

PROJECT : JSW ACADEMIC BLOCK - NLSIU			
MEP CONSULTANT : LEAD CONSULTANCY & ENGINEERING SERVICES PVT. LTD.			
SUBJECT : BILL OF QUANTITIES FOR PHE WORKS			
PART	DESCRIPTION	AMOUNT (INR)	
		SUPPLY	INSTALLATION
A	SANITARY FIXTURES	-	-
B	INTERNAL & EXTERNAL SEWAGE SYSTEM	-	-
C	INTERNAL & EXTERNAL WATER SUPPLY SYSTEM	-	-
D	RAIN WATER PIPES	-	-
E	BASEMENT FLOOR STORM WATER SYSTEM WORKS	-	-
F	PUMPS ACCESSORIES	-	-
G	PHE RELATED CIVIL WORKS	-	-
	TOTAL	-	-
Notes :			
1	Plumbing works and pumps related to Landscaping is not considered		
2	Transfer pump to Domestic & Flushing OHT and level controllers is not considered, it is part of selected vendor/client scope.		
3	Borewells pumps and piping is not considered		
4	WTP and STP related works is not considered, it is part of selected vendor scope.		
5	External storm water drain is not considered.		
6	Terrace rainwater downtake and piping upto rainwater collection sump inlet is considered, further necessary treatment is under selected WTP vendor scope.		

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SLNO	DESCRIPTION	UNIT	QTY	RATE IN (INR)		TOTAL AMOUNT IN (INR)		Remark
				SUPPLY	INSTALLATION	SUPPLY	INSTALLATION	
A	SANITARY FIXTURES							
1	Supplying, installation, fixing, testing and commissioning of approved colour Wall mounted - European water closet with concealed cistern with chrome flush plate, 4 1/2 LPF or lower – Dual Flush (with all internal parts of the cistern for efficient functioning), with back inlet P or S trap by using conversion bend. The closet is mounted with GI Rag bolts and nuts, with 110 mm dia straight type syphon UPVC WC pan connector with neoprene rubber ring, 15 mm necessary valves, solid duroplast or scratch resistant seat and cover with special polythene buffer and flap, hinges to suit wall mounting water closet complete etc., all of approved make. (as per the ID/Arch/Client selection).	Each	76			0	0	
2	Supplying, installation, fixing, testing and commissioning of approved colour & size of Rectangle/Oval / Circular type wash basin with sensor faucet. The basin is mounted over GI rag bolts and the basin is fitted with the following CP brass fittings like 32 mm CP brass waste coupling, CP "P" trap of casted type with 300 mm extension pipe, 40 mm OD PVC waste pipe concealed in wall and taken up to floor trap with necessary specials, 15 mm x 450 mm long PVC flexible hose inlet connecting pipe with end nuts for the Cold water connections, CP angle cock etc., complete all of approved make. (as per the ID/Arch/Client selection).	Each	52			0	0	
3	Supplying, fixing, testing and commissioning of approved make Wall mounted - European water closet with concealed cistern with chrome flush plate, 4/2 LPF or lower – Dual Flush (with all internal parts of the cistern for efficient functioning), with back inlet P or S trap by using conversion bend. The closet is mounted with GI Rag bolts and nuts, with 110 mm dia straight type syphon UPVC WC pan connector with neoprene rubber ring, 15 mm necessary valves, solid duroplast or scratch resistant seat and cover with special polythene buffer and flap, hinges to suit Wall mounting water closet complete etc., all of approved make. , Quoted rate shall include Pedestal type Wash Basin, faucet, vertical grabbar, vertical swing grabbar, L shape grab bar with support and handrail , flexible hose, complete. (For handicap toilet)	Each	1			0	0	
4	Supplying, installation, fixing, testing and commissioning of White glazed large flat back sensor operated urinals with 40mm dia CP waste coupling with dome type grating, 50mm dia CP bottle trap with extension pipe, urinal spreader, SS bolts and nuts to fix the urinal with all hangers and brackets complete with wall flanges.	Each	54			0	0	
