

## BOQ - RENOVATION & RESTORATION OF SBI ADMINISTRATIVE OFFICE, SHIMLA - FIRE FIGHTING SYSTEM

Sr. No.	Description of Item	Qty.	Qty.	Total Qty.	Unit	Rate	Amount
(A)	<b>ELECTRICAL &amp; MECHANICAL WORKS</b>	Floor	Floor				
	<b>PUMPS</b>	[+2]	[0]	[+2], [0]			
1	<b>Supplying, installation, testing and commissioning of electric driven terrace pump</b> suitable for automatic operation and consisting of following, complete in all respects, as required: (Terrace Pump) (a) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical confirming to IS : 1520 (b) Suitable HP squirell cage induction motor TEFC type suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply with IP55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325. (c) M.S.fabricated common base plate, coupling, coupling guard, foundation bolts etc.as required. (d) Suitable cement concrete foundation duly plastered and with anti vibration pads. Make-MATHER & PLATT/KIRLOSKAR/ITT/GRUNDFOS/DP/CGL						
1.1	<b>450 lpm at 35 m Head</b>	1	0	1	Set		
	<b>WET RISER AND SPRINKLER SYSTEM - PIPES &amp; ACCESSORIES</b>						
2	<b>Providing, laying, testing &amp; commissioning of 'C' class heavy duty MS pipe</b> conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe <b>on the wall/ceiling</b> with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required : Make-JINDAL (HISSAR)/TATA						
2.1	25 mm dia	70	18	88	Rmt		
2.2	40 mm dia	24	9	33	Rmt		
2.3	50 mm dia	18	9	27	Rmt		
2.4	65 mm dia	22	12	34	Rmt		
2.5	80 mm dia	26	6	32	Rmt		
2.6	100 mm dia(For Terrace Tank outlet)	35	6	41	Rmt		
3	<b>Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating</b> with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required : Make-AUDCO/AIP/SANT/ZOLOTO/KARTAR						
3.1	40 mm dia	2	2	4	set		
3.2	80 mm dia(R/O)	2	0	2	set		
3.2	100 mm dia	2	0	2	set		
4	<b>Providing, installation, testing and commissioning of non-return valve</b> of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required : Make-AUDCO/AIP/SANT/ZOLOTO/KARTAR						
4.1	100 mm dia	1	0	1	set		
5	<b>Supplying and fixing air vessel</b> made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and paintingwith synthetic enamel paint of approved shade as required. Make-KARTAR /NEWAGE	1	0	1	Set		

6	Providing, fixing, testing & commissioning of 15mm dia <b>quartzoid bulb type sprinklers</b> of rating 68 degree centigrade with required accessories : Make-TYCO/NEWAGE/GRINEL/VIKING/HD/OMEX						
6.1	<b>Pendent Sprinkler(51No as per drg)</b>	55	20	75	each		
7	<b>Providing &amp; fixing of pressure switch</b> in M.S. pipe line including connection etc. as required. Make-INDFOSS/MORBAY/SQURED/DENFOSS	1	0	1	each		
8	<b>Providing &amp; fixing flow switch</b> in following sizes M.S. pipe including connection etc as required.ake-SYSTEM SENSOR/POTTER						
8.1	<b>100mm dia</b>	1	0	1	each		
9	<b>Providing, fixing, testing &amp; commissioning of installation control valve</b> of cast iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of follwing sizes as required : Make-INDFOSS/MORBAY/SQURED/DENFOSS						
9.1	<b>100mm dia</b>	1	0	1	set		
10	<b>Supplying, installation, testing &amp; commissioning of sprinkler flexible pipe</b> (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required. Make-TYCO/NEWAGE/GRINEL/VIKING/HD/OMEX						
10.1	<b>1000mm dia</b>	20	10	30	set		
11	<b>Supplying and making end termination with brass compression gland</b> and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.Make-POLYCAB/HAVELLS/R.R						
11.1	<b>3½ X 35 sq. mm (32mm)</b>	2	0	2	Each		
	<b>CIVIL WORKS</b>						
12	<b>Providing and fixing gun metal gate valve</b> with C.I. wheel of approved quality (screwed end): Make-KARTAR/ZOLOTO						
12.1	<b>25 mm nominal bore( 2No for Sprinklers)</b>	2	2	4	Each		
13	<b>Providing and placing on terrace (at all floor levels) polyethylene water storage tank</b> , IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.Make-POLYPLAST/SINTAX	10000	0	10000	Litre		
14	<b>Supply and erection of PVC insulated PVC sheathed (3 core) round flexible wire</b> with copper conductor (FR) cable (ISI marked) confirm to IS:694/1990 left bare in pipe or casing of suitable size complete in all respect as desired by the Engineer-in-charge:-Make-POLYCAB/HAVELLS/R.R						
14.1	<b>Overall size 1.5sq.mm (48/0.20mm), 3Core</b>	30	0	30	Rmt		
15	<b>XLPE INSULATED LT CABLES</b>						

