

PART-B	
TECHNICAL CONDITIONS OF CONTRACT (TCC)	
PREAMBLE FOR BOQ CUM RATE SCHEDULE	
1	Details of the items in the BOQ Cum Rate Schedule shall be read in conjunction with the tender specifications, drawings and other documents and shall have precedence over any contrary statement mentioned anywhere in this document.
2	The work shall be carried out as per construction drawings, specifications, the description of the items in this schedule and/or Engineer's instructions, Drawings enclosed with these documents are only indicative giving some idea of the type of work involved. The layout, sizes and details of the building, structures and foundations shown in tender drawings may vary at a large extent during actual construction. Final drawings will be issued progressively during the execution of the work.
3	Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.
4	Unless specifically mentioned otherwise in the contract, the contractor shall quote his rates for the finished items and shall provide for the complete cost towards fuel, tools, tackle, equipment, constructional plant , temporary works, labour materials, levies , taxes , transport, layout, repairs, rectification, maintenance till handing over, supervision, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.
5	The rate shall also be inclusive of carrying out topography survey of site to establish levels and coordinates at suitable intervals, form existing grid levels and coordinates furnished by the owner, establish bench marks, setting out the location and levels of the proposed structures, constructions and making references, pillars and other identification marks etc. No separate payment will be made towards the same.
6	The quantities of the various items mentioned in the BOQ cum Rate Schedule are approximate and may vary up to any extent or be deleted altogether. The overall variation in contract value on execution shall be dealt as per GCC. Contractor has to obtain prior approval of BHEL/ Customer before procurement of bought out items/ building materials.
7	BHEL Engineer's decision shall be final and binding on the contractors regarding clarification of items in BOQ cum Rate schedule with respect to the other sections of the contract.
8	In case of any discrepancy between item description, relevant specification, clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the contractor has quoted for the more stringent requirement.

PART B					
BOQ CUM RATE SCHEDULE					
TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042					
% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE					
Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.					
ST NO	Item Description	Unit	Quantity	Rate (INR)	Weightage
100	EARTH WORK: Earth work In excavation, backfilling and disposal including all labour, equipments etc complete as per specification, drawing and as directed by engineer-in-charge for the following.				
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.				
a	Depth from ground level but not exceeding 2 m	CUM	15,002	-	0.3535606883218%
b	Depth exceeding 2 m but not exceeding 4 m	CUM	2,680	-	0.0791108579079%
c	Depth exceeding 4 m but not exceeding 6 m	CUM	1,430	-	0.0527651710860%
103	Earth work in excavation in soft rock including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	850	-	0.0356941563394%
c	Depth exceeding 4 m but not exceeding 6 m	CUM	425	-	0.0214164938036%
105	Earth work in excavation in hard rock requiring controlled blasting including wedging, line drilling, pre shearing etc as required, setting out, levelling, dewatering (wherever required), dressing the sides & bottom, all lifts, necessary licenses/statutory clearances for blasting, supply storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 1Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	250	-	0.0290428643018%
c	Depth exceeding 4 m but not exceeding 6 m	CUM	50	-	0.0069750485577%
106	Earth work in excavation in hard rock requiring chiselling including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, all lifts, stacking/disposal of surplus excavated material within a lead upto 1Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	25	-	0.0036136940992%
c	Depth exceeding 4 m but not exceeding 6 m	CUM	25	-	0.0043364329190%
A107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300mm compacted thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.				
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	5,176	-	0.1207535641914%
A108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300 mm compacted thickness using/with selected earth directly from excavation within a lead upto 1Km and compacted as specified including watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.				
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	1,725	-	0.0332624115948%
A109	Extra over ST No. 101, 103 to 106, A107 and 108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km.				
b	Carriage for disposal of serviceable/unserviceable material/earth	CUM	12,462	-	0.0365665432301%
B111	Supplying and filling clean and well graded sand (conforming to IS 383 with grading zone I to III) upto any depth under floors, around foundations, plinths, paving, tank foundations, etc. in layers not exceeding 300mm compacted thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	5	-	0.0032209012623%
112	Extra over item no. 101 for shoring and strutting in trenches(except sheet piling) including packing cavities (wherever required as instructed by engineer) all complete as per specification and as directed by engineer in charge.				
a	upto depth of 2m	SCM	10	-	0.00075903467590%
b	Depth exceeding 2 m but not exceeding 4 m	SCM	10	-	0.0009679334588%
200	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc, complete as per drawing, specifications and as per direction of engineer in charge for the following. (Cement shall be provided by BHEL free of cost unless otherwise noted)				
A201	Concrete of grade M7.5 (1 part cement, 4 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level upto depth of 10m from FGL. (For depth greater than 10m from FGL, extra over for additional depth to be paid in Item No 224)	CUM	914	-	1.0713807896168%
A202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level upto depth of 10m from FGL. (For depth greater than 10m from FGL, extra over for additional depth to be paid in Item No 224)	CUM	76	-	0.0890863676268%
A203	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors, plinth protection etc, complete below finished floor level upto depth of 10m from FFL. (For depth greater than 10m from FFL, extra over for additional depth to be paid in Item No 224)	CUM	5	-	0.0058609452386%