5	Supplying, installation, fixing, testing and commissioning of Electronic auto flush system to urinal with infrared sensor (Electrical operated) , solenoid valve, gate valve, black box and necessary wiring in conduit from solenoid valve to black box and to mains etc., complete. With adapter and necessary to take up 230 V AC power supply. (Flow should be >= 1.00 liters per flush required)	Each	54			0	0	
6	Receiving, unloading and keeping in stores, shifting to the place of installation, fixing of approved make & coloured urinal division plate of size 810 x 390 and fixed to wall by using CP brass screws etc. complete as per specifications as directed by EIC, complete all of approved make. (as per the ID/Arch/Client selection).	Each	42			0	0	
7	Supplying, installation, fixing, testing and commissioning of CP toilet paper holder fixed with counter sunk SS screws complete, with approved Make. (as per the ID/Arch/Client selection).	Each	77			0	0	
8	Supplying, installation, fixing, testing and commissioning of 15 mm CP health faucet of approved make with necessary CP flexible hose 1000 mm long & nozzle, CP wall flange, CP angle cock etc., complete. < 6 LPM or lower @ 4 bar. with approved make. (as per the ID/Arch/Client selection).	Each	77			0	0	
9	Supplying, installation, fixing, testing and commissioning of approved make hand drier of approved colour having twin blower integrated with timer (0-3 minutes) cum infrared sensing system fully automatic which can work on 230 volts, single phase, 50 cycles etc., complete. (as per the ID/Arch/Client selection).	Each	12			0	0	
11	Supplying, installation, fixing, testing and commissioning of Robe hook fixed with necessary ss screws, and clamps etc., complete.	Each	77			0	0	
12	Supplying, installation, fixing, testing and commissioning of liquid Soap dispenser of approved make of suitable capacity of with necessary fixing materials etc. Complete. (as per the ID/Arch/Client selection).	Each	12			0	0	
13	Supplying, installation, fixing, testing and commissioning of 125 mm x 125 mm floor grating of CP ring and grate with two SS screw with necessary fixing materials and cement concrete all round the trap for collection of Waste water etc., complete.	Each	113			0	0	
TOTAL - A						-	-	
B	INTERNAL & EXTERNAL SEWAGE SYSTEM							
1	Supplying, fixing and testing of UPVC soil, waste (SWR) conforming to IS 13592 :1992, type B with solvent joint inclusive of all necessary specials like bends, tees, offsets, door ends, junctions, cowls, clean outs, end caps etc., laid under floor/ under ceiling /fixed on walls and in pipe shafts etc., complete.							
	Internal Toilets with Solvent Joints.							
	a) 110 mm dia	Rmt	50			0	0	
	b) 75 mm dia	Rmt	65			0	0	
2	Supplying, fixing and testing UPVC soil and waste Type B (SWR) conforming to IS 13592 : 2013, with rubber ring joint inclusive of all necessary specials like bends, tees, offsets, door ends, junctions, cowls, clean outs, end caps etc., laid under floor/ under ceiling /fixed on walls, and in pipe shafts etc., complete . Quoted rate shall include necessary Velocity breaker as shown in the Drainage schematic.							
	Shaft piping with rubber ring joint.							
	a) 160 mm dia	Rmt	80					
	b) 110 mm dia	Rmt	80			0	0	
	c) 75 mm dia	Rmt	80			0	0	
3	Supplying, fixing and testing UPVC pressure pipes (6 Kg / Sqcm) conforming to IS 4985 selfit type for waste connection from wash basin to floor trap / floor drain , anti syphonage pipe with solvent cement joints, including necessary specials like bends, tees, offsets, door ends, junctions etc, laid in sunken slab etc., the work shall include wall chase and making good the same in cement mortar etc., complete. (Wash basin)							
	Internal Toilet with Solvent Joints.							
