

BOQ for Storm Water Drain and Waste Water Pipeline

Item.No	Item description	Unit	Qty	Rate per Unit	Amount	Remarks
1	<p>Excavation in all kinds of soil, wet or dry (such as yellow murrum, hard murrum / gravel or mixture of any kind, etc.), in loose and slushy condition, including soft rock, to the required level by mechanical equipments (JCB / Poclair) for foundations, trenches, rafts including carting away and disposing off surplus excavated material (at locations approved by local authority as per their rule) as directed by PM including removal of vegetation, shrubs and debris, spreading, levelling, watering and compacting in layer not exceeding 150mm in depth in each layer and stacking of excavated material for back filling within the premises; if required, dewatering by bailing/pumping out water to keep the site dry at all times, making temporary stepping / sloping, shoring with planking, strutting, sectioning, trimming, dressing of sides, levelling or grading, cleaning, removing and excavating loose pockets and consolidating them by backfilling as directed by the PM. Further Rate shall include manual excavation and final dressing to arrive at required level.</p>					Bidders to review the site.
	Further providing and erecting necessary Barricading for excavated area to avoid any calamity and maintaining the same up to the Contract period including submitting drawings / details of barricading for prior approval of PM.					
1.1.	Up to 0.00 M TO 1.5 M	cum	2667			
1.2	From 1.5M to 3.00 M	cum	2667			
1.3	From 3M to 4.0M	cum	1778			
2	<p>Excavation in hard rock / boulders (more than ½ Cum in size) (include obtaining permission of Govt. authority and paying fees / royalty if any also providing debris management and submitting plan to local authority) by chiseling, drilling, wire cutting and block removal method to required level for foundation, trenches, rafts leveling area etc. upto required depth including carting away and disposing off surplus excavated material (at locations approved by local authority as per their rule) as directed by PM; if required dewatering by bailing / pumping out of water to keep site dry at all times until completion of backfilling; shoring, strutting, stepping, dressing, grading, cleaning, removing and excavating loose pockets and consolidating them by backfilling as directed by the PM etc. all complete as detailed in specification and conforming to safety rules of authority from time to time.</p>					
	Further providing and erecting necessary Barricading for excavated area to avoid any calamity and maintaining the same up to the Contract period including submitting drawings / details of barricading for prior approval of PM.					
2.1	Up to 0.00 M TO 1.5 M	cum	267			
2.2	From 1.5M to 3.00 M	cum	267			
2.3	From 3M to 4.5M	cum	178			
3	<p>Backfilling and banking in trenches, area leveling etc. in layers each not exceeding 200mm in depth, breaking clods, watering, compacting each layer with vibratory compactor and at inaccessible places with wooden/steel rammers to achieve 96% proctor density at optimum moisture content; dressing up embankments; if required, bailing/pumping out of water to keep site dry while back filling; costs includes conveyance of all materials, labour, machinery etc. complete as per direction of the PM to his entire satisfaction.</p>					
3.1	With selected and approved excavated earth available within plot.	cum	6222			
4	<p>Plain cement concrete (PCC) Providing, machine mixing and laying M15 grade of required thickness for foundation, rafts, plinth beams, levelling course and all locations, etc. (minimum cementitious content shall be as specified in the IS Code and as approved); including compacting, curing, required shuttering and its removal, dewatering where required and vibrating, cleaning, preparing surfaces, junctions, etc.; complete at all depths and leads as per the drawing and to entire satisfaction of the PM.</p>	cum	15			

5	Providing, machine mixing and laying designed Ready mix M25 grade reinforced cement concrete (RCC) for footing, raft, wall, miscellaneous items etc., using 20mm nominal size well-graded approved quality aggregate and sand as per approved design mix to IS code and with minimum cementitious content as per IS or as specified by Structural consultant, whichever is more; maximum water cement ratio 0.45 including using approved admixtures, vibrating / compacting, curing, scaffolding, cleaning, preparing surfaces, junctions, hacking closely surfaces to be plastered etc. complete but excluding the cost of formwork and reinforcement to the entire satisfaction of the PM at all depths, heights, lifts and leads.	cum	158		
6	FORM WORK				
6.1	Designing, providing, erecting and fixing in position customs / system designed / branded proprietary / fabricated form work true to line and level, including required steel propping and staging, applying shuttering removal emulsion/oil as approved, required bracing, making leak proof joints etc. complete at all heights, depths, leads and lifts. Further include providing recesses, cornices, grooves, forming ribs, ledges, openings, pockets, cutout for dowels, fixing and maintaining inserts to correct line, level. System design should be such that stagging, supporting, holding shall be strong enough not to allow any sagging, deformation, bending, curving, undulation in vertical plane and in length. Exposed surfaces shall be free of blamish, residues of curing compound, uniform in colour, free of construction joint except detailed or approved under methodology of construction, forming construction joint or as providing joint free/ hole free water retaining structures. All system to have in built supporting safety screens.				
	Also include removing and dismantling the aforesaid assembly after specified or as approved period from the day of casting of concreting to the satisfaction of the PM. All staging and formwork systems must be designed for the loading criteria stipulated by the consultant and such design shall be approved by the PM before implementing on the site. The rate quoted shall be for erecting staging, form-work dismantling etc. for the finally concreted at all floor heights, leads and lift. (Formwork for exposed concrete of Peri, Doka or equivalent)				
	- Form work / shuttering to be rigid stable and waterproof				
	- Form work should be designed for fixing at intended location allowing expected dead and live loads during working. Also it should be able to carry dynamic loads side thrust etc.				
	- Form work shall have self supporting screens around all openings minimum for 3 levels (one below & one upside)				
	- Form work support shall be on solid hard strata and same should be able to carry expected loads.				
	- Method of shuttering detailed with sketches, load calculation & method of statement shall be submitted two months prior to executing to PM and same shall be got approved from structural consultant.				
	- Supporting of form work will be with steel props only & staging duty designed to carry proposed loads.				
	- Shuttering to be with 12mm thick plastic coated marine plywood				
	- Mivan or equivalent aluminium designed form work preferred.				
	- Extended areas shall be guarded with reinforced PVC heavy duty nets to ensure no slippages, falls of any particles from upper level to down.				
	- All exposed surfaces shall be fair faced finished expected				
	- All stagging / scaffolding shall be of metal and rigid duly self supporting to carry expected loads.				
6.1.1	a) Footings / Raft	sqm	70		
6.1.2	b) wall	sqm	720		
6.1.3	c) Slabs	sqm	160		
7.0	REINFORCEMENT WORK				
	Providing, transporting to site, storing, de-coiling (if required), straightening, cutting, bending, spirally hooping, binding and placing, in position reinforcement bars , to correct shape and size as per detailed drawings, specifications, preparing and getting approved bar-bending schedules for all reinforced concrete work such as foundation, walls, columns / stub columns, beams, slabs, staircase etc.; with correct size of heavy duty PVC / concrete (of same grade of concrete) cover blocks and galvanized binding wire of 18 gauge, threaded couplers in place of laps, required dewatering, provide required labour and machines / equipment / tools / tackles for handling, shifting, bending, binding, etc. The rate shall include cost of concrete cover blocks, binding wire, all chairs, spacers and pins etc. all complete to the satisfaction of the PM at all depths, height, lift & leads.				
7.1	a) TMT HYSD bars - Fe-500 grade confirming to IS 1786.	MT	17.3		

