

TENDER SPECIFICATIONS

TENDER NO. BHEL/ NR/SCT/ ANPARA D/ CIVIL MAIN/ 637

FOR

Civil & architecture works related to buildings & foundations which includes Piling, Foundations, earth work, TG Deck, plain & reinforced cement concrete including supply of all materials except those proposed to be supplied by BHEL for 2 x 500 MW units (UNIT 6 &7) at Anpara-D Thermal Power Plant (PTPP) of UPRUVNL at Anpara , Sonebhadra , UP.

PART II – PRICE BID

PACKAGE - A and PACKAGE - B



**Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301 (INDIA)**

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION AND DRAWINGS				
	101	Excavation including providing cofferdams, shoring, strutting, sheeting, bracing, draining and pumping out water, clearing all grass, vegetation etc. including trimming of excavation bottom, staking, levelling, grading etc. of excavated materials all complete as per specifications, drawings and instructions of the engineer, including a lead up to 100 meters and a lift up to 2.0 meters.				
1	i)	In all types of soils including ash, morrum, laterite	CUM	203218		
	102	Extra over item 101 above, for all types of soil/rock, for additional lifts beyond the initial lift of 2 meters (included in item 1 above) all complete as per specifications, drawings and instructions of the engineer for the following lifts:				
	i)	In all types of soils				
2	a	beyond 2 m and upto 4 m	CUM	147366		
3	b	beyond 4 m and upto 7 m	CUM	60105		
4	c	beyond 7 m and upto 10 m	CUM	4691		
5	d	beyond 10 m and upto 15 m	CUM			
	103	Extra over item 101 above for excavation below ground water table including lowering of ground water table to maintain dry working conditions for all activities up to filling/testing, water proofing all complete as per specifications, drawings and instructions of the engineer.	CUM	174925		
	104	Extra over item 101 above for carriage of all types of excavated materials beyond the initial lead of 100 m (included in item 1 above) all complete as per specifications, drawings and instructions of the engineer for the following leads				
	i)	Carriage beyond initial lead of 100 m but not exceeding 500 m	CUM	81695		
	ii)	Carriage beyond initial lead of 500 m but not exceeding 2 Km	CUM	81700		

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	iii)	Carriage beyond initial lead of 2 Km but not exceeding 5 Km	CUM	19014		
	iv)	Carriage beyond initial lead of 5 Km but not exceeding 10 Km	CUM	73789		
	105	Filling using selected excavated materials in trenches, plinths, sides of foundations and other underground structures, pipes, are levelling etc. in layers not exceeding 150 mm thickness including lead upto 100 m and all lifts and including loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer to achieve the following densities:				
	i)	Ordinary manual compaction	CUM	5777		
	ii)	90% Standard Proctor density	CUM	80718		
	iii)	95% Standard Proctor density	CUM	12977		
	106	Filling using selected materials in trenches, plinths, sides of foundations, in the space below the grade level slab and other under ground structures, pipes etc. in layers not exceeding 150 mm in thickness including all lifts and including excavating, loading, unloading, carting, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer for the following works				
	i)	With selected soil brought from borow areas arranged by contractor, including royalties, fees etc. or ash obtained from the ash pond for all leads and compacted to following densities				
	a	Ordinary manual compaction	CUM	413		
	b	90% Standard Proctor density	CUM	19439		
	c	95% Standard Proctor density	CUM	11811		

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	ii)	With selected sand brought from quarries/river bed arranged by contractor, and compacting to 80% relative density etc. for all leads	CUM	65683		
	iii)	With non expansive material having permissible concentration of Sulphates and chlorides approved by the owner arranged by the bidder.	CUM	7200		
	107	Filling in trenches, plinths, area paving and other underground structures with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.	CUM	9820		
	108	Filling in transformer pits etc. , with clean 40 mm nominal size stone aggregate including all labour, materials, royalties, equipments etc. complete as per instructions of engineer in charge.	CUM	2112		
	108A	Providing and laying C.N.S. material, in layers, well compacted with 95% proctor density, with all materials(from 1 to 4 K.M.) tools, labours etc., and complete	CUM	69400		
	109	Buldozing earth for grading of ground including removable of vegetation complete including disposal of debris upto 5 kms.	CUM	4000		
	111	Cutting of trees , including transportation, stacking at storage yard and disposal of unused material as per the direction of engineer in charge.				
	i)	300 mm upto 600 mm girth	Nos.	71		
	ii)	601 mm upto 900 mm girth	Nos.	134		
	200	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 (OPC and PPC Cement will be issued as FOC item):				
	201	Concrete of grade M7.5 as filling course at any level below finished floor level, under and around foundations/floors, mass dumps etc with 40 mm nominal size graded aggregate.	CUM	3123		

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	202	Concrete of grade M10 as levelling course , under and around foundations/floors etc.	CUM	11288		
	202A	Concrete of grade M-20 in foundations, under floors etc complete.	CUM	18837		
	202B	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 12.5 mm graded aggregate by volume) as under bed to floors etc complete.	CUM	36		
	203	Concrete of grade M-25 in foundations, under floors etc complete.	CUM	37058		
	203A	Concrete of grade M-30 in foundations, under floors etc complete.	CUM	30861		
	204	Concrete of grade M-25 in superstructure from finished floor level complete at height:	CUM	9041		
	204A	Concrete of grade M-25 in superstructure from finished floor level complete at height: with membrane curing	CUM	2348		
	204B	Concrete of grade M-30 in superstructure from finished floor level complete at height: with membrane curing	CUM	1846		
	205	Concrete of grade M-25 in T.G. Block and machine foundations at all heights from finished floor level except top deck supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	CUM			
	206	Concrete of grade M-30 in tg and other machine foundation sub structures including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	CUM	3520		
	206A	Concrete of grade M-30 in mills and other machine foundations super structure including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	CUM	1300		

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	206B	Concrete of grade M-35 in top deck including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	CUM	1400		
	207	Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness complete.	CUM	1089		
	208	Concrete of grade M-25 in precast works like roof slabs/trench covers etc.including formwork/moulds for thicknesses varying from 75mm to 250mm including transportation, erection and fixing in position etc. complete.	CUM	459		
	209	Concrete of grade M30 in water retaining/conveying structures/overhead tanks etc including addition of suitable plasticizer cum waterproofing cement additives 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 and conforming to limits of permeability as per IS 2545 as per specification with 20 mm nominal size graded aggregate.				
	ii)	Above Ground Level	CUM	495		
	iii)	Water proofing shall be provided for liquid retaining/ carrying structures and basement type structures (requiring dry working condition). Dense and durable concrete with water cement ratio not more than 0.45 shall be used. Plasticiser/super plasticiser cum water proofing compound shall be added to the concrete. All the construction / expansion joints shall be properly treated with PVC water bar and/or chemical injection grouting as per IS:6494. As applicable internal/external surface of such structures shall be provided with acrylic based polymer modified cementitious composite coating system for critical structures. For liquid carrying / retaining structures, minimum two coats of such coating shall be applied. For external application wherever the surface is in contact with the earth, fine silica/quartz sand of 0.6 mm nominal size shall be added in the coating mix for better abrasion resistance and total nominal structures minimum two coats of bitumen 1.5mm.	SQM	1768		
	210	Concrete of Grade M-15 in paving, plinth protection, pipe encasing etc. complete.	CUM	135		
	211	Breaking existing concrete 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	CUM	75		
	212	Cutting and making openings in existing concrete work including cutting of reinforcement, making good all surfaces, complete as per engineer in charge.	CUM	25		

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	213	Minimum Two coats of hot bitumen painting, below ground level, of grade 85/25 @ 1.7 Kg/sqm/coat for water/damp proofing conforming to IS:702 on soil face with anti-stripping compound.	SQM	50000		
	214	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement	CUM	462		
	215	Extra over St. No. 206B above, for controlling of temperature of freshly laid concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc., all complete as per specification, drawing and instruction of engineer in charge.	CUM	1306		
	216	Ultra-sonic Pulse Velocity (UPV) Testing of Machine Deck				
	216A	TG deck	NO	1		
	216B	Fan / Mill Foundations	NO	7		
	300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATIONS, AS PER SPECIFICATIONS AND INCLUDING ALL LABOUR MATERIAL, SCAFFOLDINGS COMPLETE INCLUDING POCKETS ETC. FOR THE FOLLOWING:				
	301	Ordinary form work below finished ground floor level for foundations, footings, bases of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	9442		
	302	Fairface form work below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc. for exposed concrete works.	SQM	102283		
	303	Ordinary form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	SQM	300		

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	304	Fairface form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	SQM	72124		
	305	Formwork for TG superstructure-fairface. (above finished floor level)	SQM	6380		
	306	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm contact surface area with concrete) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.				
	i)	Upto 300 mm depth	Nos.	120		
	ii)	From 301 mm upto 600 mm depth	Nos.	126		
	iii)	From 601 mm upto 1000 mm depth	Nos.	72		
	400	REINFORCEMENTS (TMT will be issued as FOC item):				
	401	Providing, straightening cutting, bending, placing in position at any level, binding of mild steel reinforcements including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	MT	31		
	402	Providing, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	MT	8679		
	403	Providing, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in brickwork including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	MT	1		
	500	WATER PROOFING AS PER SPECIFICATIONS. (Contractor has to furnish a guarantee for material and workmanship for a minimum period of 20 years.)				

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	501	Providing and laying roof water treatment with high solid content liquid applied elastomeric water proofing membrane with separate wearing course as per ASTM C-898 . Thickness of membrane shall be min 1.5 mm. Treatment shall include application of polymerized mastic over roof achieving a smooth surface. Wearing course on the top of membrane shall consist of 25 mm thick PCC (1:2:4) cast in panels of maximum size 1.2 X 1.2 m and reinforced with 0.56 mm dia galvanised chicken wire mesh and sealing of joints using sealing compound / elastomeric water proofing membrane complete complete as directed by engineer in charge.	SQM	15998		
	502	Providing and laying chequered concrete tiles for pathways of size 200 X 200 and minimum thickness 22 mm confirming to IS 13801 over water proofing membrane including cement mortar bedding. (water proofing membrane paid else where)	SQM	620		
	503	Providing and laying pressed precast concrete tiles over water proofing of minimum size 600 X 600 and minimum thickness 20 mm conforming to IS 13801 including 22 mm thick cement mortar (1:4) bedding inclusive of provision for thermal expansion for each roofing tile filled with polysulfide joint sealant. (water proofing paid else where)	SQM	12573		
	504	Providing and mixing approved water proofing compound 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	1696		
	600	SUPPLYING & INSTALLATION OF JOINT FILLER AND SEALING COMPOUND:				
	601	Supplying & installation of bitumin impregnated fibre board 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	4		
	b	20mm thick joints.	SQM	6		
	c	25mm thick joints.	SQM	1686		
	d	50mm thick joints.	SQM	1365		

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	602	Supplying and filling in position hot applied bitumin sealing compound (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	995		
	700	M.S. EMBEDMENTS				
	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	310		
	701A	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. (Steel will be issued as FOC item)	MT	20		
	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	160		
	703	Providing, fabricating, transporting, erecting and installing at all elevations miscellaneous steel/PVC pipes, expansion fasteners in concrete/brickwall, for all kind of works, including the cost of labour, material and equipment, setting material in concrete, layout, scaffolding, handling at site, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete as per drawings and specifications and instructions of engineer.				
	i	MS pipes of all diameters	Quintal	148		
	ii	PVC conduits of all sizes	Quintal	63		
	iii	Expansion fasteners (galvanised) of HILTI make or equivalent of safe tension capacity as specified below:				
		250 kg	Each	480		

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		500 kg	Each	336		
		750 kg	Each	120		
	704	Fabrication, erection, installation and alignment of MS foundation bolt assembly in concrete along with nuts, lock nuts, anchor plates, stiffner plates, protective tape etc. upto and including 80 mm dia, 3000 mm long including furnishing of labour, materials, equipments, welding, cutting, grinding, threading, drilling etc. all complete as per specification, drawing and instruction of the engineer.	MT	96		
	705	Transporting from stores, Placing, locking and releasing of vibration isolation spring modules over foundations at all elevations including transportation from stores, leveling, alignment all complete under the supervision of supplier, as per drawing and instructions of engineer in charge (VIS to be supplied by BHEL free of cost).	NO	155		
	800	GROUTING AS PER SPECIFICATION FOR THE FOLLOWING: (OPC and PPC Cement will be issued as FOC item):				
	801	Providing & grouting cement slurry mix at any elevation/depth with pressure pump for water retaining concrete structures , including fixing nozzles, cost of approved cement, admixture, curing, etc all complete as per specification and as directed by the Engineer.	SQM	26		
	802	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection, and alignment if necessary, of heavy machinery at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGPX-2 of 'Fosroc' or equivalent all complete as per specifications. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	31		
	803	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection, and alignment if necessary, of main structural steel work at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGP-1 or equivalent all complete as per specifications. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	75		

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	804	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection and alignment if necessary, of secondary structures, machinery and pipe supporting structures at any elevations including roughening surface, cleaning, ramming, curing, etc with 1:1:2 cement - sand - 6 mm down stonechips all complete as per specifications. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	29		
	900	DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTIONS ETC. COMPLETE AT ALL ELEVATION INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION AND DRAWINGS (all steel doors, windows and rolling shutters etc.shall be painted with two coat of red oxide zinc primer and finished with two coats of synthetic enamel paint confirming to IS2074)				
	901	Providing and fixing factory made prelaminate particle board of minimum 25 mm thickness (MDF exterior grade) door including hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent with electrocolor coating of minimum 15 microns thickness including all fixtures complete.	SQM	203		
	902	Providing and fixing openable/fixed steel windows and ventilators with steel sections as per IS:1361 including wire mesh, painting with minimum 2 coats of synthetic enamel paint on primer complete.	SQM	1860		
	903	Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers side, top, bottom edges of shutter shall be of pressed steel channels of 1.2mm thk voids to be filled with mineral wool (48 kg/cum density) including all fittings like tower bolts, handles, stoppers, aldrops etc. and painting with minimum 2 coats of synthetic enamel paint on primer complete.	SQM	176		
	904	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	SQM	118		