	a) 40 mm dia (O.D.)	Rmt	15			0	0	
	b) 50 mm dia (O.D.)	Rmt	12			0	0	
4	Supply, fixing and testing of UPVC pipes class II (4 kg / cm2) conforming to IS 4985 selfit (Solvent) type for joint inclusive of all necessary specials like clean outs, end caps, bends, tees, offsets, door ends, junctions, cowls, etc., laid under floor/ under ceiling /fixed on walls, and in pipe shafts etc., complete . (For Anti - syphonage Pipe)							
	a) 63 mm dia	Rmt	65			0	0	
5	Supply and fixing SWR PVC Plain/multi floor traps of 'P' type (heavy quality hopper type with frame) and 75mm outlet with necessary water proofing after fixing in Toilet water seal of min. 50mm to be maintained.	Each	113			0	0	
6	Supplying & fixing of PVC self cleansing type nahani trap with outlet confirming to IS 14735 with necessary cement concrete , with or without vent arm, etc., complete as per specifications including cutting and making good the walls and complete (For balcony)	Each	4			0	0	
7	Supply and fixing screwed down type nickel bronze alloy cast floor cleanout with opening arrangements for soil / waste pipe and other necessary fittings including jointing, all complete as per standard detail of following make or equal approved.							
	a) 75mm dia pipe	Each	5			0	0	
	b) 100mm dia pipe	Each	5			0	0	
8	Supply, fixing and testing of HDPE DWC PIPE of SN 8 pipes conforming to IS 16098(Part 1), Selfit pipes inclusive of all necessary specials like bends, tees, shoe pipe supports and all other items as required to complete the installation. The pipes shall be buried in underground. The installation shall be as per the ramming,trimming & levelling of trech for laying the pipes in required level and providing thrust or anchor blocks (Size:300X300mm,450x450mm) as pipe supports etc., complete as per specifications.							
	a) 110 mm dia	Rmt	80					
	b) 150 mm dia	Rmt	20			0	0	
9	Supplying, fixing and testing Gully trap of internal size 300 mm x 300 mm with rebated top square shape 250 mm x 250 mm x 100 mm dia outlet set in 75 mm thick PCC 1 : 4 : 8 bed, construction of 150 mm thick masonry chamber in CM 1 : 4, with internal plastering of 12mm thk in CM 1 : 3 and external plastering 12mm thick in CM 1 : 6, including finishing smooth inside surface of the chamber with cement rendering with necessary benching and channelling, supply and fixing of 300 mmx 300mm.Size CI frame and cover (weight of frame and cover not less than 10 kgs.)/ FRP Cover set in PCC 1 : 2 : 4 as per the detailed drawing. The quoted rate shall also include necessary excavation, backfilling, ramming, disposing off surplus earth etc., complete as per specifications & drawing..							
	a) Inside size of 300 x 300mm & depth not exceeding 450 mm	Each	5			0	0	

10	Construction of Inspection chamber with 230 mm thick best quality Table moulded bricks in CM 1 : 4 laid over a bed of 150 mm thick PCC 1 : 4 : 8, walls plastered smooth, internal plastering 12mm thk in CM 1 : 3 and external plastering 12 mm thick in CM 1 : 6 including finishing smooth inside surface of the chamber with cement rendering, curing etc.,. The quoted rate to include excavation in all types of soil, necessary wooden/steel form work, back filling of the chamber sides with the excavated soil, disposing of the surplus earth after back filling with initial lead of 30 metres or as directed, including, lift, benching and channelling shall be finished smooth, in PCC 1:2:4.Providing and fixing of Precast RCC cover of DM precast/sobha concrete products /southern concrete industries SIRC manhole frame and cover, set in PCC 1:2:4 with Thermo plastic moulded steps for chambers beyond 900 mm depth etc., complete as per specifications and drawings or as instructed from EIC . For following sizes:						
	a) Inside size of 450 x 450 mm & depth not exceeding 600 mm	Each	4			0	0
	b) Inside size of 600 x 600 mm & depth not exceeding 900 mm	Each	R0				
	T O T A L - B					-	-
C	INTERNAL & EXTERNAL WATER SUPPLY SYSTEM						
1	Supplying, installing, fixing, jointing, testing and commissioning of approved make Chlorinated Polyvinyl Chloride pipes (CPVC) up to 50mm dia SDR.11 , ASTM CTS and fittings up to 50mm dia SDR.11, The fittings and specials such as tees, elbows, couplers, bends, enlargers etc, with CPVC brass threaded combination / transition specials such as male adapters brass threaded female adapters, brass FPT Tee, Brass FPT elbow, where connection with metal is to be made including necessary drilling holes, chasing walls and making the same good in cement mortar 1:1 restore the same original condition neatly as directed by the Engineer in-charge. Joints to be made with CPVC solvent cement up to 50mm dia as per ASTM D-2846. The quoted rate shall include the necessary pipe supports like clamps, hangers with bolts, nuts etc complete including with anti corrosive pain or galvanised materials as per the standards and also including of necessary markings and making finishes complete.						