	<b>XLPE INSULATED ARMoured CABLES (UNDERGROUND):</b>						
	<b>Supply, laying and erection of aluminium conductor XLPE insulated PVC sheathed armoured and served cable 1100 volts grade as per IS:7098 (Part-1) 1988 to be laid 1 metre below ground level including excavation, sand cushioning, covering with sand &amp; First Class bricks and back filling the trench etc., of the required size as per PWD General Specifications:-Make- POLYCAB/HAVELLS/R.R</b>						
15.1	<b>Overall size 35sq.mm (3½ Core) Armoured (On Surface)</b>	30	0	30	Rmt		
16	<b>Providing and fixing S.S Pressure Gauge</b> complete as required complete in all respect Make-H GURU/ FIEBIG./ BELLS CONTROLS / JN MARSHAL / MANOMETER INDIA						
16.1	<b>Dial diameter 100mm calibration 0-16 Kg</b>	1	0	1	Each		
	<b>Control Panel For Terrace Pump</b>						
17	Supplying erection, testing of fully <b>automatic electric control panel board</b> for terrace Pump consisting of MS sheet of thickness 14 gauge duly painted box type floor mounted made of angle Frame containing 1 no. fully automatic air brake starter suitable for Motor of the following capacity, Min switch of suitable range with HRC fuse, 1 no. volt meter (0 to 500 volts), 1 No. Amp. Meter of 0 to 100 amp. 3 sets of indicating lamp capacitor of suitable capacity and 1 no. single phase preventers with the timer switch including wiring in panel board and suitable electric energy meter wiring in Electric Control Panel Board complete in all respect as per specification given in Schedule No. II, Including MCB, suitable, Capacitor, MS Box etc as per site requirement complete in all respect. Make:- L&T, SIEMENS, BCH, SCHNEIDER.Make- HAVELLS/SIEMENS/KIRLOSKAR/CGL/C&H/ASIAN						
17.1	<b>15 HP Motor</b>	1	0	1	Each		
	<b>TOTAL AMOUNT - FIRE HYDRANT SYSTEM - PIPES &amp; ACCESSORIES</b>					<b>(A)</b>	
	<b>(B) FIRE FIGHTING -ESCAPE SYSTEM - FIRE DOORS &amp; SIGNAGES [FLOOR +2, 0]</b>						
Sr. No.	Description of Item	Qty. Floor [+2]	Qty. Floor [0]	Total Qty. [+2],[0]	Unit	Rate	Amount
1	<b>INSULATED FIRE DOORS</b> <b>SITC of minimum 46 mm thick insulated fire rated GI Sheet doors conforming to FD 120-PI classification of IS 3614 :2021 with fire rating of 120 minutes integrity and 30 minutes insulation.</b> The factory manufactured door frame and shutter assembly shall be made out of minimum 1.20 mm thick GI Sheet with minimum 120 GSM coating as per IS: 277. Door and frame should be finished with powder coating in standard RAL shade finish having DFT of minimum 50 microns. The door should carry a minimum 500 Hrs of salt spray test. All accessories like hardware, vision panel, fire & smoke seal, silicon sealant & Wool Insulation etc to be supplied by Fire door manufacturer only as per the guidelines laid down in IS 3614:2021. Every door must carry a label confirming to type of door & its fire rating. The door must carry a 5 years valid test evidence from CBRI-Roorkee / NABL accredited lab which operates in accordance with ISO/IEC 17025.						

