

BOQ for 150 m long Retaining Wall					
	Item Description	Unit	Quantity	Rate	Amount
1	EARTH WORK				
1.1	Excavation (include obtaining permission of Govt. authority and paying fees / royalty if any also providing debris management and submitting plan to local authority) 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 / Poclain) for foundations, trenches, rafts, plinths, 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.				
	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.				
1.1.1	Up to 0.0 m to 1.5 m	cum	2,250.00		
1.1.2	From 1.5 m to 3.00 m	cum	2,250.00		
1.1.3	From 3.0 m to 4.5 m	cum	2,250.00		
1.2	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, plinths, 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.				

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	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.				
1.2.1	Up to 0.0 m to 1.5 m	cum	2,250.00		
1.2.2	From 1.5 m to 3.0 m	cum	2,250.00		
1.2.3	From 3.0 m to 4.5 m	cum	2,250.00		
1.3	Backfilling and banking in plinths, area leveling etc. in layers each not exceeding 100 mm in depth, breaking clods, watering, compacting each layer with vibratory compactor and at inaccessible places with wooden/steel rammers to achieve 95% 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.				
1.3.1	With selected and approved excavated earth available within plot.	cum	6,862.50		
1.3.2	Providing and filling with approved earth from outside.	cum	8,362.50		
1.4	Providing, diluting and injecting chemical emulsion for pre-constructional anti-termite treatment and creating a continuous chemical barrier under and around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth on which apron is to be laid, surroundings of pipes and conduits etc. complete. Work to be carried out as per IS : 6313 (Part II), as per approved manufacturer's instructions and recommendation, and installed by manufacturer's approved agency with a guarantee of 10 years, all to the satisfaction of the PM. (Plinth area in plan at ground level shall be measured for payment).	sqm	705.00		
1.5	Rubble soling :-Providing and laying in position 230 mm thick rubble soling below the PCC at plinth level in between the plinth beam using approved quality stone of appropriate thickness provided as shown in the drawing including the cost of base preparation by mechanical compaction, using hand broken metal/ Rubble and smaller pebbles for void filling, murum for binding as directed by the Engineer-in-charge including watering, packing, compaction etc.complete. The item includes all lead & lift.	sqm	705.00		

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	Item Description	Unit	Quantity	Rate	Amount
2	STRUCTURAL WORK				
2.1	PCC WORK				
2.1.1	Providing, machine mixing and laying M15 grade plain cement concrete (PCC) 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.	cum	105.75		
2.2	Providing and laying Plum concrete consisting of M15 grade plain cement concrete (PCC) and evenly distributed plums of size 150 mm and above upto any reasonable size to a maximum limit of 30% by volume of concrete including mechanically vibrating and compacting, curing, cleaning,	cum	105.75		
2.2	CONCRETE WORK				
2.2.1	Providing, machine mixing and laying designed Ready mix M25 grade reinforced cement concrete (RCC) for footing, raft, column, slab, beam, shear walls, staircases, parapet, pardi, UG & OHT, lift 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				
	b) Retaining wall / RCC wall	cum	600.00		
	i) Pedestal	cum	303.75		
2.2.2	Extra over Item No. 2.2.1 for M30 grade instead of M25 (with minimum cementitious content as per IS or as specified by Structural consultant)	cum	903.75		
2.3	FORM WORK				

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	Item Description	Unit	Quantity	Rate	Amount
2.3.1	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 staggging, 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 dismantaling etc. for the finally concreted at all floor heights, leads and lift.				
	- 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 oopenings 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 submiited 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.				

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	- 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 staggging / scaffolding shall be of metal and rigid duly self supporting to carry expected loads.				
	b) Retaining wall	sqm	2,625.00	-	
2.4	REINFORCEMENT WORK				
2.4.1	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.				
	a) TMT HYSD bars - Fe-500 grade confirming to IS 1786.	tonn	108.45		

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	Item Description	Unit	Quantity	Rate	Amount
2.5	STRUCTURAL STEEL				
2.10	Providing and fixing hydrophilic water sealing materials of assorted profiles at construction joints at different locations during the construction of Basement Raft RCC and peripheral RCC Retaining wall and also construction joints at other water retaining structures including creating necessary nominal trapezoidal key shape in the formwork finish or by mason's finish, including applying suitable adhesives and sealants as recommended and supplied by the approved manufacturer for proper and highly secure bonding with substrate, rough / smooth and wet / dry, proper splicing and jointing at corners, T, L and X junctions using suitable cyanoacrylate glue, at all such locations as directed by PM.	m	rate only		
2.12	Providing and fixing Premoulded Compressible, high performance closed cell, bitumen free expansion joint filler board of specified 50mm thickness in black colour of approved make, having minimum density 95 Kg/Cum, Non Staining with less than 1% water absorption as per specifications including cutting to required size and shape, at all levels/ all floors/ all heights, etc. complete, as per drawings/ specification and as directed by PM.	sqm	rate only		
2.13	Filling of joint including cleaning the joint, removing loose materials etc. at all level including wastage, temporary supporting etc. complete as per instruction of engineer in charge.		rate only		
2.13.1	50mm x 25 mm expansion joint with Poly sulphide sealant	m			
	Demolition				

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	Item Description	Unit	Quantity	Rate	Amount
	Dismantling and demolishing existing structure inclusive of all fittings and fixtures and taking away to approved locations or sorting / stacking of salvagable material as per directions of PM, cleaning of debris upto place of disposal as approved by local authority & in fashion as directed or stored as directed by PM, required strengthening and providing safety measures during demolition, providing temporary partitions, obtaining insurance for work and labour, doing breaking during non working hours of office to avoid any hindrance to offices functioning, accounting for required security checks, providing and maintaining required tools and tackle, coordinating with the Architect, Structural Consultant, PM all complete. No extra claim shall be allowed on the method of dismantling adopted for any type of structural member. Damage caused to structure or part thereof which is not supposed to be dismantled, during the process of dismantling the required portions shall be made good by the Contractor at his own cost. Also cost include dismantling of existing services coming during dismantling either for Plumbing and Electrical, fixtures like clamps, screws, Unused pipes also included with prior approval from PM.	lumsun			
	TOTAL				
	GST @ 18%				
	GRAND TOTAL				