ² , Compatible with system on low voltage supply of 36V for human protection.	16.00	Nos.	27,037.00		4,32,592.00
20	RBH18-PTS-FA-17	Supply & Erecting of Statsion Reciving Baskets Carrier Basket NW160 wall mounted carrier basket constructed using Stainless Steel for collection of Carriers on arrival	26.00	Nos.	5,235.00		1,36,110.00
21	RBH18-PTS-FA-18	Supply & Erecting of Stations Carrier Racks wall mounted convenient carrier rack constructed using Stainless Steel for holding carriers upto 4 carriers per rack.	26.00	Nos.	2,008.00		52,208.00
22	RBH18-PTS-FA-19	Supplying of Receiving Basket Upholstery for reducing impact upon the exit from the carrier, keeping the content safe and preventing breakages.	26.00	Nos.	1,265.00		32,890.00
23	RBH18-PTS-FA-20	Providing & Fixing of Stations Directory Unique ID display for complete network	26.00	Nos.	175.00		4,550.00
28	RBH18-PTS-FA-21	Providing and Fixing of UPS For computer (pc) 1. Capacity of 3000VA/2400W 2. Frequency range 400Hz-70Hz 3. Single Phase with ground 4. Power factor > -0.99 @ 220 to 230 VAC (input voltage) 5. Lowline transfer 160VAC/140VAC/120VAC/110VAC +-5% (based on load percentage 100-80%/80-70% /70-60%/60-0%) 6. Low Line come back 175VAC+-5% 7. High line transfer 300VAC+-5% 8. High Line come back 290VAC+-5% 9. Output voltage 208/220/230/240VAC 10. AC Voltage regulation +-3% battery mode 11. Output synchronized Frequency range 47 to 53 or 57 to 63Hz 12. Output frequency range battery mode 50Hz+-0.25Hz 13. Pure Sinewave form in battery mode 14. AC mode efficiency of approx.. 88% and battery model 83%	1.00	Nos.	39,792.00		39,792.00
29	RBH18-PTS-FA-22	S/I/T/C of computer with CPU INTEL i7 processor with smps cabinet	1.00	Set.	1,18,676.00		1,18,676.00

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
		PC with CPU with INTEL I7 with SMPS Cabinet 3.4GHz/8GB RAM 1 TB HDD RS232 Port (atleast 2) USB Ports (atleast 2) PCI Slot for ISDN/Modem Card Data Port Ethernet 100/1000 Lan Card Standard Keyboard Standard Optical mouse; 22" flat LCD Monitor Standard Mono laser A4 printer Original licensed MS-Office2016, and Win 2007 OS Antivirus licensed copy with and necessary softwares				
		TOTAL AMOUNT PNEUMATIC TUBE TRANSPORT SYSTEM				₹ 6,62,41,807.00