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	905	Providing and fixing single or double shutter anodized aluminium doors with electrocolor coating of minimum 15 microns thickness including concealed screws, hold fast, fixtures etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing 5.5 mm thick float glass or flat transparent sheet glass.	KG	982		
	906	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 3 Hrs.	KG	483		
	907	Providing and fixing aluminium glazed partition with electro color coating of minimum 15 microns thickness including glass beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for double glazing of two 6.0mm thick clear toughened safety glass hermetically sealed and separated by 12 mm thk gap for thermal insulation.	KG	1440		
	908	Providing and fixing aluminium glazed partition with electro color coating of minimum 15 microns thickness including glass beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for single glazing of 5.5 mm thick float glass or flat transparent sheet glass confirming to IS:2835.	KG	715		
	909	Providing and fixing anodised aluminium openable glazed windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing of 4mm thick ground glass complete.	KG	565		
	910	Providing and fixing anodised aluminium openable glazed windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing of 4mm thick plain sheet glass complete.	KG	696		

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	911	Providing and fixing aluminium ventilators/windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for 6 mm thick fire and u/v resistant (suitable for use at 100 degree centigrade temprature) Multiwall Polycarbonate plain or tinted sheet .	KG	8400		
	912	Providing and fixing anodised aluminium openable/fixed glazed windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing of 6mm thick wired glass complete.	KG	2208		
	913	Providing and fixing anodised aluminium fixed glazed skylights/north light with clear coating of minimum 15 micron thickness with provision for 6 mm thick multiwall polycarbonate plain or tinted sheet , fire and U.V. resistant complete with leak proofing.	KG	2430		
	913A	Providing and fixing anodised aluminium work of Indal, Hindalco or other equivalent approved make for doors, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-mettalic protection etc.	KGS	39510		
		including preperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately).				
	914	Providing and fixing anodised aluminium louvers with clear coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. complete as per specifications.	SQM	8		
	915	Providing and fixing of over head hydraulic door closers of approved make & quality as directed by Engineer.	Nos	208		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	916	Providing and fixing floor mounted Hydraulic door closer of approved make & quality as directed by engineer	Nos	14		
	917	Providing and fixing pressed steel frames fabricated from 1.6 mm thk gauge M.S sheet mortised, reinforced strikes, hold fasts, adjustable floor anchors, floor tiles/weather bars etc. complete as per specifications.	KG	3510		
	918	Providing and fixing frames of hollow extruded Aluminum alloy tubes of minimum 3 mm wall thickness as manufactured by INDAL or equivalent hold fasts, adjustable floor anchors, floor tiles/weather bars etc. complete as per specifications..	KG	1750		
	919	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3coats of approved enamel paint etc., all complete as per specification- Mechanically operated.	SQM	253		
	920	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3coats of approved enamel paint etc., all complete as per specification- Hand operated.	SQM	60		
	921	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3 coats of approved enamel paint etc., all complete as per specification- Electrically operated.	SQM	328		
	922	Providing anodised aluminium Grills in Windows of approved design.	Kg	712		
	923	Providing and fixing glazing in aluminium doors/partitions complete with glass panes of 5.5 mm thick float glass or flat transparent sheet glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	120		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	924	Providing and fixing glazing in aluminium doors complete with glass panes of 6 mm thick float glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	652		
	925	Providing and fixing glazing in aluminium partitions complete with glass panes of two 6.0mm thick clear toughened safety glass hermetically sealed and separated by 12 mm thk gap for thermal insulation of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	738		
	926	Providing and fixing glazing in aluminium / steel windows complete with glass panes of 4mm thick sheet glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	113		
	927	Providing and fixing glazing in aluminium windows complete with glass panes of 4mm thick float glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	1501		
	928	Providing and fixing glazing in aluminium windows complete with glass panes of 6mm thick wired glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	1419		
	929	Providing and fixing glazing in aluminium windows/ventilators, water proof Sky light/North light complete with 6 mm thick fire and u/v resistant (suitable for use at 100 degee centigrade temprature) Multiwall Polycarbonate plain or tinted sheet for preventing solar radiations complete with aluminium beading and sealed at ends as per manufacturers recommendations. Measurement shall be of glazing area in between extruded main sections.	SQM	168		
	930	Providing and fixing glazing in aluminium windows complete with glass panes of 4mm thick groundglass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	139		
	931	6 mm thick polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	2		
	932	Providing, fitting and fixing heavy duty minimum six lever mortised lock of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium) with duplicate set of keys and masterkeyed locks, openable from one side by the key and from the other side by the handle etc. all complete as per drawing, specification and instruction of engineer in charge.	NOS	124		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	933	Providing and fixing factory made prelaminated particle board (MDF ext gr) doors incl all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	104		
	1000	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR ETC. COMPLETE, AS PER SPECIFICATIONS. (OPC and PPC Cement will be issued as FOC item for plastering / mortar):				
	1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	579		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	CUM	349		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	CUM	295		
	iv)	Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.	CUM	9		
	1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	4638		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	CUM	3633		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	CUM	1519		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	iv)	Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.	CUM	63		
1003		Ruled pointing in masonry in CM 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	115		
1004		Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing H.B. wetting at every third layer, raking out joints, curing, scaffolding etc complete using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 and clay ash bricks shall be as per IS 13757, minimum percentage of fly ash shall be 25%, excluding plastering and painting as per specification.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	964		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	952		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	SQM	2833		
	iv)	Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.	SQM	12		
1005		Providing brick soling spreading of earth, ramming, watering including 12mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item). Using brick on edge.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	82		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	2		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	SQM	2		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1006	Providing brick soling including spreading of earth, ramming, watering including 12mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item.)- Using flat bricks.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	46		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	7		
	iii)	Using ordinary bricks of class designation 7.5 of nominal dimension	SQM	2		
	1007	Providing brick soling including 12mm thick cushion of sand excavation, disposal of surplus earth spreading of earth, ramming, watering etc. complete in all respects.- Using bricks on edge.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	30		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	1		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	SQM	4		
	1008	Breaking of existing brick work at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.				
	1009	Breaking of existing brick partition wall at all levels including plastering, cutting of reinforcement, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	330		
	1010	Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with checken wire mesh with 50mm lap etc. complete as per specification.	CUM	100		
	1012	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	4		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1013	Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	828		
	1014	Providing and filling brick bats in soak pits.	CUM	20		
	1415	Providing and laying flat brick paving including 40 mm thick sand underbed	SQM	122		
	1100	DAMP PROOF COURSE INCLUDING ALL MATERIALS LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS. (OPC and PPC Cement will be issued as FOC item):				
	1101	Damp Proof Course 50mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	SQM	378		
	1200	CEMENT MORTOR PLASTER INCLUDING ALL MATERIALS SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION : (OPC and PPC Cement will be issued as FOC item):				
	1201	Providing 12 mm thick plaster in cement mortar 1:6 on walls, finished to a smooth finish as per specification.	SQM	38901		
	1202	Providing 12 mm thick plaster in cement mortar 1:6 on walls, with a rough finish as per specification.	SQM	6215		
	1203	Providing 12 mm thick plaster in cement mortar 1:6 on walls with a paste of neat cement @ 1kg/sqm and rubbed smooth with trowel as per specification.	SQM	11219		
	1204	Providing 18 mm thick plaster in cement mortar 1:6 on walls finished to a wooden float/smooth/rough finish as per specification.	SQM	32122		
	1205	Providing 6mm thick plaster in cement mortar 1:4 on ceilings finished to a smooth finish as per specification.	SQM	29458		
	1206	Providing and making decorative plaster of all types and design on walls, ceilings, arcs, columns with various thickness upto 18 mm including finishing all complete.	SQM	360		
	1207	Providing Plaster of Paris 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.	SQM	35557		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1208	Providing screed/grading plaster of average 20 mm thickness in ratio 1:6 nominal by volume including finishing smooth and even etc. all complete at all levels above or below grade level.	SQM	11570		
	1209	Providing and making decorative interior plaster of heritage finish over existing plastered surface of all types and design on walls, ceilings, arcs, columns including finishing all complete.	SQM	180		
	1210	Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	320		
	1211	Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.	RM	975		
	1212	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over galvanised hexagonal chicken wire of 0.9 mm wire diameter and 19 mm mesh size as per IS3150 including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (rate shall include the cost of GI chicken wire mesh)	SQM	1645		
	1300	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE				
	1301	Two or more coats of exterior masonry paint (water or solvent base) of special resins, adhesives and additives mixed with fine, hard stone aggregate and finest available pigment. The paint shall be applied on a coat of primer over dried, prepared plaster surface as manufacturers guidlines. The final finished coating shall be fungus resistant, UV resistant, water repellent, alkali resistant and extremely durable with color fastness as per specification.	SQM	1377		
	1302	Two or more coats of white wash/ colour wash as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	20411		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1303	Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.	SQM	51947		
	1304	Providing and applying 2 or more coats of acid/alkali paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer conforming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1908		
	1305	Two or more coats of fire resistant transparent paint as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications.	SQM	600		
	1306	Two or more coats of oil resistant paints epoxy based and ammine cured, 150 micron over primer of approved grade and manufacture to give an even shade.	SQM	444		
	1307	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.	SQM	2628		
	1308	Providing and supplying terracota tiles of thickness 6 to 8mm over the wall as per approved and of approved size, colour and make as per specification and drawings.	SQM	233		
	1309	Providing and applying resin bonded granular textured finish, for external applications shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	14796		
	1309A	Providing and applying 2 or more coats of weather paint of Asian make or approved equilent make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specification.	SQM	918		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1400	FLOORING AND SKIRTING INCLUDING BASE LAYER AND ALL MATERIALS, LABOUR, CURING, POLISHING, FINISHING, EXPANSION JOINTS, GROOVES, ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS AND DESCRIBED IN SPECIFICATIONS. (OPC and PPC Cement will be issued as FOC item for plaster / mortar) :				
	1401	Providing and laying 50 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles in flooring . Under layer of 38mm thick cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded).	SQM	48103		
	1402	Providing and laying 50 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles in skirting and dado . Under layer of 38mm thick cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded) and top layer of 12mm thick metallic concrete complete.	SQM	346		
	1403	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum) of size 300X300X25 thick of approved shade as per IS 1237, laid in floors and landings , jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with laying as per IS 1443.	SQM	800		
	1404	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum) of size 300X300X25 thick of approved shade as per IS 1237, laid in skirting and dado , jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with laying as per IS 1443.	SQM	40		
	1405	Providing and laying interlocking M30 concrete blocks of thickness 60 mm as paving of approved colour and pattern and should be laid on the subbase and bedding as per specifications and recommendations of manufacturer.	SQM	600		
	1406	Providing and laying removable metallic false flooring system with nominal height of 600 mm, comprising of special grade steel panels (of size 600 X 600 mm). 1.2 mm thick die formed to shape having 1 mm thick top MS sheet spot welded together to form a composite steel panel, sitting on aluminium diecasted heads and mounted on steel pedestals of adjustable height and supporting 1.2 mm thick channel frame work. The top finish shall be 2 mm thick antistatic pre colour coated metal sheet or high pressure laminate. Cavity area below the false flooring shall be made dust proof by using Polyurethane paint.	SQM	60		

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2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1407	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4860 of minimum thickness 38 mm thick in flooring/Dado . The tiles shall be abrasion resistant and durable. The potassium silicate 6 mm thick mortar as per IS 4832 used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic as per IS 9510 and IS 412 complete as per specification.	SQM	938		
	1408	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 20 mm thick in flooring/Dado of battery room. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6 mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic complete as per IS 9510 and IS 412 and as per specification.	SQM	392		
	1409	Providing & fixing chemical resistant (Acid & Alkali) bricks (75 mm thk) as per IS 4860 in the floor of neutralization pit. Surface on which lining has to be applied shall be prepared in accordance with IS 2395. Bitumen primer as per IS 158 followed by 18 mm thk Bituminastic followed by 6 mm thk potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar conforming to IS 4832, Part II. Seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End ceiling shall be done with bitumastic. A.R. bricks shall be laid with 6 mm wide and 20 mm deep pointing (epoxy/furane/CNSL) and acid curing shall be done complete as per specification.	SQM	230		
	1410	Providing & fixing chemical resistant (Acid & Alkali) bricks (115 mm thk) as per IS 4860 in the walls of neutralization pit. Surface on which lining has to be applied shall be prepared in accordance with IS 2395. Bitumen primer as per IS 158 followed by 18 mm thk Bituminastic followed by 6 mm thk potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar conforming to IS 4832, Part II. Seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End ceiling shall be done with bitumastic. A.R. bricks shall be laid with 6 mm wide and 20 mm deep pointing (epoxy/furane/CNSL) and acid curing shall be done complete as per specification.	SQM	270		
	1411	Providing epoxy coating 150 micron over epoxy primer over MS Grating/Chequered plate/any other steel structure complete as per engineer in charge.	SQM	6		

