

<b>BOQ FOR CIVIL WORKS PART B " PILING &amp; FOUNDATION WORKS IN BTG AREA" -ITEM DESCRIPTION (2X250MW HARDUAGANJ TPS UNIT8 &amp; 9)</b>					
SI. NO	ITEM DESCRIPTION	UNIT	QUANTITY	RATE IN RS.	AMOUNT IN RS. & WORDS
<b>100</b>	<b>EARTH WORK IN EXCAVATION INCLUDING DEWATERING IF REQD, BACKFILLING AND DISPOSAL AS PER SPECIFICATION AND DRAWINGS</b>				
<b>101</b>	Earth work in excavation <b>upto 2.5m depth</b> below ground level for foundation, trenches, pipe lines,roads,storm water drains etc., <b>allowing no under mining</b> , dressing of sides, levelling to grade and ramming of bottoms, stacking/disposal of surplus excavated material with in a lead of 1.0 KM etc. complete for <b>all types of soils,ordinary rocks(CPWD Specs)</b> including morrum etc. except hard rocks.	<b>CUM</b>	99107		
<b>102</b>	Earth work in excavation for depth <b>exceeding 2.5m but not exceeding 4.5m</b> below ground level for foundation, trenches, pipe lines, storm water drains etc. including dewatering, shuttering and shoring if required, allowing no under mining, dressing of sides levelling to grade and ramming of bottoms, stacking/disposal of surplus excavated material with in a lead of 1.0KM etc. complete for <b>all types of soils,ordinary rocks (CPWD Specs)</b> including morrum etc. except hard rocks.	<b>CUM</b>	40172		
<b>103</b>	Earth work in excavation for depth <b>exceeding 4.5m but not exceeding 6.5m</b> below ground level for foundation, trenches, pipe lines, storm water drains etc. including dewatering, shuttering and shoring if required, allowing no under mining, dressing of sides levelling to grade and ramming of bottoms, stacking/disposal of surplus excavated material with in a lead of 1.0KM etc. complete for <b>all types of soils,ordinary rocks(CPWD Specs)</b> including morrum etc. except hard rocks.	<b>CUM</b>	1000		
<b>104</b>	Earth work in excavation for depth <b>exceeding 6.5m but not exceeding 8.5m</b> below ground level for foundation, trenches, pipe lines, storm water drains etc. including dewatering, shuttering and shoring if required, allowing no under mining, dressing of sides levelling to grade and ramming of bottoms, stacking/disposal of surplus excavated material with in a lead of 1.0KM etc. complete for <b>all types of soils,ordinary rocks(CPWD Specs)</b> including morrum etc. except hard rocks.	<b>CUM</b>	500		
<b>105</b>	<b>Disposal of surplus</b> excavated earth/rock/dismantled rubbish beyond an initial lead of <b>1km and upto a lead of 5 Km.</b> , dumping and levelling the dumped soil all as specified and directed by Engineer-in-charge.	<b>CUM</b>	24403		

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106	Extra for <b>Disposal of surplus</b> excavated earth/rock/dismantled rubbish beyond an initial lead of <b>5km and upto a lead of 10 Km.</b> , dumping and levelling the dumped soil all as specified and directed by Engineer-in-charge. (Rate for every 1 Km or part thereof).	CUM	19616		
107	<b>Back filling</b> around foundations and plinths to proper grade and level <b>with selected excavated soil</b> including watering and ramming in layers of 25 cm. thickness to <b>90% max dry density</b> by manual/ mechanical means in saturated condition, dressing etc. complete including transportation.	CUM	43875		
108	<b>Supply and Back filling</b> around foundations in plinths, trenches, drains etc.to proper grade and level with <b>selected good soil(NON EXPANSIVE) /River sand/stone dust</b> free from shingle, salts, organic materials, roots, sod or any other foreign substance including re-excavating loose thickness, watering and ramming in layers of 20 cm. thickness to 90% of standard procter Density for cohesive soil and to 75% of relative density for non cohesive soil by manual/ mechanical means, dressing etc. complete as directed by the engineer in charge including cost of material for all leads, loading, unloading, royalty and transportation. (payment for solid measure of the consolidated filling)	CUM	4875		
112	<b>Bulldozing earth</b> for grading of ground including removal of vegetation complete including disposal of debris upto 5 kms.	CUM	2000		
200	<b>PROVIDING AND PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS AND EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AS PER DRAWING AND SPECIFICATIONS UNLESS SPECIFIED OTHERWISE FOR THE FOLLOWING:</b>				
201	<b>Concrete of grade M10 as filling course</b> /screed concrete at any level below finished floor level, under and around foundations/floors, mass dumps etc with 40 mm nominal size graded aggregate.	CUM	812		
202	Concrete of <b>grade M10 as levelling course</b> , under and around foundations/floors etc.	CUM	4693		
203	Concrete of grade <b>M-25 in foundations, under floors</b> etc complete.	CUM	39483		
204	Concrete of grade <b>M-25 in superstructure</b> from finished floor level complete at all heights:	CUM	438		