	Internal Toilets						
	a) 20 mm dia	Rmt	200			0	0
	b) 25 mm dia	Rmt	20			0	0
	c) 32 mm dia	Rmt	4			0	0
	d) 40 mm dia	Rmt	2			0	0
	e) 50 mm dia	Rmt	R0				
2	Supplying, installing, testing & commissioning approved make uPVC pipes in Sch 40 & Sch 80 fittings as per ASTM D- 1785 & fittings in sch 80 as per ASTM D-2469 with Specials such as tees,elbows,checknuts, unions, flanges, sadles, adapters, nipples, etc.including cutting,fixing in/on walls, ceiling etc., as per drawing. The quoted rate shall include for necessary chasing the walls making bore in walls and making good the chased surfaces and bores in cement mortar etc., complete.solvent confirming to ASTM D-2564 and primer ASTM F-656.						
	Shaft /Terrace piping	Rmt					
	a) 15 mm dia	Rmt	R0				
	b) 20 mm dia	Rmt	10			0	0
	c) 25 mm dia	Rmt	25			0	0
	d) 32 mm dia	Rmt	50			0	0
	e) 40 mm dia	Rmt	50			0	0
	f) 50 mm dia	Rmt	40			0	0
	g) 65 mm dia	Rmt	125			0	0
	h) 80 mm dia	Rmt	R0				
3	Supplying, installing and testing approved make with Forged brass ball valves PN 10 conforming to IS 1703 with unions etc., complete.						
	a) 20 mm dia (Screwed ends)	Each	32			0	0
	b) 25 mm dia (Screwed ends)	Each	18			0	0
	c) 32 mm dia (Screwed ends)	Each	1			0	0
	c) 40 mm dia (Screwed ends)	Each	7			0	0
4	Supplying, installing, testing and commissioning of CI butterfly valves PN 10 with standard lever conforming to IS standard 13039 with necessary flanges, nuts and bolts etc., complete.						
	a) 50 mm dia	Nos	4			0	0
	b) 65 mm dia	Nos	11			0	0
	c) 80 mm dia	Nos	R0				
	d) 100 mm dia	Nos	R0				
5	Providing, fixing, testing and commissioning of Brass body nickel plated automatic air release valves with necessary GI Specials, thread, holdtite, brass spindle, NBR and elastomeric, stainless steel spring polypropylenic float at the top most points of water supply distribution ring main.						
	a) 20 mm dia	Each	6			0	0

6	Supplying, installing, testing and commissioning of approved make Brass non - return valve PN 10 conforming to IS 778 with unions, & other accessories etc., complete							
	a) 20 mm dia	Each	R0					
	b) 25 mm dia	Each	R0					
	c) 32 mm dia	Each	R0					
	d) 40 mm dia	Each	R0					
	e) 50 mm dia	Each	R0					
	f) 80 mm dia	Each	R0					
7	Providing & fixing suction CI body "Y" strainer (PN 10) with MS flange of suitable length fabricated from 16 gauge SS sheet with 3 mm slots with necessary nuts and bolts, neoprene rubber gaskets, flanges etc, complete.							