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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1412	Providing and laying polished Kota stone 20 mm thk in flooring . Under bed shall average 30mm thk of 1 part cement,2 part sand : 4 parts stonechip by volume and brought to proper level. The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete.	SQM	4065		
	1413	Providing polished Kota stone 20 mm thk in skirting projecting 6mm from adjacent plaster all complete .	SQM	276		
	1414	Providing and laying polished Granite stone of approved color and texture 20 mm thk in flooring. Under bed shall average 30mm thk of 1 part cement,2 part sand : 4 parts stonechip by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete .	SQM	175		
	1415	Providing and laying polished Granite stone 20 thk in skirting and dado including pigments, curing, grinding, granite polishing etc. complete.	SQM	186		
	1416	Providing and laying 7 mm thk vitrified ceramic tiles of polished variety of size 450x450 from reputed manufacturer, complete as per specification.	SQM	1686		
	i	600x600		550		
	1417	Providing and laying 7 mm thk vitrified ceramic tiles of unpolished variety of size 300x300 from reputed manufacturer, complete as per specification.	SQM	1884		
	1418	Providing and laying 7 mm thk vitrified ceramic tiles of polished variety of size 300x300 from reputed manufacturer, for skirting and dado up to specified height complete as per specification.	SQM	580		
	1419	Providing and laying 7 mm thk vitrified ceramic tiles of unpolished variety of size 300x300 from reputed manufacturer, for skirting and dado up to specified height complete as per specification.	SQM	655		
	1420	Providing and laying granite stone slab of 12mm thickness single piece for wash basin slab of black or approved colour with cutting and opening complete.	SQM	76		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1421	Providing and laying Heavy Duty dust pressed Ceramic Tiles of size 300x300x7mm thick of reputed manufacturer of approved finish shade and colour.	SQM	535		
	1422	Providing and laying colored Ceramic Tiles 5mm thick of reputed manufacturer of approved finish shade and colour.	SQM	1083		
	1423	Providing and laying 50 mm thick heavy duty cement concrete flooring with cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded) including polishing	SQM	6310		
	1415	Providing and laying 50 mm thk IPS flooring all complete.	SQM	60		
	1424	Supplying and spreading of non metallic granular aggregate of approved size over finished concrete flooring (finished concrete floor measured else where).	MT	13		
	1425	Providing and laying of PVC flooring of minimum thickness 2 mm anti static flexible tiles as per IS 3462 and IS 5318.	SQM	120		
	1426	Providing and laying non-woven type carpet (unitex or equivalent) which shall be laid as manufacturers recomendations in matching grains including anti fungus and anti termite treatment complete.	SQM	600		
	1428	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.				
	i)	Glass strips 40 mm wide and minimum 6 mm thick.	RM	60		
	ii)	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	60		
	1429	Providing and laying polished Marble slabs 20 mm thk in staircase landing/skirting and corridors over minimum 20 mm thick underbed of 1 part lime putty, 1 part surkhi and 2 parts coarse sand by weight mixed with sufficient water to form a stiff workable mass. The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners, granite polishing etc. complete.	SQM	1660		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1500	PROVIDING AND ERECTING ROOFING/SIDE CLADDING INCLUDING LAPS, SCAFFOLDING HOOKS, WASHERS, CORNER PIECES, ETC. COST OF ALL MATERIAL, LABOUR, EQUIPMENT, CLEATS, SHEETING RUNNER, RAILS MILD STEEL WIND TIES (HORIZONTAL/VERTICAL) AND ANY OTHER STEEL WORKS ETC. COMPLETE FOR THE FOLLOWING:				
	1501	Designing, providing and fixing permanently color coated (on exposed face) galvanized M.S. trough metal sheet decking plate of approved color over roof purlins for In-situ roof slab as per IS 14246. Thickness of deck plate shall be minimum 0.8mm and minimum trough depth of 38 mm with minimum yield strength of 250 Mpa. Silicon modified polyester paint shall be used for permanent coating over galvanized surface with minimum rate of galvanization 275 gm/sqm or minimum 0.8mm of high tensile steel (minimum yields strength 350 MPa) coated with zinc aluminium alloy (zincalume) (coating not less than 150 gm./sqm). DFT of permanent color coating shall be 20 microns. It shall serve as permanent shuttering for roof slab 50 mm thk measured over crest of metal decking and 25 mm thick layer of screed concrete and a layer of 25mm thick wearing course mortar over it. It should have adequate strength to support weight of green concrete and imposed load during concreting as well as in service condition of 150 Kg/sqm with purlin spacing of around 1400 mm.	SQM	6690		
	1503	Design supply & erection of permanent colour coated thermally insulated sandwiched metal cladding for external walls with troughed galvanised MS sheeting of 0.6mm thickness and 275 g/sqm of galvanisation or Hi tensile steel (350 Mpa) 0.5 mm thick, coated with zinc aluminium alloy @ 150 g/sqm. Outer exposed face shall have silicon modified polyster coating of DFT 20 microns over primer having life span sustenance against weathering action, inner sheeting shall have 7 micron of precoating. sandwiched Insulation of minimum 50mm thick bonded mineral wool blanket conforming to IS 8183 (minimum density of 32 kg/cum for glass wool and 48 kg/cum for rock wool or 40-45 Kg/cum for polyuretene foam(fire retardants and non-toxic) confirming to IS 12436 , cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm.	SQM	6945		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1504	Design supply & erection of permanent colour coated non insulated metal cladding for external walls with troughed galvanized MS sheeting of 0.6mm thickness and 275 g/sqm of galvanization or Hi tensile steel (350 Mpa) 0.5 mm thick, coated with zinc aluminium alloy @ 150 g/sqm. Outer exposed face shall have silicon modified polyester coating of DFT 20 microns over primer having life span sustenance against weathering action, inner side shall be coated with same paint of minimum DFT 20 microns over primer. Cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm. The sheets shall meet the requirement of IS:14246 and shall conform to class 3 formdurability.	SQM	8769		
	1505	Design supply & erection of permanent colour coated troughed non insulated metal cladding for external walls with galvanized MS sheet of 0.6mm thickness and 275 g/sqm of galvanization or Hi tensile steel (350 Mpa) 0.5 mm thick, coated with zinc aluminium alloy @ 150 g/sqm. Outer exposed face shall have silicon modified polyester coating of DFT 20 microns over primer having life span sustenance against weathering action, inner side shall be coated with same paint of minimum DFT 20 microns over primer. Cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm. The sheets shall meet the requirement of IS:14246 and shall conform to class 3 formdurability.	SQM	1409		
	1506	Providing and fixing 50 mm thick insulation of rockwool (Rockloyd-300 or equivalent) of density 48 KG/cum conforming to IS 8183 including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per specification, drawing and instructions of engineer in charge.	SQM	1409		
	1507	Providing corrugated G.I. Sheets in roofs, cladding at all elevations with minimum 150mm overlapping , 8 dia. G.I. Hook bolts or J bolts and nuts at 305 mm c/c with G.I. Bitumen washers including cutting of sheets for opening etc. all complete.	MT	60		
	1508	Providing and fixing self tapping self drilling shear connectors of 16mm dia and minimum 75 mm projected length above purlin of mild steel studs passing through metal decking as per relevant IS codes and specification.	QUINTA LS	15		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1509	Providing and fixing insulation of resin bonded mineral wool of specified thickness (25/50 mm nominal) conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per specification, drawing and instructions of engineer in charge.	CUM	51		
	1510	Providing and installing under deck insulation using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, all labour, material, scaffolding, equipment etc (but excluding cost of insulation) all complete as per specification, drawing and instructions of engineer in charge.	SQM	1150		
	1600	PROVIDING AND FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, WORKING LAYOUT DRAWINGS AND DETAILS, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING MAKING RECESS FOR LIGHT FIXTURES, ALUMINIUM DIFUSERS, FIRE ALARMS ETC., POLISHING/PAINTINGS, LABOUR ETC., ALL COMPLETE AS PER SPECIFICATION.				
	1601	Providing, fixing and laying light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated with depth of perforation as 4 mm and humid resistance of 95% RH and fire performance of class 0/1 as per BS 476 with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners of approved colour and make as per specification including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc.	SQM	710		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1602	Providing, fixing and laying regular edge light weight mineral fibre tiles of size 600 X 600 or 600x1200 with minimum thickness 15mm. Exposed surface shall be semiperforated (fine fissured) with nominal depth of perforation as 4mm. Material shall have 95% RH with fire performance class 0/calss 1(as per IS:476) with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners and 24x30 or 24x25 cross runners. 24mm exposed flange shall be permanently colour coated. 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags shall be laid on top of false ciling panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also beprovided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc	SQM	1060		
	1603	Providing, fixing and laying glass reinforced gypsum (GRG) ceiling tiles of size 600 X 600 or 600x1200 with minimum thickness 15mm. Exposed surface shall be semiperforated (fine fissured) with nominal depth of perforation as 4mm. Material shall have 95% RH with fire performance class 0/calss 1(as per IS:476) with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners and 24x30 or 24x25 cross runners. 24mm exposed flange shall be permanently colour coated. 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags shall be laid on top of false ciling panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also beprovided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc.	SQM	2460		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1604	Aluminium panel (coil coated) lineal/panel ceiling system shall consist of rolled formed, coil coated aluminium precoated magnesium alloy (Al-Mg AA 5050) carrier and panels of minimum 0.9mm and 0.5mm respectively. The ceiling system shall be of approved pattern. The system be complete with edge cover profile, special panels, carrier splice, etc. The carrier shall be suspended from roof by 4mm diameter galvanised steel wire hangers having special height adjustment clips made from spring steel at maximum spacing of 1.2m c/c bothways. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. (SUITABLE STRUCTURAL PLATFORM GRID MADE UP OF MS CHANNELS / BEAMS / ANGLES shall also be provided above the False Ceiling level for movement of personnel to facilitate maintenance (Materials for structural platform grid made up of Ms Channels/ BEams / Angles shall be supplied by BHEL and shall be paid under SL Item No 2301)	SQM	1250		
	1700	PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING 2 COATS OF APPROVED PAINT OVER A PRIMARY COAT, ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.				
	1701	MS (ERW) down take pipes as per specification of following dia.				
	i)	100 mm dia	RM	187		
	ii)	150 mm dia	RM	1980		
	iii)	200 mm dia	RM	780		
	1800	MISCELLANEOUS				
	1801	Providing and fixing PVC water stops 225mm wide, 6 mm thick.	RM	653		
	1802	Supplying and installation of 25mm thick vibration damping, resilient pads around foundation of vibrating equipment and other locations as directed by the Engineer-in-charge including cost of all materials labour equipment etc. complete as per drawing and specifications.	SQM	30		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1803	Providing and laying 100 mm thk. anticorrosive insulating bituminastic layer laid to slope using special grade Bitumen and filter materials like compacted crushed stone chips, screenings, fine gravel, clean sand or similar material and rolled or compacted complete as per drawings below fuel oil tanks and at such other places as directed by the Engineer and as per specifications.	SQM	132		
	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	150		
	1805	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including aluminium screws, rawl plugs all complete as per specification.	RM	30		
	1806	Preparation of detail fabrication drawing, supply, fabrication of structural steel (rolled section, built up section or combination), delivery at site, transportation, work in columns, girders, beams, gantry girders, trusses, purlins, bracings, cleats, shear connectors, chequered plates, gratings, hand rails and other fittings including cutting, grinding, machining (where ever applicable), drilling, bolting (including MS or HSFG bolts and nuts), welding, reheating of welded joints, use of hydrogen/radiographic electrodes, shop coat of paint and touch of paints and final painting including all Non Destructive Tests complete.	MT	3		
	1807	Providing, laying and fixing transformer rails including guide rails in concrete including joining of rails. Anchoring lugs etc. complete as per specification.	MT	55		
	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	140		
	1808A	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items).	NO	25		
	1808B	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items).	NO	25		
	1808C	Construction of below ground earthing system earth electrodes as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items.)	NO	50		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	1808D	Construction of below ground earthing system -Earth connection and riser pig tails as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items.)	NO	250		
	1809	Providing and fixing weep holes in Drains consisting of 100 mm dia LDPE pipe sleeves along with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening along with 300 X 300 mm sq., 300 mm deep, 40 mm aggregates to cover fabric mesh mouth complete as directed by engineer in charge.	Nos.	19200		
	1810	Providing and fixing GI rungs in concrete/brick walls at all elevations including @ zinc coating shall not be less than 900 g/sqm all complete.	KG	1515		
	1811	Design, supply, fabrication, erection of stoplog gates in CW Pumps as per specification with embedments required, lifting beams, special tools & plants, spare parts for three years, machining, casting, all materials such as structural steel, cast steel, stainless steel, brass used for seals, rubber seals, gears, ball and roller bearing, branch bushings, greasing, bolts, nuts, lugs, threaded fastners etc., cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc 750 gms/sqm., following by an application of etching primer and dipping in black bitumen as per B.S. 3416, erection along with a second stage concreting to true plumb and levels, submission of drawings / fabrication drawings for engineers approval etc., all complete as per specifications and approved drawings. The leakage through rubber seal shall not be more than 5 lit/min/metre length of seal under maximum head.(only weight of structural steel including embedments shall be considered for payment purpose)	MT	166		
	1812	Supplying, fabricating, erecting in position and testing / examining bolted and / or welded structural steel work at all levels for stationary screens made out of rolled sections and / or plates including cutting, straightening if required, edge preparation, bolting / welding of joints, cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc as 750 gms./sqm. followed by application of an etching primer and dipping in black bitumen as per BS 3416, complete as per drawing and directed.	MT	15		
	1813	Providing and laying dry stone pitching of minimum thickness of 230 mm for slope protection in cement mortar 1:6 with hammer dressed 230 mm size stones including racking of joints, pointing, preparing the bedding surface and voids filling with stone aggregate etc. complete.	CUM			
	1814	Providing and fixing LDPE pipes in cable duct banks, openings in RCC work at all elevations of following sizes including cutting, fixing and levelling in position as per drawings, specifications all complete.				