PART B					
BOQ CUM RATE SCHEDULE					
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Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.					
ST NO	Item Description	Unit	Quantity	Rate (INR)	Weightage
A204	Concrete of grade M20 (1 part cement, 1.5 parts sand, 3 parts of 10-20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete below finished floor level upto depth of 10m from FGL, (For depth greater than 10m from FGL, extra over for additional depth to be paid in Item No 224).	CUM	5	-	0.0054729135270%
A205	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, trenches, under floors, duct banks etc for any shape, position or thickness etc complete including with addition of high performance PCE-based BIS approved admixture of Type-G as per ASTM-C494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete complete as per specification & drawing below finished ground level upto a depth of 10m from FGL (For depths greater than 10m from FGL, extra over for additional depth to be paid in Item No 224), for the following.				
a	M 20 Grade	CUM	71	-	0.0837155802373%
b	M 25 Grade	CUM	7,060	-	8.3596685383718%
A206	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in superstructure for any shape, position or thickness etc complete including with addition of high performance PCE-based BIS approved admixture of Type-G as per ASTM-C494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete all complete as per specification & drawing upto 10m level above finished ground level (For height greater than 10m from FGL, extra over for additional height to be paid in Item No 225), for the following.				
b	M 25 Grade	CUM	50	-	0.0607162503292%
212	Screed concrete conforming to IS 456 with sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof upto 10m level above finished floor level (For height greater than 10m from FGL, extra over for additional height to be paid in Item No 225) or thickness, drains etc complete as per following.				
a	01:02:04	CUM	8	-	0.0093775123818%
213	Providing and laying Design Mix cement concrete as per IS-456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajals, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transporting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.				
c	M30	CUM	231	-	0.4537857085771%
215	Dismantling concrete work for all types of structures at all levels including stacking of serviceable material to a lead of 500 m and disposal of unserviceable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.				
a	Plain cement concrete of all grades	CUM	17	-	0.0048927704098%
b	Reinforced cement concrete of all grades	CUM	125	-	0.0552588104594%
216	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, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement.	CUDM	179	-	0.0036646381398%
217	Extra over and above St No 216 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	29	-	0.0000552290534%
218	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	18	-	0.0008998526808%
A222	Cutting of groove of 8mm X 65mm size with groove cutting machine in concrete paving all complete.	RM	6,500	-	0.1206845262377%
223	Cutting of existing concrete/ RCC work inside control room/ pump house or anywhere inside boundary using power tools of (DD2E of HILTI/ BOSCH make) with low noise and dust including cutting reinforcements, removing the rubbish within a lead of 1 km, including making good the broken edges/ surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/ supporting at any level, all complete and as directed by Engineer (measurements shall be taken as per cutting surface area).	SQM	11	-	0.0075520969435%
300	FORWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.				
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs(for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge.				
a	Upto Depth 10m From FGL	SQM	34,125	-	5.5159719539209%
A302	Fairface form work with good quality water proof ply wood with 1/4" face of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended/intermediate floors, roofs, lintels, cantilevers, staircases, landings, balconies, etc. including chamfering of edges as per drawing,for all heights as per specification, drawing and instruction of engineer in charge.				
a	For Height Upto 20m from FGL	SQM	425	-	0.0825579126218%
400	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.				