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206	Concrete of grade <b>M-30</b> in <b>T.G. raft ,columns &amp; deck</b> including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	<b>CUM</b>	459		
209	Concrete of grade <b>M25</b> in <b>foundation, superstructure and in water retaining structures</b> either below or above finished floor level including addition of suitable plasticizer conforming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and subsequent reduction in cement content upto a maximum 10% complete etc. as per specification.	<b>CUM</b>	1071		
211	<b>Breaking existing concrete</b> work at any level including reinforced concrete, removing the rubbish within a lead of 1Km., including transportation, loading, unloading, etc. all complete as directed by Engineer	<b>CUM</b>	22		
300	<b>SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATIONS, AS PER SPECIFICATIONS AND INCLUDING ALL LABOUR MATERIAL, SCAFFOLDINGS COMPLETE INCLUDING POCKETS ETC. FOR THE FOLLOWING:</b>				
301	<b>Ordinary form work below finished ground floor level</b> for foundations, footings, bases of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	<b>SQM</b>	24270		
302	<b>Fairface form work below finished ground floor level</b> for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc. for exposed concrete	<b>SQM</b>	7111		
303	<b>Ordinary form work above finished ground floor level</b> for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	<b>SQM</b>	13770		
304	<b>Fairface form work above finished ground floor level</b> for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	<b>SQM</b>	2041		
400	<b>REINFORCEMENTS</b>				
401	Straightening cutting, bending, placing in position at any level, binding of <b>mild steel reinforcements</b> including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	<b>MT</b>	21		

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402	Straightening, cutting, bending, placing at any level, binding in position <b>high yield strength steel reinforcements</b> including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	MT	4871		
500	<b>WATER PROOFING AS PER SPECIFICATIONS.</b>				
501	Providing and <b>mixing</b> approved <b>water proofing compound</b> in concrete or cement mortar for works wherever specified or directed as per specification/manufacturer's instructions, testing of samples for water proofing etc. complete.	KG	4244		
507	Providing and applying <b>3 coats Bitumen paint in foundations</b>	SQM	15469		
600	<b>SUPPLYING &amp; INSTALLATION OF JOINT FILLER AND SEALING COMPOUND:</b>				
601	<b>Supplying &amp; installation of bitumin impregnated fibre board</b> confirming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin, labour, material, equipments etc all complete at all levels as per specification, drawings and instruction of engineer in charge:				
a	12mm thick joints.	SQM	7		
b	20mm thick joints.	SQM	6		
c	25mm thick joints.	SQM	50		
d	50mm thick joints.	SQM	81		
			0		
602	Supplying and filling in position hot applied <b>bitumin sealing compound</b> (Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints at all levels including application of primer, labour, material, equipments etc. all complete as per specification/drawing, instruction of engineer in charge.	Kg	298		
700	<b>M.S. EMBEDMENTS</b>				