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
		i) 100 mm dia	RM	660		
		ii) 150 mm dia	RM	495		
		iii) 200 mm dia	RM	495		
	1815	Providing and fixing PVC pressure release valve of minimum dia 90mm in water retaining structure including 160 mm dia housing pipe of minimum length 3.75 m with perforation as per IS4558, nylon jali, perforated end plug, collar, graded filter, excavation, fixing in concrete slab/wall all complete as per specification, drawing and instruction of engineer in charge.	Nos	225		
	2000	FENCING AND GATES.				
	2001	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 mm and galvanised concertina. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing confirming to IS 298 at top of chain link fencing shall be provided with 4 stands of height of 600 mm including all accesories as per specification all complete.	SQM	1110		
	2002	Supplying and fixing G.I. barbed wire in fencing including G.I clips etc. complete as per specification	MT	4		
	2003	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels,etc. all complete as per drawing, specification and as directed by Engineer-in-charge with 600mm high GI barbed wire fencing at top all complete.	MT	3		
	2100	WATER SUPPLY				
	2101	Providing and fixing in position tested heavy duty type chromium plated brass long neck bib cocks including sockets, union, nut etc. complete 15mm nominal bore.	NO.	106		
	2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc. complete as directed by Engineer 15mm nominal bore.	NO.	84		

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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.	NO.	37		
	2104	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.	NO.	27		
	2105	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc. complete (internal work) 15 mm nominal bore.	RM	440		
	2106	Providing and fixing GI pipes complete with GI fittings a clamps including cutting and making good the walls etc. complete (internal work) 20 mm nominal bore.	RM	203		
	2107	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc.complete (internal work) 25 mm nominal bore (N.B).	RM	238		
	2108	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 15mm nominal bore (N.B).	RM	158		
	2109	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 20mm nominal bore (N.B).	RM	146		
	2110	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 25mm nominal bore (N.B).	RM	144		
	2111	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 50mm nominal bore (N.B).	RM	132		
	2112	Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc. complete with CP screws as per specification.	NO.	88		
	2113	Providing and fixing 610mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc. complete as per specification.	NO.	87		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
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TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2114	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. brackets etc. all complete as per specification.	NO.	51		
	2115	Providing and fixing C.P. soap holder mounted with C.P. screws etc.complete as per specification.	NO.	91		
	2116	Providing and fixing C.P. liquid soap dispenser . Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc.complete as per specification.	NO.	91		
	2117	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. complete as per specification	NO.	53		
	2118	Providing and fixing chromium plated brass shower rose with 15 or 20 mm inlet all complete.	No.	28		
	2119	Providing & fixing P.V.C. water tank (Syntex or equivalent) in position of 2000 litres capacity. The work to including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc. all complete as per specification at all heights and levels	NO.	11		
	2120	Providing and fixing in position in the base slab of water retaining structures non return valves of 90mm diameter non metallic PRV pipe and 160mm diameter OD perforated PVC housing pipe 430mm long including graded gravel filters as per IS:4558-1995 and as shown in the drawings all complete.	Nos.	6		
	2121	Providing and fixing approved stainless steel sink with integrated drainboard complete including painting the fittings, cutting and making good the wall where required as per specification.The work to be complete as per specifications, drawings and direction of engineer	Nos.	4		
	2200	SANITARY WORKS				
	2201	Supply and fixing vitreous china wash basin size 600x450 with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required etc. complete as per specifications	NO.	90		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2202	Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x450x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass bottle trap with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.	NO.	8		
	2203	Providing and fixing colour European type water closet with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed stone water flushing cistern with valveless fittings, necessary C.P connections etc. complete as per specification.	NO.	31		
	2204	Providing and fixing glazed vitreous china pan with foot rests and high level 12.5 litre C.I flushing cistern with valveless fittings, necessary C.P connections, foot rests shall be made of white glazed vitreous china with chequered surface allcomplete with cistern painting, C.I brackets etc. as per specification.	NO.	48		
	2205	Providing and fixing wall type glazed vitreous china urinals with C.I automatic flushing cistern approximately once every five minutes for every four urinals (max.) with flush pipes, lead pipes, gratings, CP bottle traps and necessary C.P fittings all complete as per specifications.	NO.	72		
	2206	Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead cocking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	258		
	2207	Supply, laying and jointing 100mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	256		
	2208	Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, a coat of bitumenous paint, M.S holder bats/clam lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	173		
	2209	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 300mm dia, as per specifications.	RM	80		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
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TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2210	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 400mm dia, as per specifications.	RM	208		
	2211	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 600mm dia, as per specifications.	RM	200		
	2212	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 800mm dia, as per specifications.	RM	230		
	2213	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 1000mm dia, as per specifications.	RM	230		
	2216	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:				
	a	150mm	RM	810		
	b	250mm	RM	60		
	c	300mm	RM	149		
	d	500mm	RM	12		
	2218	Providing and fixing C.I Manhole cover of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.	NO.	19		
	2219	Providing and fixing circular heavy duty man hole cover of 600mm dia with frame all complete as per specification.	NO.	13		

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SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2220	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 100x100mm P or S Type.	NO.	21		
	2221	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x100mm P or S Type.	NO.	9		
	2222	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x150mm P or S Type.	NO.	19		
	2223	Providing and fixing C.I. floor traps with C.P jalli complete as per specification.	NO	85		
	2224	Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.	NO.	33		
	2225	Providing and installing approved brand single tap water cooler of 150 L cooling capacity complete in all respect.	NO.	6		
	2226	Providing and fixing white vitreous urinal partitions all complete as per specification.	NO.	49		
	2400	ROAD WORK INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, MACHINERY ALL COMPLETE AS PER SPECIFICATION, RELEVANT IRC & IS CODES AND AS DIRECTED BY ENGINEER- IN -CHARGE FOR THE FOLLOWING.				
	2401	Preparation of sub grade by excavating earth to required depth for all types of soil including ash, dressing to camber and consolidating the base including making good the undulation etc. and disposal of surplus earth within plant boundary all complete as per specification.	CUM.	50000		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
2402		Earth work in filling for road/embankment using approved quality of soil from borrow areas (borrow areas to be acquired by the bidder at no extra cost to Owner/BHEL) on prepared surface obtained by compacting with mechanical means including setting out, sorting, breaking clods, excavation, handling, transportation, spreading, dewatering if necessary, watering, placing/laying in layers not exceeding 250mm loose thickness and compacting each layer in proper moisture content with manual/mechanical means so as to achieve atleast 95% of its maximum dry density obtained as per IS 2720, part-VII, testing including levelling, dressing, finishing to required lines, grades and slope including all lifts etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM.	40000		
2403		Providing, stacking and laying granular morrum for shoulder including watering, compaction with road roller to required camber etc. complete as per specification.	CUM.	10000		
2404		Providing &Laying water bound macadam sub base course in layers of required thickness with crushed stone aggregates 90 to 40 mm down size , stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc. including cost of material labour all complete.	CUM	10500		
2405		Providing &Laying water bound macadam base course in layers of required thickness with stone aggregate 63mm to 40mm size , stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc. including cost of material labour all complete.	CUM.	2500		
2406		Laying water bound macadam base course with stone aggregate 50mm to 20mm size stone screening and binding material including screening, sorting , spreading to template and consolidation with road roller including carriage spreading and consolidation of blinding material moorum etc. Including cost of material labour. All complete.	CUM.	4500		
2407		Providing and applying Tack coat of low viscosity liquid bitumen of a suitable approved grade conforming to IS 73, 217 or 454 as applicable @ 10 kg/10sqm for an untreated WBM surface including scraping, cleaning with compressed air etc. complete.	SQM	47500		
2408		Providing, mixing and laying of compacted 75 thk. Bituminous Macadam Course . Bitumen shall be of a suitable grade complying with IS 73 and aggregates, binder material as specified in specification including hot mixing, hot laying, rolling all complete.	SQM	47500		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2409	Providing, mixing and laying premix carpet (as per IRC-14) of compacted 25mm thickness in a single course composed of suitable small size aggregate premixed with a bituminous binder on a prepared base. Mixing applying rolling as per IRC specification.	SQM.	47500		
	2410	Providing and applying liquid seal coat comprising of an application of a layer of bituminous binder at the rate of 9.8kg/10sqm followed by a cover of stone chips at the rate of 0.09 cum/10sqm including rolling as per specification all complete.	SQM.	47500		
	2411	Supply and laying (400mm x 150mm X 350mm deep) precast concrete kerb stone of grade M25 with 20 mm aggregate and of shape as per detailed drawing including fixing in 13mm thk. cement mortar 1:2 in joints, finishing of joints with neat cement paste, making drainage opening where required etc. complete as per spec.	RM	19800		
	2411A	Providing and laying 75 mm thick concrete tiles with cement mortar 1:6 complete.	SQM	250		
	2412	Providing and laying 230 mm wide bricks , with crushing strength of 75 kg/cm ² , on edge for protection including fixing in 13mm thk. cement mortar 1:6 complete.	SQM	250		
	2413	Dismantling of existing road consisting of premix carpet, curb stone/ brick on edge, bitumen macadem course, WBM, preparing subgrade to receive new WBM including camber consolidation including disposal of debris within a lead of 1 Km etc. complete and as directed by Engineer.	SQM	1750		
	2414	Providing 25mm thick premix carpet on existing/damaged road surfaces (as per IRC-14) of compacted 25mm thickness in a single course composed of suitable small size aggregate premixed with a bituminous binder on the existing base including tack coat, cleaning of existing surface, mixing applying rolling as per IRC specification.	SQM	1750		
	2415	Concrete of grade M-30 in roads etc complete with 20 mm nominal size graded aggregate complete as per specification.	CUM	1750		
	2416	Filling below concrete roads with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.	CUM	1250		
	2417	Providing laying in position 150 dia. RCC HUME pipe for scrapper drain at 15m intervals with all labour, tools and materials etc., complete.	RM	1635		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2416	Providing and laying heavy duty 300 dia rcc hume pipe for duct bank with all labour and materials etc., complete.	RM	60		
	2417	Providing and laying 100mm thk lean concrete (M-10) with 40mm nominal size graded aggregate in shoulders complete as per specification.	CUM	3000		
	2418	Providinf and laying 75 thk PCC interlocking blocks on sholders with all material and labour as per specification.	SQM	30000		
	2500	PILING WORK				
	2501	Installation of bored RCC cast in situ vertical pile 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 type of strata from ground level to termination depth of pile including socketing of pile inside rock wherever required, providing 6mm thick permanent mild steel liner (SUPPLIED BY BHEL AS FOC IN 12 M STANDARD LENGTHS) for a depth of 10 m below pile cut off level, providing bentonite slurry/casing for drilling/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.				
	a	Pile with 900 mm diameter and 25 m length below cut off level - Safe load carrying capacity of pile in axial compression=280MT	Each	1800		
	b	Pile with 600 mm diameter and 25 m length below cut off level - Safe load carrying capacity of pile in axial compression=130MT	Each	3600		
	2502	Extra over the following item for pile length more than the specified length of 25 m.				
	a	item no. 2501 a	M	150		
	b	item no. 2501 b	M	450		
	2503	Rebate on the following item for pile length less than the specified length of 25 m.				
	a	item no. 2501 a	M	45		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	b	item no. 2501 b	M	150		
	2504	Conducting initial load test upto three times the safe load carrying 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 down to a depth of 25 m below pile cut off level 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 type of strata from ground level to termination depth of pile including socketing of pile inside rock wherever required, providing 6mm thick permanent mild steel liner for a depth of 10 m below pile cut off level, providing bentonite slurry/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.				
	a	for lateral load test:				
	i	900 mm diameter pile-10.3 MT safe load carrying capacity	Each	4		
	ii	600 mm diameter pile-5.4 MT safe load carrying capacity	Each	5		
	b	for vertical compression test (cyclic load test):				
	i	900 mm diameter pile-280 MT safe load carrying capacity	Each	4		
	ii	600 mm diameter pile-130 MT safe load carrying capacity	Each	5		
	c	for tension/uplift test:.				
	i	900 mm diameter pile-56 MT safe load carrying capacity	Each	4		
	ii	600 mm diameter pile-26 MT safe load carrying capacity	Each	5		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	2505	Extra over the following item for providing and installing 6mm thick permanent mild steel liner over the specified depth of 10 m below pile cut off level and upto a maximum depth of 25 m below pile cut off level.				
	a	item no. 2501a, 2504a(i), 2504b(i) & 2504c(i)	M	1112		
	b	item no. 2501b, 2504a(ii), 2504b(ii) & 2504c(ii)	M	2209		
	2506	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, necessary materials, submission of test report etc but excluding the cost of installation of job pile complete as per specification, drawing and as directed by the engineer-in-charge for the following.				
	a	for lateral load test:				
	i	900 mm diameter pile-10.3 MT safe load carrying capacity	Each	9		
	ii	600 mm diameter pile-5.4 MT safe load carrying capacity	Each	18		
	b	for vertical compression test (Maintained Load Method):				
	i	900 mm diameter pile-280 MT safe load carrying capacity	Each	9		
		600 mm diameter pile-130 MT safe load carrying capacity	Each	18		
	2507	Conducting low strain pile integrity test conforming to relevant ASTM on job pile and test pile including all arrangements for test, equipments, necessary materials, submission of test report etc but excluding the cost of installation of pile complete as per specification and as directed by the engineer-in-charge.	Each	5427		
		NOTES:				
	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 higher of the two shall be considered for evaluation and the lower of the two shall be considered for award.				

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -A
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -A	RATE IN RUPEES	AMOUNT IN RUPEES
					In figures	In figures
	4	The quantities indicated against each item above are tentative and are liable to vary depending upon the site requirement. The contractor has to supply / install actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out.				
	5	Evaluation of the bids shall be done based on total price against this BOQ.				

TENDER SPECIFICATIONS

TENDER NO. BHEL/ NR/SCT/ ANPARA D/ CIVIL MAIN/ 637

FOR

Civil & architecture works related to buildings & foundations which includes Piling, Foundations, earth work, TG Deck, plain & reinforced cement concrete including supply of all materials except those proposed to be supplied by BHEL for 2 x 500 MW units (UNIT 6 &7) at Anpara-D Thermal Power Plant (PTPP) of UPRUVNL at Anpara , Sonebhadra , UP.