PART B						
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% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE						
Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.						
ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
A403	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 / Fe-500D/ 500EQR/Fe 550 D or any other Grade conforming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores, loading, Unloading etc complete all as per specifications, drawings and as directed by Engineer.(BHEL to supply steel free of cost)	MT	715	-	-	1.8834272503792%
405	Providing & fixing of Rebar in existing concrete surface by inserting reinforcement bar with Epoxy based suitable bonding compound of Hilti or equivalent make (HIT-RE-500 of Hilti or equivalent make) for interconnection of new R.C. structure with existing R.C. structure. Depth of drilled hole should be suitable to develop maximum recommended strength as per approved manufacturer's recommendation. This item includes supply of all materials including bonding chemicals, T&P required to execute the work, cost of all labour, transportation of chemical, staging to reach work place etc. all complete as directed by Engineer - in - Charge. Random Pull out non destructive test as directed by engineer shall be conducted to ensure strength of bond and same is included in this item. Reinforcement bar shall be paid separately under item no. 402, 403, 405 as applicable.					
a	12mm Reinforcement bar	Nos.	3	-	-	0.0004506405092%
b	16mm Reinforcement bar	Nos.	3	-	-	0.0007327371830%
c	20mm Reinforcement bar	Nos.	3	-	-	0.0010626831859%
Ad	25mm Reinforcement bar	Nos.	3	-	-	0.0011689514825%
407	Transportation from BHEL yard, straightening, cutting, bending, welding / binding in position of old cut piece TMT steel reinforcements conforming to IS:1786 including binding wire, labour for placing in concrete, chair and other misc. works complete all as per bar bending schedule and as directed by Engineer. [Old cut piece TMT Reinforcement steel will be issue by BHEL Store free of cost]	MT	3	-	-	0.0103168824025%
408	Straightening, cutting, bending of TMT steel reinforcement (Grade Fe-500D or 500EQR) of already fixed/embedded TMT in concrete binding in position including cost of binding wire, labour, scaffolding, etc complete all as per specifications, drawings and as directed by Engineer.(Measurement for payment shall be done for the exposed steel used in concreting. Additional/new TMT Reinforcement steel used in this item will be paid separately in the relevant item No 401-403)	MT	3	-	-	0.0020382377389%
500	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge.(Cement shall be provided by BHEL free of cost unless otherwise noted)					
502	Providing and laying underbed/topping grading plaster with cement mortar 1:4 (1 cement : 4 sand) and average thickness of 15 mm including preparation of surface, batching, mixing, leveling etc all complete.	SQM	160	-	-	0.0064751304017%
A506	Providing and applying PU based 100% solid content of approved make water proofing treatment with epoxy based or equivalent material based primer with an application rate of minimum 200gm persqm and two successive liquid coatings of high solids content urethane pre-polymers or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gms/sqm/coat application rate.The coating shall be applied with a total consumption of 1.8kg/sqm to achieve total system DFT of min,1.5mm .The elastomeric membrane shall be of two component, instant setting, spray applied hybrid polyurea polyurethane liquid elastomeric seamless waterproofing membrane item includes surface preparation.The coating shall have high viscosity, more than 450% elongation and forming a perfectly smooth permanently flexible seamless membrane which should have good adhesion to roof substrates.The cured film should have a very low water absorption rate (0.5% maximum at ambient temperature after 7 days), reinforcing layer of polyscirm cloth (non woven polyscirm cloth of 100% polyester with min. weight of 40gsm/sqm) or geo-textile non woven polyester (150 gsm), polymerised masti base preparation, primer, making of fillets, cleaning & preparation of surface, vacuum removal of loose sand, expansion joints & sealing at suitable intervals, application by using a pneumatic machine as per manufactures recommendations grouting the porous area with cementitious grout, proper coving between slab and wall junctions and priming the surface with two component solvent free epoxy primer etc. all complete as per specifications, drawings and direction of engineer in charge. The application of waterproofing treatment shall be carried by authorised applicator of approved Manufacturer of Waterproofing materials.	SQM	160	-	-	0.0393569852516%
A507	Providing and laying wearing course consisting of 20 mm thick plain cement mortar 1:4 (1 cement : 4 sand) cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	160	-	-	0.0194368179058%
A510	Providing and laying cement concrete chequered roof / floor tiles of minimum 20 mm thickness and size min. 200x200 mm conforming to IS 13801 with 8 mm thick 1.4 cement mortar over the top most layer of roofing treatment in pathway or entire area with fine joints including sealing of joints (silicon/elastomeric sealant) and providing expansion gap in both directions including underbed (as per drawings) filled up with (silicon/elastomeric) joint sealant etc all complete. (Water proofing paid elsewhere) (including cost of cement for tiles making).	SQM	50	-	-	0.0085619283449%
A 517	Providing and laying Cinder / foam concrete blocks in the toilets,pantry,sunken slab etc. after water proofing and laying of plumbing pipes complete as directed by engineer in charge.	CUM	6	-	-	0.0040307686751%
A518	Providing and laying water proofing treatment for wet areas like toilets,kitchen,pantry for sunken slab etc.material with min.two coats of Acrylic Polymer Modified Flexible Cementitious Waterproofing Coating material like Danacrete L-protect flex, penetron SF-50 or equivalent make applied @ 0.70 to 0.8 0 Kg.m2 per coat . The First layer shall be of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 Kgsqm.The Second layer shall be of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 Kgsqm.The integral waterproofing coat applied (conforming to IS 2645) , while maintaining a gap of 4 to 8 hours between the coats all complete with water ponding test as per IS Code and as directed by engineer in charge	SQM	25	-	-	0.0039317372689%
A521	Providing and laying an angular fillet around parapet wall junction at roof level of min.50mm x 50mm, shall be trowel applied in cement-sand mortar in 1:3 proportion. A latex based bonding agent should be added (10% by weight of cement) and also a glass cloth must be inserted while the angle fillet is being constructed.	RM	50	-	-	0.0072621444130%
600	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					

