

BILL OF QUANTITY

Name of Work :- Supply, installation, testing and commissioning of Fire Fighting and Fire Alarm System in DAV Multi purpose Public School, Sonipat, Haryana.

Item No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
1	Providing, Laying, jointing, testing and commissioning of following size of pipes conforming to IS- 1239 of class -C with all accessories like all fittings with welded joint in pipe, tees, elbows, reducers, union, flanges, rubber gaskets, nuts bolts, washer including supporting/fixing the pipe on floor /wall / ceiling with clamps, hanger (using anchor fasteners) and painting with two or more coats of synthetic enamel paints of required shades after primer as required as per specifications. Make: Jindal (Hissar)/Tata.				
a)	150 mm dia.	Metre	10		
b)	100mm dia	Metre	425		
c)	80mm dia	Metre	50		
d)	65 mm dia.	Metre	5		
e)	50 mm dia	Metre	20		
f)	32 mm dia.	Metre	10		
g)	25mm dia	Metre	120		
2	Digging, trenching including cutting roads, pavements for laying of pipes / cables of all sizes including refilling repair, providing PCC if required etc complete as required.	Metre	150.00		
3	Providing wrapping coating of pipes of size 80 mm to 200mm complete as required.	Metre	150.00		
4	Providing and fixing 25 mm dia.GI pipe C- class confirming to IS 1239 with all fittings and accessories like tee, elbow,union, sockets, nipples including threading etc complete as required. Make: Jindal (Hissar)/Tata	Metre	20.00		
5	Providing, fixing, testing and commissioning C.I. Butterfly valves conforming to PN 1.6/13095 with nuts, bolts, washers, 3mm thick insertion rubber gasket complete as required. Make: Sant/Zoloto/Kartar/Audco				
a)	100mm	Nos.	10		
b)	80 mm	Nos.	19		
c)	65 mm	Nos.	2		
d)	50 mm	Nos.	2		
6	Providing, fixing, testing and commissioning check valve (non return valve) of Class PN 1.6, having cast iron body, disc , confirming to IS 5312 complete as required. Make: Sant/Zoloto/Kirloskar				
a)	100mm	Nos.	1		
b)	65 mm	Nos.	2		
7	Providing, fixing, testing & comissioning of Single Headed SS Hydrant Landing Valve with 100NB flanged intel & 80mm Dia S.S. female instantaneous type outlet complete with blank cap and chain and all accessories as par IS:5290-1983 Make: Lifeguard/FlameGuard/Omax/Gtech	Nos.	17		

8	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm ² complete as required.	Nos.	17		
9	Providing and fixing weather proof standard hose cabinet (1.0 x 0.45 x 0.6) outdoor type having central opening including necessary locking arrangement, painting (one coat primer & two coats of paint). The words "Hose Cabinet" to be painted on the Box.	Nos.	17		
10	Supplying & fixing 63 mm dia S.S. metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required. Make: Lifeguard/FlameGuard/Omax/Gtech	Nos.	17		
11	Providing & fixing of the RRL Hose Pipe as per IS: 636 type A, 15mtr. Long with instantaneous type SS 63mm dia with male-female coupling (S.S.) bound and riveted to hose pipe with rivets and GI wire. Make: Lifeguard/FlameGuard/Omax/Gtech	Nos.	34		
12	Supplying and fixing of 2 way (100 mm dia. MS pipe) fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required. Make: Lifeguard/FlameGuard/Omax/Gtech	Nos.	1		
13	Supplying and fixing 30 mtr. first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required. 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipments on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket. Make: Lifeguard/FlameGuard/Omax/Gtech	Nos.	16		
14	Supplying and fixing air vessel 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 painting with synthetic enamel paint of approved shade as required.	Nos.	1		
15	Supplying, installation, testing and commissioning of electric driven terrace pump of capacity 900 LPM at 35 Mtrs head suitable for automatic operation and consisting of cast iron body, bronze impeller, SS shaft, mechanical conforming to IS 1520, Suitable HP squirrel 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. M.S. fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required. Suitable cement concrete foundation duly plastered and with anti vibration pads. Make: Kirloskar/ Mather Plat/Willow	Nos.	2		