PART I – PRICE BID PACKAGE - B



**Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301 (INDIA)**

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION AND DRAWINGS				
	101	Excavation including providing cofferdams, shoring, strutting, sheeting, bracing, draining and pumping out water, clearing all grass, vegetation etc. including trimming of excavation bottom, staking, levelling, grading etc. of excavated materials all complete as per specifications, drawings and instructions of the engineer, including a lead up to 100 meters and a lift up to 2.0 meters.				
1	i)	In all types of soils including ash, morrum, laterite	CUM	157859		
	102	Extra over item 101 above, for all types of soil/rock, for additional lifts beyond the initial lift of 2 meters (included in item 1 above) all complete as per specifications, drawings and instructions of the engineer for the following lifts:				
	i)	In all types of soils				
2	a	beyond 2 m and upto 4 m	CUM	86472		
3	b	beyond 4 m and upto 7 m	CUM	14567		
4	c	beyond 7 m and upto 10 m	CUM	4350		
5	d	beyond 10 m and upto 15 m	CUM	650		
	103	Extra over item 101 above for excavation below ground water table including lowering of ground water table to maintain dry working conditions for all activities up to filling/testing, water proofing all complete as per specifications, drawings and instructions of the engineer.	CUM	24572		
	104	Extra over item 101 above for carriage of all types of excavated materials beyond the initial lead of 100 m (included in item 1 above) all complete as per specifications, drawings and instructions of the engineer for the following leads				
	i)	Carriage beyond initial lead of 100 m but not exceeding 500 m	CUM	21355		
	ii)	Carriage beyond initial lead of 500 m but not exceeding 2 Km	CUM	30359		
	iii)	Carriage beyond initial lead of 2 Km but not exceeding 5 Km	CUM	14825		
	iv)	Carriage beyond initial lead of 5 Km but not exceeding 10 Km	CUM	51573		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	105	Filling using selected excavated materials in trenches, plinths, sides of foundations and other underground structures, pipes, are levelling etc. in layers not exceeding 150 mm thickness including lead upto 100 m and all lifts and including loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer to achieve the following densities:				
	i)	Ordinary manual compaction	CUM	3593		
	ii)	90% Standard Proctor density	CUM	46185		
	iii)	95% Standard Proctor density	CUM	10012		
	106	Filling using selected materials in trenches, plinths, sides of foundations, in the space below the grade level slab and other under ground structures, pipes etc. in layers not exceeding 150 mm in thickness including all lifts and including excavating, loading, unloading, carting, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer for the following works				
	i)	With selected soil brought from borow areas arranged by contractor, including royalties, fees etc. or ash obtained from the ash pond for all leads and compacted to following densities				
	a	Ordinary manual compaction	CUM	1057		
	b	90% Standard Proctor density	CUM	6284		
	c	95% Standard Proctor density	CUM	10581		
	ii)	With selected sand brought from quarries/river bed arranged by contractor, and compacting to 80% relative density etc. for all leads	CUM	62491		
	iii)	With non expansive material having permissible concentration of Sulphates and chlorides approved by the owner arranged by the bidder.	CUM	800		
	107	Filling in trenches, plinths, area paving and other underground structures with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.	CUM	9334		
	108	Filling in transformer pits etc. , with clean 40 mm nominal size stone aggregate including all labour, materials, royalties, equipments etc. complete as per instructions of engineer in charge.	CUM	1552		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	108A	Providing and laying C.N.S. material, in layers, well compacted with 95% proctor density, with all materials(from 1 to 4 K.M.) tools, labours etc., and complete	CUM	43892		
	109	Bulldozing earth for grading of ground including removable of vegetation complete including disposal of debris upto 5 kms.	CUM	4000		
	111	Cutting of trees , including transportation, stacking at storage yard and disposal of unused material as per the direction of engineer in charge.				
	i)	300 mm upto 600 mm girth	Nos.	19		
	ii)	601 mm upto 900 mm girth	Nos.	31		
	200	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 (OPC and PPC Cement will be issued as FOC item):				
	201	Concrete of grade M7.5 as filling course at any level below finished floor level, under and around foundations/floors, mass dumps etc with 40 mm nominal size graded aggregate.	CUM	1668		
	202	Concrete of grade M10 as levelling course , under and around foundations/floors etc.	CUM	8581		
	202A	Concrete of grade M-20 in foundations, under floors etc complete.	CUM	5385		
	202B	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 12.5 mm graded aggregate by volume) as under bed to floors etc complete.	CUM	140		
	203	Concrete of grade M-25 in foundations, under floors etc complete.	CUM	35448		
	203A	Concrete of grade M-30 in foundations, under floors etc complete.	CUM	3429		
	204	Concrete of grade M-25 in superstructure from finished floor level complete at height:	CUM	9205		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	204A	Concrete of grade M-25 in superstructure from finished floor level complete at height: with membrane curing	CUM	1978		
	204B	Concrete of grade M-30 in superstructure from finished floor level complete at height: with membrane curing	CUM	205		
	206	Concrete of grade M-30 in tg and other machine foundation sub structures including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	CUM	3600		
	206A	Concrete of grade M-30 in mills and other machine foundations super structure including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	CUM	2196		
	206B	Concrete of grade M-35 in top deck including addition of suitable plasticizer conforming to IS 9103 latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation.	CUM	1400		
	207	Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness complete.	CUM	919		
	208	Concrete of grade M-25 in precast works like roof slabs/trench covers etc.including formwork/moulds for thicknesses varying from 75mm to 250mm including transportation, erection and fixing in position etc. complete.	CUM	958		
	209	Concrete of grade M30 in water retaining/conveying structures/overhead tanks etc including addition of suitable plastisizer cum waterproofing cement additives confirming 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 and conforming to limits of permeability as per IS 2545 as per specification with 20 mm nominal size graded aggregate.				
	ii)	Above Ground Level	CUM	55		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	iii)	Water proofing shall be provided for liquid retaining/ carrying structures and basement type structures (requiring dry working condition). Dense and durable concrete with water cement ratio not more than 0.45 shall be used. Plasticiser/super plasticiser cum water proofing compound shall be added to the concrete. All the construction / expansion joints shall be properly treated with PVC water bar and/or chemical injection grouting as per IS:6494. As applicable internal/external surface of such structures shall be provided with acrylic based polymer modified cementitious composite coating system for critical structures. For liquid carrying / retaining structures, minimum two coats of such coating shall be applied. For external application wherever the surface is in contact with the earth, fine silica/quartz sand of 0.6 mm nominal size shall be added in the coating mix for better abrasion resistance and total nominal structures minimum two coats of bitumen 1.5mm.	SQM	2536		
	210	Concrete of Grade M-15 in paving, plinth protection, pipe encasing etc. complete.	CUM	159		
	211	Breaking existing concrete 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	CUM	75		
	212	Cutting and making openings in existing concrete work including cutting of reinforcement, making good all surfaces, complete as per engineer in charge.	CUM	25		
	213	Minimum Two coats of hot bitumen painting, below ground level, of grade 85/25 @ 1.7 Kg/sqm/coat for water/damp proofing conforming to IS:702 on soil face with anti-stripping compound.	SQM	54728		
	214	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement	CUM	307		
	215	Extra over St. No. 206B above, for controlling of temperature of freshly laid concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc., all complete as per specification, drawing and instruction of engineer in charge.	CUM	1274		
	216	Ultra-sonic Pulse Velocity (UPV) Testing of Machine Deck				
	216A	TG deck	NO	1		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	216B	Fan / Mill Foundations	NO	7		
	300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATIONS, AS PER SPECIFICATIONS AND INCLUDING ALL LABOUR MATERIAL, SCAFFOLDINGS COMPLETE INCLUDING POCKETS ETC. FOR THE FOLLOWING:				
	301	Ordinary form work below finished ground floor level for foundations, footings, bases of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	25672		
	302	Fairface form work below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc. for exposed concrete works.	SQM	55120		
	303	Ordinary form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	SQM	200		
	304	Fairface form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	SQM	58180		
	305	Formwork for TG superstructure-fairface. (above finished floor level)	SQM	4030		
	306	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm contact surface area with concrete) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.				
	i)	Upto 300 mm depth	Nos.	80		
	ii)	From 301 mm upto 600 mm depth	Nos.	84		
	iii)	From 601 mm upto 1000 mm depth	Nos.	48		
	iv)	Providing and fixing curved shuttering including staging, propping etc. at all locations , heights and levels above or below ground complete as per specification and direction of Engineer-in-charge.				
	a	Slip forms (Rate per slip - considering one face only)	Sqm	2000		
	400	REINFORCEMENTS (TMT will be issued as FOC item):				

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
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TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	401	Providing, straightening cutting, bending, placing in position at any level, binding of mild steel reinforcements including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	MT	23		
	402	Providing, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	MT	5722		
	403	Providing, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in brickwork including cost of reinforcement and binding wire, labour etc. complete all as per specifications & drawings.	MT	1		
	500	WATER PROOFING AS PER SPECIFICATIONS. (Contractor has to furnish a guarantee for material and workmanship for a minimum period of 20 years.)				
	501	Providing and laying roof water treatment with high solid content liquid applied elastomeric water proofing membrane with separate wearing course as per ASTM C-898 . Thickness of membrane shall be min 1.5 mm. Treatment shall include application of polymerized mastic over roof achieving a smooth surface. Wearing course on the top of membrane shall consist of 25 mm thick PCC (1:2:4) cast in panels of maximum size 1.2 X 1.2 m and reinforced with 0.56 mm dia galvanised chicken wire mesh and sealing of joints using sealing compound / elastomeric water proofing membrane complete complete as directed by engineer in charge.	SQM	14101		
	502	Providing and laying chequered concrete tiles for pathways of size 200 X 200 and minimum thickness 22 mm conforming to IS 13801 over water proofing membrane including cement mortar bedding. (water proofing membrane paid else where)	SQM	517		
	503	Providing and laying pressed precast concrete tiles over water proofing of minimum size 600 X 600 and minimum thickness 20 mm conforming to IS 13801 including 22 mm thick cement mortar (1:4) bedding inclusive of provision for thermal expansion for each roofing tile filled with polysulfide joint sealant. (water proofing paid else where)	SQM	8869		
	504	Providing and mixing approved water proofing compound 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	1175		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	600	SUPPLYING & INSTALLATION OF JOINT FILLER AND SEALING COMPOUND:				
	601	Supplying & installation of bitumin impregnated fibre board 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	2		
	b	20mm thick joints.	SQM	74		
	c	25mm thick joints.	SQM	438		
	d	50mm thick joints.	SQM	1358		
	602	Supplying and filling in position hot applied bitumin sealing compound (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	965		
	700	M.S. EMBEDMENTS				
	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	270		
	701A	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. (Steel will be issued as FOC item)	MT	20		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	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	153		
	703	Providing, fabricating, transporting, erecting and installing at all elevations miscellaneous steel/PVC pipes, expansion fasteners in concrete/brickwall, for all kind of works, including the cost of labour, material and equipment, setting material in concrete, layout, scaffolding, handling at site, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete as per drawings and specifications and instructions of engineer.				
	i	MS pipes of all diameters	Quintal	200		
	ii	PVC conduits of all sizes	Quintal	98		
	iii	Expansion fasteners (galvanised) of HILTI make or equivalent of safe tension capacity as specified below:				
		250 kg	Each	720		
		500 kg	Each	624		
		750 kg	Each	480		
	704	Fabrication, erection, installation and alignment of MS foundation bolt assembly in concrete along with nuts, lock nuts, anchor plates, stiffner plates, protective tape etc. upto and including 80 mm dia, 3000 mm long including furnishing of labour, materials, equipments, welding, cutting, grinding, threading, drilling etc. all complete as per specification, drawing and instruction of the engineer.	MT	92		
	705	Transporting from stores, Placing, locking and releasing of vibration isolation spring modules over foundations at all elevations including transportation from stores, leveling, alignment all complete under the supervision of supplier, as per drawing and instructions of engineer in charge (VIS to be supplied by BHEL free of cost).	NO	155		
	800	GROUTING AS PER SPECIFICATION FOR THE FOLLOWING: (OPC and PPC Cement will be issued as FOC item):				