	a) 40 mm dia	Each	R0					
	b) 50 mm dia	Each	R0					
	c) 65 mm dia	Each	2			0	0	
8	Supplying, installing, testing and commissioning of approved make uPVC Pipes as per ASTM D 1785 Schedule 80 with schedule 80 specials (solvent joint) conforming to IS:554. The fittings and specials such as tees, elbows, couplers, bends, enlargers etc., with uPVC brass threaded combination / transition specials such as male adapters brass threaded female adapters, brass FPT Tee, elbows, bends etc., The specials & fittings for Sch 80 pipe such as couplers, elbows, tees, unions, hex adaptor, end plug, clean out & caps, pipe clip & bend 90 etc., where connection with metal is to be made including necessary drilling holes, chasing walls and making the same good in cement mortar 1 : 1 restore the same original condition neatly as directed by the Engineer in - charge . Including hanger supports, grip bolts & Clamps etc.,							
	a) 50mm Diameter for PRM from Basement collection sump to external drain.	Rmt	15			0	0	
	b) 65mm Diameter for PRM from Sewage collection sump to nearest sewage manhole.	Rmt	25			0	0	
	c) 65mm Diameter for PRM from building to OHT.	Rmt	75			0	0	Existing WTP/STP treated water line upto building line and level sensor / controller as per client/vendor scope.
TOTAL - C						-	-	
D RAIN WATER PIPES								
1	Supplying, installing, testing and commissioning of UPVC rain water down take pipes Type A (SWR) conforming to IS 13592 :1992, with solvent joint inclusive of all necessary specials like clean outs, bends, tees, offsets, door ends, junctions, cowl, etc., laid under floor/ under ceiling /fixed on walls, and in pipe shafts etc., complete. The quoted rate should include necessary, scaffolding, MS Brackets of suitable size, GI 'U' clamps with bolts, nuts and GI washers, chasing the walls, making bore in walls, and making good the chased surfaces and bores, curing etc.,Complete.							
	a) 75 mm dia	Rmt	30			0	0	
	b) 110 mm dia	Rmt	R0					
	c) 160 mm dia	Rmt	200			0	0	
	d) 200 mm dia	Rmt	15			0	0	
2	Supplying, fixing, testing and commissioning of leaf trap with kurra made out of UPVC with flange and PVC grating for rainwater outlets on terrace including all necessary grouting with sealants to make it absolutely water proof. - for terrace							
	a) 75 mm dia	Each	3			0	0	
	b) 110 mm dia	Each	R0					
	c) 160 mm dia	Each	10			0	0	
3	Supply, fixing and testing of HDPE DWC PIPE of SN 8 pipes conforming to IS 16098(Part 1), Selfit pipes inclusive of all necessary specials like bends, tees, shoe pipe supports and all other items as required to complete the installation. The pipes shall be buried in underground. The installation shall be as per the ramming,trimming & levelling of trech for laying the pipes in required level and providing thrust or anchor blocks (Size:300X300mm,450x450mm) as pipe supports etc., complete as per specifications.							
	a) 110 mm dia	Rmt	R0					
	b) 150 mm dia	Rmt	175			0	0	
	c) 200 mm dia	Rmt	100			0	0	
	d) 250 mm dia	Rmt	R0					
4	Construction of Catch basin of size a per below with 230mm thick walls in well burnt table molded bricks in CM 1:6 over a bed of 150mm thick PCC 1:4:8 internal walls shall be plastered smooth in CM 1:3 and external walls plastered CM 1:3 with sponge finish. Fixing MS Fabricated Higd Grating with MS frame of 50x50x6mm.The top surface of the catch basin fixing precast RCC solid grating shall be flushed to the landscape level and making suitable outlet arrangement to lateral drain with necessary trimming of soil, back filling with the selected earth & FRP man hole cover should withstand load capacity for 5T for landscape and 10-20T for parking . with all leads and lifts etc., complete.							