16	Fabrication, Supply, installation, testing and commissioning of electrical control panel fabricated out of 2 mm thick CRCA sheet duly powder coated, dust, damp and vermin proof suitable for automatic operation of 2 Nos electric driven fire pumps of capacity up to 12.5 HP each including suitable rating 4 pole MCCB as incomer, contactors, relays, single phase preventer, digital ammeter & voltmeter with selector switches, auto/ manual selector switch, RYB indicating lights, remote operation box for operation of pumps from ground floor control room, control wiring with suitable rating cable from remote box to control panel complete as required as per direction of Engineer-in-Charge. Make: L&T/ABB/Schneider/Minilec/AE/Legrand	Nos.	1		
17	Providing & fixing Pressure Switch in MS pipe line including connection etc as required. Make: Denfos/Indfos	Nos.	2		
18	Providing & fixing Pressure Guage in MS pipe line as required. Make: H- Guru	Nos.	3		
19	Supply & Installation of Air Release Valve.	Nos.	1		
20	Providing & fixing flow switch in 100mm dia sizes M.S. pipe including connection etc as required. Make: Indfos/Denfos	Nos.	1		
21	Providing and fixing of following capacity Co2 gas type fire extinguisher conforming to IS:15683 with insulated discharge horn, mounting bracket ISI marked extinguisher and valve, with initial filling. Make: Lifeguard/FlameGuard/Omax/Gtech				
a)	Capacity 4.5kg.	Nos	24		
22	Providing and fixing of following capacity ABC type fire extinguisher with ISI mark as per IS 15683 with gun metal cap, valve, bracket and initial filling. Make: Lifeguard/FlameGuard/Omax/Gtech				
a)	Capacity 6 kg.	Nos	24		
23	Providing and fixing of following capacity Foam type fire extinguisher gas cartridge type with ISI mark as per IS 15683 with gun metal cap, valve,and initial filling. Make: Lifeguard/FlameGuard/Omax/Gtech				
a)	Capacity 9 Ltrs	Nos.	2		
24	Supplying, installation, testing & commissioning modular construction master control annunciation panel for sprinkler with provision for requirer no. of Zone (30% additional spares) each floor as approved by engineer. The panel shall have but not limited to the following arrangement. (4 zone) Make: Agni/Electroquip				
	Indication of Zone sprinkler				
	Indication of Zone fault				
	Fire/ fault hooter				
	Alarm cancel for fire/ fault				
	Battery for emergency back up of 4hrs.	Set	1		

25	Providing, fixing, testing & commissioning of installation control valve 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 following sizes as required . Make: HD/Tyco				
	a) 100mm dia.	Set	1		
26	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type pendent sprinklers of rating 68 degree centigrade with required accessories. Make: HD/Tyco	Nos.	40		
27	Supplying, installation, testing & commissioning of sprinkler flexible pipe (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.				
	a) 1000 mm	Set	40		
28	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	kg.	600		
29	Providing sand stone slab for roofing and laying them in cement mortar 1 : 4 (1 cement : 4 coarse sand) over wooden karries or R.C.C. battens or structural steel sections (Karries or battens or structural steel sections to be paid separately), including pointing the ceiling joints with cement mortar 1:3 (1 cement : 3 fine sand) complete :				
	Red sand stone slab	Sq.Mtr	16		
30	Making connection of 15000 Ltrs capacity O.H. Tanks including cutting tank for fixing of 65 mm dia. Pipe and providing & fixing 65mm dia. Tank nipple, check nuts, union and bends for interconnection of tanks, making tale piece, cutting, threading, turning on lathe complete as required	Job	1		
31	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
	a)32 mm dia	mtr	20		
	b) 20 mm	mtr	20		
32	Providing and fixing G I Tank Nipple with rubber washer Check nuts all complete as per site requirement.				
	a)32 mm dia	nos	2		
	b) 20 mm dia	nos	1		

BOQ

FIRE FIGHTING STYTEM

4

SEAL AND SIGN OF VENDOR

33	Providing and fixing CPVC Union in existing CPVC pipe line, cutting and threading the pipe and making long screws, including excavation, refilling the earth or cutting of wall and making good the same complete wherever required :				
	a) 32 mm dia	Nos	2		
	b) 20 mm dia	Nos	2		
34	Providing & Fixing 25 mm dia. Gun metal ball valve, lever operated, renewable PTFE seats, teflon gland packing complete as required as required. Make: Sant/Zoloto/Kartar/Audico	Nos	4		
35	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, 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: Syntex				
	Circular Tank	Litre	15000		
<u>Fire Alarm & PA System</u>					
36	Supplying, installation, testing & commissioning of smoke detector with builtin LED and mounting base complete with all connections etc. as required. Make: Appolo/Edward	Nos.	70		
37	Supplying, installation, testing & commissioning of manual call boxes of MS construction in surface/recess with stainless steel chain & hammer assembly complete with glass and push button etc. as required. Make: Agni/Electroquip	Nos.	4		
38	Supplying, installation, testing & commissioning response indicator on surface/recess MS box having two LEDs metallic cover complete with all connections etc. as required. Make: Agni/Electroquip	Nos.	55		
39	Supplying, installation, testing & commissioning fire alarm sounder with facility to make announcement, mounted in M.S. box (16 SWG) with hinged cover plate & suitable for operation with amplifier including line matching transformer etc. complete as required. Make: Agni/Bosch/Electroquip	Nos.	24		
40	Supplying, installation, testing & commissioning sector panel suitable for following zones, complete with visual indications for short circuit fault, open circuit fault, fire condition and all other standard facilities as per IS:2189 with mimic diagram for all area/zone covered, complete with all connections, interconnections as required. Make: Agni/Electroquip				
	a) 4 Zone	Nos.	2		
41	Supplying, fixing, testing & commissioning of double flanged sluice valve of rating PN 1.6 with non - rising spindle, bronze/ gun metal seat ISI marked complete with nut bolts, washers, gaskets and confirming to IS 780 of following size as required. Make: Sant/Zoloto/Kartar/Audico				