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SI. NO	ITEM DESCRIPTION	UNIT	QUANTITY	RATE IN RS.	AMOUNT IN RS. & WORDS
701	Supply, fabricating and fixing of embedments, MS inserts, pipe sleeves, guide rails, angle pieces, foundation bolts, anchor bolts, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, rivetting, bolting, cutting, drilling, scaffolding and setting as per specifications and drawings.	MT	95		
702	Fixing of embedments, MS inserts, pipe sleeves, rails, guide rails angle pieces, anchor bolts of various diameters, plates of dimensions as required including cost of all labour, materials and equipment for fixing in position, scaffolding and setting in position, transportation from stores within the plant boundary to work spot, loading, unloading etc. complete as per specifications and drawings.	MT	323		
800	<b>GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:</b>				
801	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with mix 1:1 ( 1 part cement :1 part sand ) at any elevation including roughening surface, cleaning, ramming, curing etc. complete (pressure grout).	CUM	11		
1800	Miscellaneous				
1804	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide unless specified otherwise in water retaining structure. Galvanising as per relevant I.S. codes and as per specifications.	RM	50		
1808	Laying of earthing mats/rods including transportation from yard stores, loading, unloading, cutting to length, welding etc. complete as per specification and as directed by Engineer-in-charge.	MT	278		
2300	Dismantling				
2301	Dismantling of existing steel structures at any elevations including lowering of material and carriage of materials to fabrication shop as per specifications and instructions of engineer.	MT	10		
2302	Dismantling/ Demolishing of Reinforced cement concrete. Disposal to be paid as per the respective item.	cum	15		
2303	Dismantling/ Demolishing of Plain cement concrete. Disposal to be paid as per the respective item.	cum	10		

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SI. NO	ITEM DESCRIPTION	UNIT	QUANTITY	RATE IN RS.	AMOUNT IN RS. & WORDS
2304	Dismantling/ Demolishing of brick work with plaster if any. Disposal to be paid as per the respective item.	cum	15		
<b>2500</b>	<b>PILING WORK</b>				
<b>2501</b>	Installation of <b>bored RCC cast in situ vertical pile</b> as per IS 2911 (Part 1, Section 2) with diameter and length as specified below (length to be measured from pile cut-off level to the bottom of pile) using cement concrete M25 grade conforming to IS 456 with 20 mm nominal size stone aggregates with a minimum cement content of 400 Kg per cum of concrete including materials, boring/drilling in all types of strata from ground level to termination depth of pile including providing bentonite slurry and/or casing for stabilization of pile bore, flushing of pile bore, cleaning, providing plasticizer wherever required, breaking pile head to cut off level and exposing pile reinforcement for embedment in pile cap etc all complete as per specification, drawings and as directed by the engineer-in-charge.				
<b>a</b>	Pile with 600 mm diameter and 23 m length below cut off level - Safe load carrying capacity of pile in axial compression=120MT, in tension=24MT, in lateral=6MT.	Each	2000		
<b>b</b>	Pile with 450 mm diameter and 23 m length below cut off level - Safe load carrying capacity of pile in axial compression=70MT, in tension=14MT, in lateral=4MT.	Each	1200		
<b>2502</b>	Extra over following item for pile length more than the specified length of 23m.				
<b>a</b>	item no. 2501 a	<b>M</b>	500		
<b>b</b>	item no. 2501 b	<b>M</b>	200		
<b>2503</b>	Rebate on the following item for pile length less than the specified length of 23 m.				
<b>a</b>	item no. 2501 a	<b>M</b>	500		
<b>b</b>	item no. 2501 b	<b>M</b>	200		