	<b>Door frame: Frame shall be single / double rebate grooved profile of size minimum 150mm x 57mm made out of 1.60mm (16gauge) minimum thick galvanized steel sheet.</b> Frames shall be butt / mitered joint and field assembled with bolting system. Frames to have inbuilt grooved to accommodate and provided with Intumescent fire seal strip of size 10x4mm. The frame should also be provided with EPDM seal to limit the spread of smoke vide clause no. 7.2.6 of IS code. All provisions should be mortised & provided with necessary inbuilt reinforcement to receive appropriate hardware. Frames should be provided with back plate bracket for anchor fastener with 10 mm dia and minimum 100 mm long HDG fasteners, with Polyamide sleeves for installation of frame in finished plastered masonry wall opening. The gap between wall & Door Frame is filled by using Silicone sealant and Wool Insulation on both Side of the door.						
	<b>Door Shutter : Door leaf should be minimum 46mm thick fully flush double skin door. Door leaf must be manufactured from minimum 1.2mm(18gauge) thick galvanised steel sheet.</b> The infill material shall be mineral wool of minimum density 100 kg/cum. All doors shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers. The edges should be interlocked with a bending radius of 1.4mm. For double leaf doors integrated astragals has to be provided on the meeting stile for both active and inactive leaf. The shutters shall be mounted to the frame with SS 304 grade ball bearing type hinges of minimum size 100x 75x3 mm alongwith all suitable hardware mentioned below. Vision panel size 200x300 mm or 150 x 400mm(max area 0.06sqm) wherever applicable should be provided with single layered clear fire rated glass panes as per guidelines laid down under IS 3614 : 2021 vide clause no. 7.2.7 table no. 2 with a clipon arrangement. The glass will be provided with fire rated ceramic tape of min. 2 mm thickness with min. 15mm width all around on either face. Every Glass pane must carry a permanent marking of its glass manufacturer . The glass for vision panel should be minimum 6mm clear fire rated glass of approved make & of 120 minutes fire rating all complete as per the specifications and directions of Engineer-In-Charge.						
<b>1.1</b>	<b>Size of Door - 1200mm x 2400mm ( Single leaf Shutter )</b> Hardware and Accessories: SS Ball Bearing Hinges - 5 Nos, Anchor Fastner M10x80mm - 10 Nos, 6mm fire rated Vision glass of size: 200 x 300mm - 1 Nos.	2	0	2	Each		
<b>1.2</b>	<b>Size of Door - 1800mm x 2400mm ( Double Leaf Shutter )</b> Hardware and Accessories: SS Ball Bearing Hinges - 10 Nos, Anchor Fastner M10x80mm - 11 Nos, 6mm fire rated Vision glass of size: 200 x 300mm - 2 Nos.	0	2	2	Each		
<b>2</b>	<b>Supplying and fixing of 120 minutes fire rated CBRI</b> tested as per IS:3614:2021 stainless steel 304 grade <b>Door Closers</b> all complete in all respects.	2	4	6	Each		
<b>3</b>	<b>Supplying and fixing of 120 minutes fire rated CBRI</b> tested as per IS:3614:2021 stainless steel 304 grade <b>D-Type Pull handle B2B of size 450mm long, 25mm dia and Mortise Dead Lock with 70mm long Euro profile Cylinder with both side key operation</b> all complete in all respects.	2	4	6	Set		
<b>4</b>	<b>Supplying and fixing of 120 minutes fire rated CBRI</b> tested as per IS:3614:2021 stainless steel 304 grade <b>outside access device (Trim and Lock)</b> all complete in all respects.	2	2	4	Each		

5	<b>Supplying and fixing of 120 minutes fire rated CBRI tested as per IS:3614:2021 stainless steel 304 grade push type panic bars on single leaf door shutters</b> all complete in all respects.	2	0	2	Each		
6	<b>Supplying and fixing of 120 minutes fire rated CBRI tested as per IS:3614:2021 stainless steel 304 grade push type panic bars for double leaf door shutters</b> all complete in all respects.	0	2	2	Each		
7	<b>Supply and fixing of Auto Glow Single Side LED EXIT Signages</b> of size 12" x 6". Battery Backup for auto glow is minimum 4 hours. The signage to be hanged from the ceiling with the help of chain & hooks etc. complete in all respects.	4	4	8	Each		
8	<b>Supply and fixing of Auto Glow Double Side LED EXIT Signages</b> of size 12" x 6". Battery Backup for auto glow is minimum 4 hours. The signage to be hanged from the ceiling with the help of chain & hooks etc. complete in all respects.	4	4	8	Each		
<b>TOTAL AMOUNT - ESCAPE SYSTEM - FIRE DOORS &amp; SIGNAGES (B)</b>							
<b>TOTAL AMOUNT ( A + B )</b>							