	a) Inside size of 450 x 450 mm not exceeding 600mm	Each	10			0	0	
	b) Inside size of 600 x 600 mm not exceeding 900mm	Each	9			0	0	
	c) Inside size of 900 x 900 mm not exceeding 1200mm	Each	R0					
	d) Inside size of 1200 x 1200 mm not exceeding 2000mm	Each	R0					
TOTAL - D						-	-	
E BASEMENT FLOOR STORM WATER SYSTEM WORKS								
1	Supply, fixing and testing of HDPE DWC PIPE of SN 8 pipes conforming to IS 16098(Part 1), Selfit pipes inclusive of all necessary specials like bends, tees, shoe pipe supports and all other items as required to complete the installation. The pipes shall be buried in underground. The installation shall be as per the ramming,trimming & levelling of trech for laying the pipes in required level and providing thrust or anchor blocks (Size:300X300mm,450x450mm) as pipe supports etc., complete as per specifications.							
	a) 110 mm dia	Rmt	6			0	0	
	b) 150 mm dia	Rmt	R0					
2	Construction of Catch basin of size a per below with 230mm thick walls in well burnt table molded bricks in CM 1:6 over a bed of 150mm thick PCC 1:4:8 internal walls shall be plastered smooth in CM 1:3 and external walls plastered CM 1:3 with sponge finish. Fixing MS Fabricated Higd Grating with MS frame of 50x50x6mm.The top surface of the catch basin fixing precast RCC solid grating shall be flushed to the landscape level and making suitable outlet arrangement to lateral drain with necessary trimming of soil, back filling with the selected earth & FRP man hole cover should withstand load capacity for 5T for landscape and 10-20T for parking . with all leads and lifts etc., complete.							
	a) Inside size of 450 x 450 mm not exceeding 600mm	Each	2			0	0	
	b) Inside size of 600 x 600 mm not exceeding 900mm	Each	R0					

	TOTAL - E								
F	PUMPS ACCESSORIES								
1	Supply, installation,testing & commissioning of Dewatering lift pumps (Submersible type) of adequate HP capable of giving a required discharge at suitable head to work on 3PH 50 Hz, 400 / 440 V with necessary unions, flanges with wiring from TPN switch to control panel and to the pumps etc., complete. Pump should be able to lift 40-45mm solids. Selection of pumps to be with high efficiency and mechanically sealed. The quoted rate Shall include the PLC based starter panel with float switch & Pump logic controller including all necessary control cabling. Quote shall also include No/MC contacts (on/off cmd, on/status, A/M status), with built-in interface device to facilitate, IBMS compatibility, IP/Wifi/RS 485 modbus port. Data sheet with modbus parameters shall be submitted during bidding stage.								
	a) Basement collection sump lift pump Duty : 3 Lps @ 25m head (1W+1S)	Set	1			0	0		
2	Supplying, installation, testing & commissioning of Submersible type Sewage cutter pump , capable of giving a required discharge at suitable head to work on a Three phase, 50 Hz, 400 / 440 V,Which can handle solid size partials with necessary gate valves, check valves,NRV's, with water level controller with cabling & dry run sensor etc., complete with suitable starter . 1No. Working and 1No. stand by 1sey. Rate Shall include the PLC based starter panel with float switch & Pump logic controller including all necessary control cabling electrical work. (IP PROTECTION SHALL BE -IP68 FOR PUMP, CONTROL PANEL IP PROTECTION SHALL BE IP-67								
	a) Duty:- 5lps @ 25m head (1W+1S)	Set	1			0	0		
	TOTAL - F								
G	PHE RELATED CIVIL WORKS								
1	Providing Core Cutting of required dia outlets using low vibration mechanical means. Cost to include identification of embedded reinforcement using profometer, the diameter core cut will be 12 mm more than the outer diameter of the pipe.(Corecutting charges only-packing will be done by other agency).								
	A) RCC slabs								Supply Rates will be considered as per Civil Vendor.