PART B

BOQ CUM RATE SCHEDULE

TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042

% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE

Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain**area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.**

ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
601	Supplying & installation of bitumen impregnated fibre board conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.					
a	12 mm wide joints.	SQM	25	-	-	0.0037612889833%
b	20 mm wide joints.	SQM	156	-	-	0.0281496771964%
c	25 mm wide joints.	SQM	90	-	-	0.0236318454036%
A602	Providing and applying polysulphide based sealant conforming to IS 12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves.					
a	12mm X 25mm	RM	25	-	-	0.0018254154382%
b	20mmX25mm	RM	25	-	-	0.00304235590637%
c	25mmX25mm	RM	45	-	-	0.0068453078934%
d	50mmX25mm	RM	20	-	-	0.0057371559809%
604	Supplying and filling in position hot applied bitumin sealing compound (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
c	20mmX25mm	RM	6,500	-	-	0.1191471605167%
A610	Providing and fixing ribbed PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)					
a	150 mm wide and 8 mm thick	RM				
b	230 mm wide and 8 mm thick	RM	35	-	-	0.0041159928178%
bb	230 mm wide and 10 mm thick	RM	5	-	-	0.0007349987175%
d	230 mm wide and 6 mm thick	RM	150	-	-	0.0124622454606%
615	Providing and fixing 300 mm wide Stainless steel strips over expansion joints with minimum lap of 50mm length including stainless steel screws, raw plugs etc. all complete.	Kg	10	-	-	0.0015545074089%
700	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	2	-	-	0.0512944594822%
A701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting, including preparation of surface by manual cleaning and provided with Primer Coat of Chlorinated Rubber based zinc phosphate primer of minimum 50 micron dry film thickness (DFT) etc. all complete as per specification.	MT	13	-	-	0.3667553852979%
A702	Supply, fabrication and installing in position steel structures(cage ladders, small structures, etc) made out of channels, joists, angles, flats, plates including bolts, painting as per specification etc. all complete.					
a	With BHEL Supplied structural steel	MT	1	-	-	0.0106707530401%
b	With Contractor Supplied structural steel	MT	1	-	-	0.0304878658289%
703	Same as above items 701 & 702 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.					
A	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	1	-	-	0.0061780361833%
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					
a	MS pipes of all diameters	kg	25	-	-	0.0006606061347%
b	PVC pipes / conduits of all diameters	kg	25	-	-	0.0022317774822%
c	UPVC pipes / conduits of all diameters	kg	10	-	-	0.0011236255897%
d	Expansion anchor fasteners (galvanised) of HLT/ make(HUD-1 Universal Fastners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:					
i	8mm Dia	Nos	5	-	-	0.0000583237849%
ii	10mm Dia	Nos	5	-	-	0.0000761780047%
iii	12mm Dia	Nos	5	-	-	0.0000940322246%
e	Expansion fasteners (mechanical galvanised) of HLT/ make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel					
i	HST M8	Nos	5	-	-	0.0003261370827%
ii	HST M10	Nos	5	-	-	0.0004511166217%
iii	HST M12	Nos	5	-	-	0.0008117718629%
iv	HST M16	Nos	5	-	-	0.0014295278699%
v	HST M20	Nos	5	-	-	0.00247935559876%
800	GROUTING: Grouting including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, roughening surface, cleaning, ramming, curing etc. at all level, drawings and as directed by engineer - in - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)					
803	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with mix 1:1:2 (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips) using non shrink admixture as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	1	-	-	0.0058633658575%