	a) 100 mm	Nos	4		
42	Providing, installation, testing and commissioning of adjustable rosette plate for 15 mm dia. In white finish UL listed or FM approved complete as required.	Nos	40		
43	<p>Supplying, installation, testing & commissioning of main control and indicating panel made out of 16 SWG MS sheet to accommodate the following items duly powder coated in approved colour with louvers for ventilation, locking arrangement, audio and visual indication for fire alarm and public address system, monitoring system including connections, interconnections etc complete as required.</p> <p>4 zone panel for fire alarm system.</p> <p>100 watt amplifier in racks suitable for operation on 230V AC/24V DC supply conforming to IEC - 268 - 3 complete with all accessories as required - 2 Nos. (one to act as standby).</p> <p>Announcement control desk suitable for selection of different zones selectively and ON ALL CALL switch with visual indication etc., complete as required - 1 set.</p> <p>Amplifier change over switch for inter changing amplifier - 1 No.</p> <p>Monitor panel for loudspeaker complete output selector ON/OFF switch, fuse visual indications etc. complete as required - 1 No.</p> <p>Gooseneck microphone with stand and ON/OFF switch - 1 No.</p> <p>Mains ON/OFF switch, fuse indication lamps, DC and AC voltmeters & ammeters terminal blocks etc. complete as required - 1 set.</p> <p>Battery charger trickle cum boost to take complete load of fire alarm & PA system complete with all accessories including providing & fixing of 2 nos. 12 volt, 30 AH each sealed maintenance free batteries 1 set. The panel should have required number of relays for actuating pressurising/ smoke extracting fans (up to 8 Nos) in the basement.</p> <p style="text-align: center;">Make: Agni</p> <p>/Electroquip</p>	Set	1		
44	Supply of following size of aluminium/copper Conductor XLPE/PVC insulated PVC sheathed armoured cable ISI Mark complete as required. Make: Havells/Polycab/Ecko/Finolex				
a)	3.5 core x 25 sq. mm aluminium conductor	Meter	200.00		
b)	2 core x 1.5 Sq.mm copper conductor	Meter	1800.00		
c)	4 core x 1.5 Sqmm copper conductor	Metre	400.00		
d)	3 core x 4 Sq.mm copper conductor	Metre	150.00		
45	Laying and fixing of one number pvc insulated, pvc sheathed/XLPE power cable of 1.1KV grade of following sizes on wall surface as required.				
a)	Up to 35 Sq.mm	Mtr	2450.00		
46	Laying of one number pvc insulated, pvc sheathed/XLPE power cable of 1.1KV grade of following sizes in existing RCC/Hume/Metal pipe as required.				
a)	Up to 35 Sq.mm	Mtr	100.00		

47	Supply and making end termination with brass compression gland and aluminium lugs for following sizes PVC insulated, PVC sheathed/XLPE aluminium conductor cable of 1.1 KV grade as required				
	a) 3.5 x 25 Sqmm	Set	2		
48	Providing and fixing 100 Amps, 4 pole, 415 volts rating MCCB with thermomagnetic release and terminal spreaders in suitable size MS enclosure duly painted, making connections, etc. as required	Nos	1		
49	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	Metre	400		
50	Approval & NOC of Fire system from Local or Haryana Fire Authority at initial & various other stages of works, including preparation of Report / Drawings as per Haryana or Local Fire Authority. Contractor shall include cost of all liasion works which are not explicitly mentioned above but are mendatory to have Fire Authority Approved.	Job	1		
	TOTAL =				
	Rebate in percentage				
	Rebat Amount				
	NET TOTAL =				
	Note:- GST WILL BE CHARGED EXRTA AS APPILCABLE.				