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SI. NO	ITEM DESCRIPTION	UNIT	QUANTITY	RATE IN RS.	AMOUNT IN RS. & WORDS
<b>2504</b>	Conducting initial load test upto three times the safe load capacity on single pile in accordance with IS 2911 Part-4 including installation of bored RCC cast in situ vertical pile as per IS 2911 (Part-1, Section-2) to required depth using cement concrete M25 grade conforming to IS 456 with 20 mm nominal size stone aggregates with a minimum cement content of 400 Kg per cum of concrete including materials, boring/drilling in all types of strata from ground level to termination depth of pile including providing bentonite slurry and/or casing for stabilization of pile bore, flushing of pile bore, cleaning, providing plasticizer wherever required, breaking pile head to cut off level and exposing pile reinforcement for embedment in pile cap, constructing test pile cap including materials, excavation, all arrangements of loading, unloading, equipments, jacks, recording of results, labour, dismantling the pile cap after test, submission of test report etc complete for the following as per specification, drawing and as directed by engineer-in-charge.				
<b>a</b>	<b>for lateral load test:</b>				
<b>i.</b>	600 mm diameter pile-6 MT safe load capacity	<b>Each</b>	9		
<b>ii.</b>	450 mm diameter pile-4.0 MT safe load capacity	<b>Each</b>	6		
<b>b</b>	<b>for vertical compression test (cyclic load test):</b>				
<b>i.</b>	600 mm diameter piles-120 MT safe load capacity	<b>Each</b>	9		
<b>ii.</b>	450 mm diameter piles-70 MT safe load capacity	<b>Each</b>	6		
<b>c</b>	<b>for tension/uplift test::</b>				
<b>i.</b>	600 mm diameter piles-24MT safe load capacity	<b>Each</b>	9		
<b>ii.</b>	450 mm diameter piles-14 MT safe load capacity	<b>Each</b>	6		
<b>2505</b>	Conducting routine load test on job pile in accordance with IS 2911 (Part-4) including necessary excavation, all arrangements of loading, unloading, test equipments, jacks, recording of results, all materials, labour, submission of test report etc but <b>excluding the cost of installation of job pile</b> complete as per specification, drawing and as directed by the engineer-in-charge for the following.				
<b>a</b>	<b>for lateral load test:</b>				
<b>i.</b>	600 mm diameter pile-6 MT safe load capacity	<b>Each</b>	20		
<b>ii.</b>	450 mm diameter pile-4 MT safe load capacity	<b>Each</b>	12		
<b>b</b>	<b>for vertical compression test:</b>				
<b>i.</b>	600 mm diameter pile-120 MT safe load capacity	<b>Each</b>	20		
<b>ii.</b>	450 mm diameter pile-70 MT safe load capacity	<b>Each</b>	12		
<b>2506</b>	Carrying out pile integrity test on job pile of 450mm/600mm diameter including all arrangements for test, equipments, materials, labour, submission of test report etc <b>but excluding the cost of installation of job pile</b> complete as per specification and as directed by the engineer-in-charge.	<b>Each</b>	1600		
			<b>TOTAL=</b>		

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NOTE:

1. In case of omission in quoting any rate, the evaluation will be done considering the highest quoted rate obtained against that item but the work, if awarded, will be on the lowest quoted rate obtained against that item
2. The rate shall be entered in figures as well as in words. In case of difference in rates between words and figures, the lesser of the two will be treated as valid rate. .
3. The bidders shall enter both 'Unit Rate' & 'Amount'. In case of any mismatch between 'Total Amount based on Unit Rate' & 'Total Amount as quoted', the lower of the two shall be considered for evaluation and award.
4. The quantities indicated against each item above are tentative and same are liable to vary depending upon the site requirement. The contractor has to handle all items indicated by BHEL Engineer for completion of work.
5. As per Government of India notification, applicable w.e.f 01.08.04, fly ash bricks only have to be used. The contractor while quoting the price / rates as above, categorically confirm having understood the fullest implications of this.
6. The contractor while quoting the price / rates as above, categorically confirm having understood the fullest implications of the price variation provisions contained in clause 51.0 of this tender. Accordingly, taking into considerations all aspects thereof, quoted the above rates. Further the contractor confirms that he will not come up with any other claim/compensation on account of any increase whatsoever during entire period of execution including extended period, if any.
7. PLEASE NOTE THAT RATE SCHEDULE FOR PART-A AND PART-B ARE TO BE SUBMITTED IN SEPARATE SEALED ENVELOPS. AS PER RATE SCHEDULE. PLEASE REFER CLAUSE- 56.3 (RATE SCHEDULE).

BIDDERS PARTICULARS NAME/ DESIGNATION SIGN /CO.SEAL