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	801	Providing & grouting cement slurry mix at any elevation/depth with pressure pump for water retaining concrete structures , including fixing nozzles, cost of approved cement, admixture, curing, etc all complete as per specification and as directed by the Engineer.	SQM	18		
	802	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection, and alignment if necessary, of heavy machinery at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGPX-2 of 'Fosroc' or equivalent all complete as per specifications. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	31		
	803	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection, and alignment if necessary, of main structural steel work at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGP-1 or equivalent all complete as per specifications. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	72		
	804	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection and alignment if necessary, of secondary structures, machinery and pipe supporting structures at any elevations including roughening surface, cleaning, ramming, curing, etc with 1:1:2 cement - sand - 6 mm down stonechips all complete as per specifications. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	28		
	900	DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTIONS ETC. COMPLETE AT ALL ELEVATION INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION AND DRAWINGS (all steel doors, windows and rolling shutters etc. shall be painted with two coat of red oxide zinc primer and finished with two coats of synthetic enamel paint confirming to IS2074)				
	901	Providing and fixing factory made prelaminated particle board of minimum 25 mm thickness (MDF exterior grade) door including hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent with electrocolor coating of minimum 15 microns thickness including all fixtures complete.	SQM	170		
	902	Providing and fixing openable/fixed steel windows and ventilators with steel sections as per IS:1361 including wire mesh, painting with minimum 2 coats of synthetic enamel paint on primer complete.	SQM	603		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	903	Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers side, top, bottom edges of shutter shall be of pressed steel channels of 1.2mm thk voids to be filled with mineral wool (48 kg/cum density) including all fittings like tower bolts, handles, stoppers, aldrops etc. and painting with minimum 2 coats of synthetic enamel paint on primer complete.	SQM	283		
	904	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and rein- forced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	SQM	110		
	905	Providing and fixing single or double shutter anodized aluminium doors with electrocolor coating of minimum 15 microns thickness including concealed screws, hold fast, fixtures etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing 5.5 mm thick float glass or flat transparent sheet glass.	KG	653		
	906	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 3 Hrs.	KG	330		
	907	Providing and fixing aluminium glazed partition with electro color coating of minimum 15 microns thickness including glass beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for double glazing of two 6.0mm thick clear toughened safety glass hermetically sealed and separated by 12 mm thk gap for thermal insulation.	KG	1060		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	908	Providing and fixing aluminium glazed partition with electro color coating of minimum 15 microns thickness including glass beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for single glazing of 5.5 mm thick float glass or flat transparent sheet glass confirming to IS:2835.	KG	377		
	909	Providing and fixing anodised aluminium openable glazed windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing of 4mm thick ground glass complete.	KG	427		
	910	Providing and fixing anodised aluminium openable glazed windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing of 4mm thick plain sheet glass complete.	KG	464		
	911	Providing and fixing aluminium ventilators/windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for 6 mm thick fire and u/v resistant (suitable for use at 100 degree centigrade temprature) Multiwall Polycarbonate plain or tinted sheet .	KG	5600		
	912	Providing and fixing anodised aluminium openable/fixed glazed windows with electro color coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. Hollow extruded section of minimum 3 mm thickness as manufactured by INDAL or equivalent shall be used for shutter frame. Provision shall be made for glazing of 6mm thick wired glass complete.	KG	1472		
	913	Providing and fixing anodised aluminium fixed glazed skylights/north light with clear coating of minimum 15 micron thickness with provision for 6 mm thick multiwall polycarbonate plain or tinted sheet , fire and U.V. resistant complete with leak proofing.	KG	1620		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
913A		Providing and fixing anodised aluminium work of Indal, Hindalco or other equivalent approved make for doors, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metallc protection etc.	KGS	23340		
		including preparation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately).				
914		Providing and fixing anodised aluminium louvers with clear coating of minimum 15 micron thickness including snap fit type beading, concealed screws, hold fasts etc. complete as per specifications.	SQM	7		
915		Providing and fixing of over head hydraulic door closers of approved make & quality as directed by Engineer.	Nos	96		
916		Providing and fixing floor mounted Hydraulic door closer of approved make & quality as directed by engineer	Nos	10		
917		Providing and fixing pressed steel frames fabricated from 1.6 mm thk gauge M.S sheet mortised, reinforced strikes, hold fasts, adjustable floor anchors, floor tiles/weather bars etc. complete as per specifications.	KG	2897		
918		Providing and fixing frames of hollow extruded Aluminum alloy tubes of minimum 3 mm wall thickness as manufactured by INDAL or equivalent hold fasts, adjustable floor anchors, floor tiles/weather bars etc. complete as per specifications..	KG	1170		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	919	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3coats of approved enamel paint etc., all complete as per specification- Mechanically operated.	SQM	127		
	920	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3coats of approved enamel paint etc., all complete as per specification- Hand operated.	SQM	32		
	921	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3 coats of approved enamel paint etc., all complete as per specification- Electrically operated.	SQM	244		
	922	Providing anodised aluminium Grills in Windows of approved design.	Kg	502		
	923	Providing and fixing glazing in aluminium doors/partitions complete with glass panes of 5.5 mm thick float glass or flat transparent sheet glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	20		
	924	Providing and fixing glazing in aluminium doors complete with glass panes of 6 mm thick float glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	651		
	925	Providing and fixing glazing in aluminium partitions complete with glass panes of two 6.0mm thick clear toughened safety glass hermetically sealed and separated by 12 mm thk gap for thermal insulation of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	563		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	926	Providing and fixing glazing in aluminium / steel windows complete with glass panes of 4mm thick sheet glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	127		
	927	Providing and fixing glazing in aluminium windows complete with glass panes of 4mm thick float glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	321		
	928	Providing and fixing glazing in aluminium windows complete with glass panes of 6mm thick wired glass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	712		
	929	Providing and fixing glazing in aluminium windows/ventilators, water proof Sky light/North light complete with 6 mm thick fire and u/v resistant (suitable for use at 100 degree centigrade temprature) Multiwall Polycarbonate plain or tinted sheet for preventing solar radiations complete with aluminium beading and sealed at ends as per manufacturers recommendations. Measurement shall be of glazing area in between extruded main sections.	SQM	253		
	930	Providing and fixing glazing in aluminium windows complete with glass panes of 4mm thick groundglass of reputed manufacturer. Measurement shall be of glazing area in between extruded main sections.	SQM	118		
	931	6 mm thick polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	12		
	932	Providing, fitting and fixing heavy duty minimum six lever mortised lock of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium) with duplicate set of keys and masterkeyed locks, openable from one side by the key and from the other side by the handle etc. all complete as per drawing, specification and instruction of engineer	NOS	90		
	933	Providing and fixing factory made prelaminated particle board (MDF ext gr) doors incl all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	63		
	1000	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR ETC. COMPLETE, AS PER SPECIFICATIONS. (OPC and PPC Cement will be issued as FOC item for plastering / mortar):				

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	336		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	CUM	233		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	CUM	145		
	iv)	Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.	CUM	7		
	1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	2499		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	CUM	3851		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	CUM	183		
	iv)	Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.	CUM	42		
	1003	Ruled pointing in masonry in CM 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	85		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1004	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing H.B. wetting at every third layer, raking out joints, curing, scaffolding etc complete using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 and clay ash bricks shall be as per IS 13757, minimum percentage of fly ash shall be 25%, excluding plastering and painting as per specification.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	503		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	484		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	SQM	144		
	iv)	Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.	SQM	11		
	1005	Providing brick soling spreading of earth, ramming, watering including 12mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item). Using brick on edge.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	62		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	2		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	SQM	2		
	1006	Providing brick soling including spreading of earth, ramming, watering including 12mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item.)- Using flat bricks.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	46		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	22		
	iii)	Using ordinary bricks of class designation 7.5 of nominal dimension	SQM	27		
1007		Providing brick soling including 12mm thick cushion of sand excavation, disposal of surplus earth spreading of earth, ramming, watering etc. complete in all respects.- Using bricks on edge.				
	i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	20		
	ii)	Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%	SQM	1		
	iii)	Using ordinary bricks of class designation 5 of nominal dimension	SQM	3		
1009		Breaking of existing brick partition wall at all levels including plastering, cutting of reinforcement, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	332		
1010		Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification.	CUM	62		
1012		Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	3		
1013		Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	732		
1014		Providing and filling brick bats in soak pits.	CUM	11		
1415		Providing and laying flat brick paving including 40 mm thick sand underbed	SQM	13		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1100	DAMP PROOF COURSE INCLUDING ALL MATERIALS LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS. (OPC and PPC Cement will be issued as FOC item):				
	1101	Damp Proof Course 50mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	SQM	401		
	1200	CEMENT MORTOR PLASTER INCLUDING ALL MATERIALS SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION : (OPC and PPC Cement will be issued as FOC item):				
	1201	Providing 12 mm thick plaster in cement mortar 1:6 on walls, finished to a smooth finish as per specification.	SQM	14131		
	1202	Providing 12 mm thick plaster in cement mortar 1:6 on walls, with a rough finish as per specification.	SQM	12305		
	1203	Providing 12 mm thick plaster in cement mortar 1:6 on walls with a paste of neat cement @1kg/sqm and rubbed smooth with trowel as per specification.	SQM	7270		
	1204	Providing 18 mm thick plaster in cement mortar 1:6 on walls finished to a wooden float/smooth/rough finish as per specification.	SQM	23025		
	1205	Providing 6mm thick plaster in cement mortar 1:4 on ceilings finished to a smooth finish as per specification.	SQM	18848		
	1206	Providing and making decorative plaster of all types and design on walls, ceilings, arcs, columns with various thickness upto 18 mm including finishing all complete.	SQM	240		
	1207	Providing Plaster of Paris 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.	SQM	19691		
	1208	Providing screed/grading plaster of average 20 mm thickness in ratio 1:6 nominal by volume including finishing smooth and even etc. all complete at all levels above or below grade level.	SQM	11803		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1209	Providing and making decorative interior plaster of heritage finish over existing plastered surface of all types and design on walls, ceilings, arcs, columns including finishing all complete.	SQM	120		
	1210	Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battens, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	280		
	1211	Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.	RM	1358		
	1212	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over galvanised hexagonal chicken wire of 0.9 mm wire diameter and 19 mm mesh size as per IS3150 including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (rate shall include the cost of GI chicken wire mesh)	SQM	1645		
	1300	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE				
	1301	Two or more coats of exterior masonry paint (water or solvent base) of special resins, adhesives and additives mixed with fine, hard stone aggregate and finest available pigment. The paint shall be applied on a coat of primer over dried, prepared plaster surface as manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent, alkali resistant and extremely durable with color fastness as per specification.	SQM	4170		
	1302	Two or more coats of white wash/ colour wash as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	15867		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1303	Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.	SQM	35527		
	1304	Providing and applying 2 or more coats of acid/alkali paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1255		
	1305	Two or more coats of fire resistant transparent paint as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications.	SQM	400		
	1306	Two or more coats of oil resistant paints epoxy based and ammine cured, 150 micron over primer of approved grade and manufacture to give an even shade.	SQM	296		
	1307	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.	SQM	1645		
	1308	Providing and supplying terracota tiles of thickness 6 to 8mm over the wall as per approved and of approved size, colour and make as per specification and drawings.	SQM	26		
	1309	Providing and applying resin bonded granular textured finish, for external applications shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	12554		
	1309A	Providing and applying 2 or more coats of weather paint of Asian make or approved equilent make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specification.	SQM	102		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1400	FLOORING AND SKIRTING INCLUDING BASE LAYER AND ALL MATERIALS, LABOUR, CURING, POLISHING, FINISHING, EXPANSION JOINTS, GROOVES, ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS AND DESCRIBED IN SPECIFICATIONS. (OPC and PPC Cement will be issued as FOC item for plaster / mortar)):				
	1401	Providing and laying 50 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles in flooring . Under layer of 38mm thick cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded).	SQM	44799		
	1402	Providing and laying 50 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles in skirting and dado . Under layer of 38mm thick cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded) and top layer of 12mm thick metallic concrete complete.	SQM	321		
	1403	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum) of size 300X300X25 thick of approved shade as per IS 1237, laid in floors and landings , jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with laying as per IS 1443.	SQM	850		
	1404	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum) of size 300X300X25 thick of approved shade as per IS 1237, laid in skirting and dado , jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with laying as per IS 1443.	SQM	40		
	1405	Providing and laying interlocking M30 concrete blocks of thickness 60 mm as paving of approved colour and pattern and should be laid on the subbase and bedding as per specifications and recommendations of manufacturer.	SQM	400		
	1406	Providing and laying removable metallic false flooring system with nominal height of 600 mm, comprising of special grade steel panels (of size 600 X 600 mm). 1.2 mm thick die formed to shape having 1 mm thick top MS sheet spot welded together to form a composite steel panel, sitting on aluminium diecasted heads and mounted on steel pedestals of adjustable height and supporting 1.2 mm thick channel frame work. The top finish shall be 2 mm thick antistatic pre colour coated metal sheet or high pressure laminate. Cavity area below the false flooring shall be made dust proof by using Polyurethane paint.	SQM	40		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1407	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4860 of minimum thickness 38 mm thick in flooring/Dado . The tiles shall be abrasion resistant and durable. The potassium silicate 6 mm thick mortar as per IS 4832 used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic as per IS 9510 and IS 412 complete as per specification.	SQM	826		
	1408	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 20 mm thick in flooring/Dado of battery room. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6 mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic complete as per IS 9510 and IS 412 and as per specification.	SQM	278		
	1409	Providing & fixing chemical resistant (Acid & Alkali) bricks (75 mm thk) as per IS 4860 in the floor of neutralization pit. Surface on which lining has to be applied shall be prepared in accordance with IS 2395. Bitumen primer as per IS 158 followed by 18 mm thk Bitumuinastic followed by 6 mm thk potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar confirming to IS 4832, Part II. Seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End ceiling shall be done with bitumastic. A.R. bricks shall be laid with 6 mm wide and 20 mm deep pointing (epoxy/furane/CNSL) and acid curing shall be done complete as per specification.	SQM	100		
	1410	Providing & fixing chemical resistant (Acid & Alkali) bricks (115 mm thk) as per IS 4860 in the walls of neutralization pit. Surface on which lining has to be applied shall be prepared in accordance with IS 2395. Bitumen primer as per IS 158 followed by 18 mm thk Bitumuinastic followed by 6 mm thk potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar confirming to IS 4832, Part II. Seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End ceiling shall be done with bitumastic. A.R. bricks shall be laid with 6 mm wide and 20 mm deep pointing (epoxy/furane/CNSL) and acid curing shall be done complete as per specification.	SQM	180		
	1411	Providing epoxy coating 150 micron over epoxy primer over MS Grating/Chequered plate/any other steel structure complete as per engineer in charge.	SQM	4		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1412	Providing and laying polished Kota stone 20 mm thk in flooring . Under bed shall average 30mm thk of 1 part cement,2 part sand : 4 parts stonechip by volume and brought to proper level. The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete.	SQM	2385		
	1413	Providing polished Kota stone 20 mm thk in skirting projecting 6mm from adjacent plaster all complete .	SQM	182		
	1414	Providing and laying polished Granite stone of approved color and texture 20 mm thk in flooring. Under bed shall average 30mm thk of 1 part cement,2 part sand : 4 parts stonechip by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete .	SQM	175		
	1415	Providing and laying polished Granite stone 20 thk in skirting and dado including pigments, curing, grinding, granite polishing etc. complete.	SQM	124		
	1416	Providing and laying 7 mm thk vitrified ceramic tiles of polished variety of size 450x450 from reputed manufacturer, complete as per specification.	SQM	1170		
	i	600x600		135		
	1417	Providing and laying 7 mm thk vitrified ceramic tiles of unpolished variety of size 300x300 from reputed manufacturer, complete as per specification.	SQM	36		
	1418	Providing and laying 7 mm thk vitrified ceramic tiles of polished variety of size 300x300 from reputed manufacturer, for skirting and dado up to specified height complete as per specification.	SQM	548		
	1419	Providing and laying 7 mm thk vitrified ceramic tiles of unpolished variety of size 300x300 from reputed manufacturer, for skirting and dado up to specified height complete as per specification.	SQM	535		
	1420	Providing and laying granite stone slab of 12mm thickness single piece for wash basin slab of black or approved colour with cutting and opening complete.	SQM	37		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1421	Providing and laying Heavy Duty dust pressed Ceramic Tiles of size 300x300x7mm thick of reputed manufacturer of approved finish shade and colour.	SQM	580		
	1422	Providing and laying colored Ceramic Tiles 5mm thick of reputed manufacturer of approved finish shade and colour.	SQM	434		
	1423	Providing and laying 50 mm thick heavy duty cement concrete flooring with cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded) including polishing	SQM	6489		
	1415	Providing and laying 50 mm thk IPS flooring all complete.	SQM	40		
	1424	Supplying and spreading of non metallic granular aggregate of approved size over finished concrete flooring (finished concrete floor measured else where).	MT	13		
	1425	Providing and laying of PVC flooring of minimum thickness 2 mm anti static flexible tiles as per IS 3462 and IS 5318.	SQM	80		
	1426	Providing and laying non-woven type carpet (unitex or equivalent) which shall be laid as manufacturers recommendations in matching grains including anti fungus and anti termite treatment complete.	SQM	200		
	1428	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.				
	i)	Glass strips 40 mm wide and minimum 6 mm thick.	RM	810		
	ii)	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	40		
	1429	Providing and laying polished Marble slabs 20 mm thk in staircase landing/skirting and corridors over minimum 20 mm thick underbed of 1 part lime putty, 1 part surkhi and 2 parts coarse sand by weight mixed with sufficient water to form a stiff workable mass. The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners, granite polishing etc. complete.	SQM	25		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1430	Providing & laying RCC Grade Slab / Paving of Minimum 150 mm thick of grade M25 (including cost of providing and fixing minimum reinforcement of 8 mm TMT @200 c/c both ways top & bottom) over an underbed as specified herein will be provided for areas mentioned below. Underbed will consist of preparation and consolidation of sub-grade to the required level, laying of stone soiling of 230 mm compacted thickness with 63 mm and down aggregate with interstices filled with selected sand followed by 75 mm thick 1:4:8 PCC (1 part cement, 4 parts sand and 8 parts stone aggregate) with 40 mm nominal size aggregate	SQM	2600		
	1500	PROVIDING AND ERECTING ROOFING/SIDE CLADDING INCLUDING LAPS, SCAFFOLDING HOOKS, WASHERS, CORNER PIECES, ETC. COST OF ALL MATERIAL, LABOUR, EQUIPMENT, CLEATS, SHEETING RUNNER, RAILS MILD STEEL WIND TIES (HORIZONTAL/VERTICAL) AND ANY OTHER STEEL WORKS ETC. COMPLETE FOR THE FOLLOWING:				
	1501	Designing, providing and fixing permanently color coated (on exposed face) galvanized M.S. trough metal sheet decking plate of approved color over roof purlins for In-situ roof slab as per IS 14246. Thickness of deck plate shall be minimum 0.8mm and minimum trough depth of 38 mm with minimum yield strength of 250 Mpa. Silicon modified polyester paint shall be used for permanent coating over galvanized surface with minimum rate of galvanization 275 gm/sqm or minimum 0.8mm of high tensile steel (minimum yield strength 350 MPa) coated with zinc aluminium alloy (zincalume) (coating not less than 150 gm./sqm). DFT of permanent color coating shall be 20 microns. It shall serve as permanent shuttering for roof slab 50 mm thk measured over crest of metal decking and 25 mm thick layer of screed concrete and a layer of 25mm thick wearing course mortar over it. It should have adequate strength to support weight of green concrete and imposed load during concreting as well as in service condition of 150 Kg/sqm with purlin spacing of around 1400 mm.	SQM	4810		
	1502	Providing & Supplying, transporting to site, erecting and fixing in position Profiled / Plane deck sheet for supporting RCC floor at all heights and levels etc. as per the scope & specifications in the tender. Quoted rate shall include cost of all materials, bolts, nuts, labour, tools tackles, scaffolding, lead, lift, etc complete as per the direction of engineer in charge. 1.0mm thick CGI on sides as per specification in tender	SQM	1000		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1503	Design supply & erection of permanent colour coated thermally insulated sandwiched metal cladding for external walls with troughed galvanised MS sheeting of 0.6mm thickness and 275 g/sqm of galvanisation or Hi tensile steel (350 Mpa) 0.5 mm thick, coated with zinc aluminium alloy @ 150 g/sqm. Outer exposed face shall have silicon modified polyester coating of DFT 20 microns over primer having life span sustenance against weathering action, inner sheeting shall have 7 micron of precoating. sandwiched Insulation of minimum 50mm thick bonded mineral wool blanket conforming to IS 8183 (minimum density of 32 kg/cum for glass wool and 48 kg/cum for rock wool or 40-45 Kg/cum for polyurethane foam (fire retardants and non-toxic) confirming to IS 12436 , cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm.	SQM	5064		
	1504	Design supply & erection of permanent colour coated non insulated metal cladding for external walls with troughed galvanized MS sheeting of 0.6mm thickness and 275 g/sqm of galvanization or Hi tensile steel (350 Mpa) 0.5 mm thick, coated with zinc aluminium alloy @ 150 g/sqm. Outer exposed face shall have silicon modified polyester coating of DFT 20 microns over primer having life span sustenance against weathering action, inner side shall be coated with same paint of minimum DFT 20 microns over primer. Cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm. The sheets shall meet the requirement of IS:14246 and shall conform to class 3 formdurability.	SQM	6646		
	1505	Design supply & erection of permanent colour coated troughed non insulated metal cladding for external walls with galvanized MS sheet of 0.6mm thickness and 275 g/sqm of galvanization or Hi tensile steel (350 Mpa) 0.5 mm thick, coated with zinc aluminium alloy @ 150 g/sqm. Outer exposed face shall have silicon modified polyester coating of DFT 20 microns over primer having life span sustenance against weathering action, inner side shall be coated with same paint of minimum DFT 20 microns over primer. Cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm. The sheets shall meet the requirement of IS:14246 and shall conform to class 3 formdurability.	SQM	940		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1506	Providing and fixing 50 mm thick insulation of rockwool (Rockloyd-300 or equivalent) of density 48 KG/cum conforming to IS 8183 including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per specification, drawing and instructions of engineer in charge.	SQM	940		
	1507	Providing corrugated G.I. Sheets in roofs, cladding at all elevations with minimum 150mm overlapping , 8 dia. G.I. Hook bolts or J bolts and nuts at 305 mm c/c with G.I. Bitumen washers including cutting of sheets for opening etc. all complete.	MT	40		
	1508	Providing and fixing self tapping self drilling shear connectors of 16mm dia and minimum 75 mm projected length above purlin of mild steel studs passing through metal decking as per relevant IS codes and specification.	QUINTALS	11		
	1509	Providing and fixing insulation of resin bonded mineral wool of specified thickness (25/50 mm nominal) conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per specification, drawing and instructions of engineer in charge.	CUM	34		
	1510	Providing and installing under deck insulation using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, all labour, material, scaffolding, equipment etc (but excluding cost of insulation) all complete as per specification, drawing and instructions of engineer in charge.	SQM	30		
	1600	PROVIDING AND FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, WORKING LAYOUT DRAWINGS AND DETAILS, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING MAKING RECESS FOR LIGHT FIXTURES, ALUMINIUM DIFUSERS, FIRE ALARMS ETC., POLISHING/PAINTINGS, LABOUR ETC., ALL COMPLETE AS PER SPECIFICATION.				