	Upto 50 mm Pipes (Wash basin & Urinals)- 75mm dia core cut	Each							
	For 75 mm pipes (Floor traps) and For 110 mm pipes (for EWC) - 150mm dia core cut	Each	136			0	-		
	B) RCC RETAINING WALL (200mm thick)								
	For 110 mm pipes	Each	R0						
	For 160 mm pipes	Each	R0						
2	Supply, fabrication, fixing, testing and commissioning of GI Class" C "puddle flanged pipes of required sizes for inlet, outlet, vent and overflow pipes for Over Head, Basement collection sump and Sewage collection sump. The puddle flanged pipes shall be threaded end upto 80 mm dia and flanged ends above 100 mm dia. All the puddle flanged pipes, plates and fittings shall be galvanized after fabrication as per IS specifications:								
	PUDDLE FLANGE - FOR OHT								
	i) Inlet puddle flanges								
	a) 40 mm dia.	Nos	R0						
	b) 50 mm dia.	Nos	R0						
	c) 65 mm dia.	Nos	2			0	0		
	ii) Outlet puddle flanges								
	a) 100 mm dia	Nos	1			0	0		
	b) 65 mm dia	Nos	5			0	0		
	b) 50 mm dia	Nos	1			0	0		
	c) 40 mm dia	Nos	R0						
	iii) Swan neck bend for Vent pipe with mosquito proof mesh (100mm dia)	Nos	7			0	0		
	iv) Overflow pipe from Fire to Domestic OHT (65 mm dia)	Nos	1			0	0		
	v) Overflow puddle flanges 80mm dia	Nos	2			0	0		
	vi) Drain pipe puddle flange (50mm dia.)	Nos	3			0	0		
	vii) Sleeves for level controller - 50mm dia	Nos	4			0	0		
	viii) PVC Rungs	Nos	33			0	0		
	Note : All puddle flanges to be hot dip galvanised.								
3	Supplying, installing, testing and commissioning of Manhole covers with inlet, outlet, vent and overflow pipes, fittings for following sizes and MOC to Over Head, Basement collection sump and Sewage collection sump complete with step irons as shown on the drawings etc., complete, accessories comprising of the following :								
	i) square 600 x600 mm FRP Composite water tank top opening frame & cover 600 x 600mm - Medium duty	Each	9			0	0		
4	Supplying and laying of P.C.C support blocks of 1 : 2 : 4 concrete mix of sizes as given below for pipe supports at								
	a) 600mmx150mmx200mm	Each	9			0	0		
	a) 300mmx150mmx200mm	Each	34			0	0		
	b) 200mmx150mmx200mm	Each	R0						
5	Excavation in All Types of Soil for trenches by mechanical means including manual excavation for levelling, dressing the edges, with all leads and lifts, dewatering of surface water/ removal of slurry generated while excavation and keeping the area free of water with necessary shoring, required for keeping earth in position etc. Rate to include for backfilling with available earth, disposing of the excess earth and spreading in layers to the required levels within the site wherever specified and within site premises. The rate to include loading, transporting, unloading/ dumping including the cost of mechanical transport/ labour etc complete as directed by EIC. Note : a) Working space & provision of slopes if required for execution shall be measured & paid, but not exceeding width stipulated in IS 1200.)								
	From 0 to 1.5 M	Cum	1350			0	0		
	From 1.5 to 3.0 M	Cum	25			0	0		
6	Same as above Item but for excavation in Disintegrated/weathered/soft rock strata for trenches etc. to the required depth including all leads and lifts, using serviceable excavated material within plot at approved location and carting away excess earth & disposing off the same within the site premises. The rate to include loading, transporting, unloading/ dumping including the cost of mechanical transport/ labour etc complete as directed by EIC, removal of slurry generated while excavation and keeping the area free of water with necessary shoring, strutting, stepping, dressing, grading required for keeping earth in position, excavating loose pockets and compacting them after back filling as directed etc. as per detailed specification and conforming to safety rules during progress of the work. Note : (Working space & provision of slopes if required for execution shall be measured & paid, but not exceeding width stipulated in IS 1200.)								
	(The quantity of Disintegrated rock is as per soil report and it can vary to any extent depending on the sub-soil strata when the ground is opened up for Excavation)								
	From 0.0M to 1.5M	Cum	2			0	0	Nominal Qty	
	From 1.5 to3.0M	Cum	2			0	0	Nominal Qty	
	TOTAL - G								