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1601	Providing, fixing and laying light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated with depth of perforation as 4 mm and humid resistance of 95% RH and fire performance of class 0/1 as per BS 476 with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners of approved colour and make as per specification including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc.	SQM	590		
	1602	Providing, fixing and laying regular edge light weight mineral fibre tiles of size 600 X 600 or 600x1200 with minimum thickness 15mm. Exposed surface shall be semiperforated (fine fissured) with nominal depth of perforation as 4mm. Material shall have 95% RH with fire performance class 0/class 1(as per IS:476) with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners and 24x30 or 24x25 cross runners. 24mm exposed flange shall be permanently colour coated. 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags shall be laid on top of false ciling panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc	SQM	40		
	1603	Providing, fixing and laying glass reinforced gypsum (GRG) ceiling tiles of size 600 X 600 or 600x1200 with minimum thickness 15mm. Exposed surface shall be semiperforated (fine fissured) with nominal depth of perforation as 4mm. Material shall have 95% RH with fire performance class 0/class 1(as per IS:476) with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners and 24x30 or 24x25 cross runners. 24mm exposed flange shall be permanently colour coated. 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags shall be laid on top of false ciling panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc.	SQM	477		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1604	Aluminium panel (coil coated) lineal/panel ceiling system shall consist of rolled formed, coli coated aluminium precoated magnesium alloy (Al-Mg AA 5050) carrier and panels of minimum 0.9mm and 0.5mm respectively. The ceiling system shall be of approved pattern. The system be complete with edge cover profile, special panels, carrier splice, etc. The carrier shall be suspended from roof by 4mm diameter galvanised steel wire hangers having special height adjustment clips made from spring steel at maximum spacing of 1.2m c/c bothways. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. (SUITABLE STRUCTRAL PLATFORM GRID MADE UP OF MS CHANNELS / BEAMS / ANGLES shall also be provided above the False Ceiling level for movement of personnel to facilitate maintenance (Materials for structural paltform grid made up of Ms Channels/ BEams / Angles shall be supplied by BHEI and shall be paid under SL Item No 2301)	SQM	800		
	1700	PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING 2 COATS OF APPROVED PAINT OVER A PRIMARY COAT, ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.				
	1701	MS (ERW) down take pipes as per specification of following dia.				
	i)	100 mm dia	RM	222		
	ii)	150 mm dia	RM	1999		
	iii)	200 mm dia	RM	520		
	1800	MISCELLANEOUS				
	1801	Providing and fixing PVC water stops 225mm wide, 6 mm thick.	RM	2193		
	1802	Supplying and installation of 25mm thick vibration damping, resilient pads around foundation of vibrating equipment and other locations as directed by the Engineer-in-charge including cost of all materials labour equipment etc. complete as per drawing and specifications.	SQM	1560		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1803	Providing and laying 100 mm thk. anticorrosive insulating bituminastic layer laid to slope using special grade Bitumen and filter materials like compacted crushed stone chips, screenings, fine gravel, clean sand or similar material and rolled or compacted complete as per drawings below fuel oil tanks and at such other places as directed by the Engineer and as per specifications.	SQM	15		
	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	150		
	1805	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including aluminium screws, rawl plugs all complete as per specification.	RM	20		
	1806	Preparation of detail fabrication drawing, supply, fabrication of structural steel (rolled section, built up section or combination), delivery at site, transportation, work in columns, girders, beams ,gantry girders, trusses, purlins, bracings, cleats, shear connectors, chequered plates, gratings, hand rails and other fittings including cutting, grinding, machining (where ever applicable), drilling, bolting (including MS or HSFG bolts and nuts), welding, reheating of welded joints, use of hydrogen/radiographic electrodes, shop coat of paint and touch of paints and final painting including all Non Destructive Tests complete.	MT	1		
	1807	Providing, laying and fixing transformer rails including guide rails in concrete including joining of rails. Anchoring lugs etc. complete as per specification.	MT	52		
	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	112		
	1808A	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items).	NO	25		
	1808B	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items).	NO	25		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	1808C	Construction of below ground earthing system earth electrodes as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items.)	NO	50		
	1808D	Construction of below ground earthing system -Earth connection and riser pig tails as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items.)	NO	250		
	1809	Providing and fixing weep holes in Drains consisting of 100 mm dia LDPE pipe sleeves along with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening along with 300 X 300 mm sq., 300 mm deep, 40 mm aggregates to cover fabric mesh mouth complete as directed by engineer in charge.	Nos.	12800		
	1810	Providing and fixing GI rungs in concrete/brick walls at all elevations including @ zinc coating shall not be less than 900 g/sqm all complete.	KG	1510		
	1811	Design, supply, fabrication, erection of stoplog gates in CW Pumps as per specification with embedments required, lifting beams, special tools & plants, spare parts for three years, machining, casting, all materials such as structural steel, cast steel, stainless steel, brass used for seals, rubber seals, gears, ball and roller bearing, branch bushings, greasing, bolts, nuts, lugs, threaded fastners etc., cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc 750 gms/sqm., following by an application of etching primer and dipping in black bitumen as per B.S. 3416, erection along with a second stage concreting to true plumb and levels, submission of drawings / fabrication drawings for engineers approval etc., all complete as per specifications and approved drawings. The leakage through rubber seal shall not be more than 5 lit/min/metre length of seal under maximum head.(only weight of structural steel including embedments shall be considered for payment purpose)	MT	18		
	1812	Supplying, fabricating, erecting in position and testing / examining bolted and / or welded structural steel work at all levels for stationary screens made out of rolled sections and / or plates including cutting, straightening if required, edge preparation, bolting / welding of joints, cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc as 750 gms./sqm. followed by application of an etching primer and dipping in black bitumen as per BS 3416, complete as per drawing and directed.	MT	2		
	1814	Providing and fixing LDPE pipes in cable duct banks, openings in RCC work at all elevations of following sizes including cutting, fixing and levelling in position as per drawings, specifications all complete.				

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
		I) 100 mm dia	RM	540		
		ii) 150 mm dia	RM	405		
		iii) 200 mm dia	RM	405		
	1815	Providing and fixing PVC pressure release valve of minimum dia 90mm in water retaining structure including 160 mm dia housing pipe of minimum length 3.75 m with perforation as per IS4558, nylon jali, perforated end plug, collar, graded filter, excavation, fixing in concrete slab/wall all complete as per specification, drawing and instruction of engineer in charge.	Nos	25		
	2000	FENCING AND GATES.				
	2001	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 mm and galvanised concertina. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing conforming to IS 298 at top of chain link fencing shall be provided with 4 stands of height of 600 mm including all accesories as per specification all complete.	SQM	1280		
	2002	Supplying and fixing G.I. barbed wire in fencing including G.I clips etc. complete as per specification	MT	2		
	2003	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels,etc. all complete as per drawing, specification and as directed by Engineer-in-charge with 600mm high GI barbed wire fencing at top all complete.	MT	6		
	2100	WATER SUPPLY				
	2101	Providing and fixing in position tested heavy duty type chromium plated brass long neck bib cocks including sockets, union, nut etc. complete 15mm nominal bore.	NO.	75		
	2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc. complete as directed by Engineer 15mm nominal bore.	NO.	61		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.	NO.	35		
	2104	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.	NO.	28		
	2105	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc. complete (internal work) 15 mm nominal bore.	RM	865		
	2106	Providing and fixing GI pipes complete with GI fittings a clamps including cutting and making good the walls etc. complete (internal work) 20 mm nominal bore.	RM	778		
	2107	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc. complete (internal work) 25 mm nominal bore (N.B).	RM	803		
	2108	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 15mm nominal bore (N.B).	RM	98		
	2109	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 20mm nominal bore (N.B).	RM	104		
	2110	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 25mm nominal bore (N.B).	RM	89		
	2111	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 50mm nominal bore (N.B).	RM	1093		
	2112	Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc. complete with CP screws as per specification.	NO.	46		
	2113	Providing and fixing 610mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc. complete as per specification.	NO.	46		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2114	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. brackets etc. all complete as per specification.	NO.	29		
	2115	Providing and fixing C.P. soap holder mounted with C.P. screws etc. complete as per specification.	NO.	57		
	2116	Providing and fixing C.P. liquid soap dispenser . Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc. complete as per specification.	NO.	60		
	2117	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. complete as per specification	NO.	35		
	2118	Providing and fixing chromium plated brass shower rose with 15 or 20 mm inlet all complete.	No.	18		
	2119	Providing & fixing P.V.C. water tank (Syntex or equivalent) in position of 2000 litres capacity. The work to including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc. all complete as per specification at all heights and levels	NO.	18		
	2120	Providing and fixing in position in the base slab of water retaining structures non return valves of 90mm diameter non metallic PRV pipe and 160mm diameter OD perforated PVC housing pipe 430mm long including graded gravel filters as per IS:4558-1995 and as shown in the drawings all complete.	Nos.	11		
	2121	Providing and fixing approved stainless steel sink with integrated drainboard complete including painting the fittings, cutting and making good the wall where required as per specification. The work to be complete as per specifications, drawings and direction of engineer	Nos.	7		
	2200	SANITARY WORKS				
	2201	Supply and fixing vitreous china wash basin size 600x450 with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required etc. complete as per specifications	NO.	56		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2202	Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x450x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass bottle trap with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.	NO.	2		
	2203	Providing and fixing colour European type water closet with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed stone water flushing cistern with valveless fittings, necessary C.P connections etc. complete as per specification.	NO.	16		
	2204	Providing and fixing glazed vitreous china pan with foot rests and high level 12.5 litre C.I flushing cistern with valveless fittings, necessary C.P connections, foot rests shall be made of white glazed vitreous china with chequered surface allcomplete with cistern painting, C.I brackets etc. as per specification.	NO.	31		
	2205	Providing and fixing wall type glazed vitreous china urinals with C.I automatic flushing cistern approximately once every five minutes for every four urinals (max.) with flush pipes, lead pipes, gratings, CP bottle traps and necessary C.P fittings all complete as per specifications.	NO.	53		
	2206	Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead cocking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	180		
	2207	Supply, laying and jointing 100mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	263		
	2208	Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, a coat of bitumenous paint, M.S holder bats/clam lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	179		
	2209	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 300mm dia , as per specifications.	RM	70		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2210	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 400mm dia , as per specifications.	RM	252		
	2211	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 600mm dia , as per specifications.	RM	150		
	2212	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 800mm dia , as per specifications.	RM	170		
	2213	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 1000mm dia , as per specifications.	RM	170		
	2216	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:				
		150mm	RM	790		
		250mm	RM	40		
		300mm	RM	139		
		500mm	RM	8		
	2218	Providing and fixing C.I Manhole cover of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.	NO.	15		
	2219	Providing and fixing circular heavy duty man hole cover of 600mm dia with frame all complete as per specification.	NO.	14		
	2220	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 100x100mm P or S Type .	NO.	15		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2221	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x100mm P or S Type.	NO.	10		
	2222	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x150mm P or S Type.	NO.	16		
	2223	Providing and fixing C.I. floor traps with C.P jalli complete as per specification.	NO	73		
	2224	Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.	NO.	20		
	2225	Providing and installing approved brand single tap water cooler of 150 L cooling capacity complete in all respect.	NO.	2		
	2226	Providing and fixing white vitreous urinal partitions all complete as per specification.	NO.	34		
	2400	ROAD WORK INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, MACHINERY ALL COMPLETE AS PER SPECIFICATION, RELEVANT IRC & IS CODES AND AS DIRECTED BY ENGINEER- IN -CHARGE FOR THE FOLLOWING.				
	2401	Preparation of sub grade by excavating earth to required depth for all types of soil including ash, dressing to camber and consolidating the base including making good the undulation etc. and disposal of surplus earth within plant boundary all complete as per specification.	CUM.	50000		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2402	Earth work in filling for road/embankment using approved quality of soil from borrow areas (borrow areas to be acquired by the bidder at no extra cost to Owner/BHEL) on prepared surface obtained by compacting with mechanical means including setting out, sorting, breaking clods, excavation, handling, transportation, spreading, dewatering if necessary, watering, placing/laying in layers not exceeding 250mm loose thickness and compacting each layer in proper moisture content with manual/mechanical means so as to achieve atleast 95% of its maximum dry density obtained as per IS 2720, part-VII, testing including levelling, dressing, finishing to required lines, grades and slope including all lifts etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM.	40000		
	2403	Providing, stacking and laying granular morrum for shoulder including watering, compaction with road roller to required camber etc. complete as per specification.	CUM.	10000		
	2404	Providing & Laying water bound macadam sub base course in layers of required thickness with crushed stone aggregates 90 to 40 mm down size , stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc. including cost of material labour all complete.	CUM	10500		
	2405	Providing & Laying water bound macadam base course in layers of required thickness with stone aggregate 63mm to 40mm size , stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc. including cost of material labour all complete.	CUM.	2500		
	2406	Laying water bound macadam base course with stone aggregate 50mm to 20mm size stone screening and binding material including screening, sorting, spreading to template and consolidation with road roller including carriage spreading and consolidation of blinding material moorum etc. Including cost of material labour. All complete.	CUM.	4500		
	2407	Providing and applying Tack coat of low viscosity liquid bitumen of a suitable approved grade conforming to IS 73, 217 or 454 as applicable @ 10 kg/10sqm for an untreated WBM surface including scraping, cleaning with compressed air etc. complete.	SQM	47500		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
ANPARA D/ CIVIL MAIN/ 637

SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2408	Providing, mixing and laying of compacted 75 thk. Bituminous Macadam Course . Bitumen shall be of a suitable grade complying with IS 73 and aggregates, binder material as specified in specification including hot mixing, hot laying, rolling all complete.	SQM	47500		
	2409	Providing, mixing and laying premix carpet (as per IRC-14) of compacted 25mm thickness in a single course composed of suitable small size aggregate premixed with a bituminous binder on a prepared base. Mixing applying rolling as per IRC specification.	SQM.	47500		
	2410	Providing and applying liquid seal coat comprising of an application of a layer of bituminous binder at the rate of 9.8kg/10sqm followed by a cover of stone chips at the rate of 0.09 cum/10sqm including rolling as per specification all complete.	SQM.	47500		
	2411	Supply and laying (400mm x 150mm X 350mm deep) precast concrete kerb stone of grade M25 with 20 mm aggregate and of shape as per detailed drawing including fixing in 13mm thk. cement mortar 1:2 in joints, finishing of joints with neat cement paste, making drainage opening where required etc. complete as per spec.	RM	13200		
	2411A	Providing and laying 75 mm thick concrete tiles with cement mortar 1:6 complete.	SQM	250		
	2412	Providing and laying 230 mm wide bricks , with crushing strength of 75 kg/cm ² , on edge for protection including fixing in 13mm thk. cement mortar 1:6 complete.	SQM	250		
	2413	Dismantling of existing road consisting of premix carpet, curb stone/ brick on edge, bitumen macadem course, WBM, preparing subgrade to receive new WBM including camber consolidation including disposal of debris within a lead of 1 Km etc. complete and as directed by Engineer.	SQM	1750		
	2414	Providing 25mm thick premix carpet on existing/damaged road surfaces (as per IRC-14) of compacted 25mm thickness in a single course composed of suitable small size aggregate premixed with a bituminous binder on the existing base including tack coat, cleaning of existing surface, mixing applying rolling as per IRC specification.	SQM	1750		
	2415	Concrete of grade M-30 in roads etc complete with 20 mm nominal size graded aggregate complete as per specification.	CUM	1750		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2416	Filling below concrete roads with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.	CUM	1250		
	2417	Providing laying in position 150 dia. RCC HUME pipe for scrapper drain at 15m intervals with all labour, tools and materials etc., complete.	RM	1090		
	2416	Providing and laying heavy duty 300 dia rcc hume pipe for duct bank with all labour and materials etc., complete.	RM	40		
	2417	Providing and laying 100mm thk lean concrete (M-10) with 40mm nominal size graded aggregate in shoulders complete as per specification.	CUM	2000		
	2418	Providinf and laying 75 thk PCC interlocking blocks on sholders with all material and labour as per specification.	SQM	20000		
	2500	PILING WORK				
	2501	Installation of bored RCC cast in situ vertical pile 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 type of strata from ground level to termination depth of pile including socketing of pile inside rock wherever required, providing 6mm thick permanent mild steel liner (SUPPLIED BY BHEL AS FOC IN 12 M STANDARD LENGTHS) for a depth of 10 m below pile cut off level, providing bentonite slurry/casing for drilling/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.				
	a	Pile with 900 mm diameter and 25 m length below cut off level - Safe load carrying capacity of pile in axial compression=280MT	Each	1200		
	b	Pile with 600 mm diameter and 25 m length below cut off level - Safe load carrying capacity of pile in axial compression=130MT	Each	3800		

RATE SCHEDULE FOR CIVIL WORKS PACKAGE -B
2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	2502	Extra over the following item for pile length more than the specified length of 25 m.				
	a	item no. 2501 a	M	100		
	b	item no. 2501 b	M	500		
	2503	Rebate on the following item for pile length less than the specified length of 25 m.				
	a	item no. 2501 a	M	30		
	b	item no. 2501 b	M	250		
	2504	Conducting initial load test upto three times the safe load carrying 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 down to a depth of 25 m below pile cut off level 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 type of strata from ground level to termination depth of pile including socketing of pile inside rock wherever required, providing 6mm thick permanent mild steel liner for a depth of 10 m below pile cut off level, providing bentonite slurry/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.				
	a	for lateral load test:				
	i	900 mm diameter pile-10.3 MT safe load carrying capacity	Each	2		
	ii	600 mm diameter pile-5.4 MT safe load carrying capacity	Each	6		
	b	for vertical compression test (cyclic load test):				
	i	900 mm diameter pile-280 MT safe load carrying capacity	Each	2		
	ii	600 mm diameter pile-130 MT safe load carrying capacity	Each	6		

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2 X 500 MW ANPARA -D PROJECT

TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	c	for tension/uplift test::				
	i	900 mm diameter pile-56 MT safe load carrying capacity	Each	2		
	ii	600 mm diameter pile-26 MT safe load carrying capacity	Each	6		
2505		Extra over the following item for providing and installing 6mm thick permanent mild steel liner over the specified depth of 10 m below pile cut off level and upto a maximum depth of 25 m below pile cut off level.				
	a	item no. 2501a, 2504a(i), 2504b(i) & 2504c(i)	M	742		
	b	item no. 2501b, 2504a(ii), 2504b(ii) & 2504c(ii)	M	2222		
2506		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, necessary materials, submission of test report etc but excluding the cost of installation of job pile complete as per specification, drawing and as directed by the engineer-in-charge for the following.				
	a	for lateral load test:				
	i	900 mm diameter pile-10.3 MT safe load carrying capacity	Each	6		
	ii	600 mm diameter pile-5.4 MT safe load carrying capacity	Each	21		
	b	for vertical compression test (Maintained Load Method):				
	i	900 mm diameter pile-280 MT safe load carrying capacity	Each	6		
		600 mm diameter pile-130 MT safe load carrying capacity	Each	21		
2507		Conducting low strain pile integrity test conforming to relevant ASTM on job pile and test pile including all arrangements for test, equipments, necessary materials, submission of test report etc but excluding the cost of installation of pile complete as per specification and as directed by the engineer-in-charge.	Each	5018		
		NOTES:				
	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 higher of the two shall be considered for evaluation and the lower of the two shall be considered for award.				

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TENDER NO. BHEL/ NR/SCT/
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SI No	ST. NO	DESCRIPTION	UNIT	QTY -B	RATE	AMOUNT
					In figures	In figures
	4	The quantities indicated against each item above are tentative and are liable to vary depending upon the site requirement. The contractor has to supply / install actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out.				
	5	Evaluation of the bids shall be done based on total price against this BOQ.				