PART B						
BOQ CUM RATE SCHEDULE						
TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042						
% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE						
Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.						
ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
900	DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A903	Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II. 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, particle board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings, godrej or equivalent make mortice lock with handles on both sides approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anodised aluminium color dyed), finish flat oil paint conforming to IS: 137 over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge, with commercial faces and teak wood edges, (Finish painting paid separately) (Note: All particle board shall have recycled content. The bidder is required to provide material cutsheet sample/ declaration from manufacturer mentioning the percentage of recycled/dundling the frame, reinforcing and insulating the shutters with fire retardant	SQM	12	-	-	0.0208822955455%
A904	Providing and fixing single or double steel door shutters with 35mm (min) thk flush design shutter 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 centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	10	-	-	0.0305028633736%
B907	Providing and fixing automatically closing fire proof steel flush insulated doors along with frame of minimum 44mm thk flush shutter 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 center to center of approved make conforming to IS:3614 (part 1) & CBRI tested- ISI marked for both Single leaf & Double leaf, comply IS/ISO 3008 satisfying LPA regulations and shall carry a unique label with certification/test report number, fire rating embossment, fixed at all elevations, with or without removable panels with panic bar panic trim, smoke seal with following fire rating using galvanneal MS sheets for frames conforming to IS 277, made out of minimum 1.6mm (16 SWG) for both frame and shutter, G.I. sheet (min.zinc coating 120 gsm), and leaves, mineral wool / PUF any other fire retardant insulation material filled with required density, mastic caulking and gouting the frame, reinforcing and insulating the shutters with fire retardant material, with panic devices, including all fittings, fire rated vision glass, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (min.64 kg/cum density) complete and shall be fire proof as per IS-3614, NBC, LPA requirements and as per specification.Shop drawings shall be submitted by the fabricator/manufacturer for approval before execution, Minimum ratings shall be 2 Hrs. All hardware fittings shall be 2 Hours fire rated.	SQM	16	-	-	0.1142670070889%
A909	Providing and fixing anodised aluminium work of jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections(of minimum 2mm wall thickness) including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285,(Grade of Aluminium shall be Alloy 63400) anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metallic protection etc, including preparation of fabrication/working drawings, aluminium dead 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. of Dornia, rate (0.5% maximum at ambient temperature after 7 days), reinforcing layer of polyscrim cloth (non woven polyscrim cloth of 100% polyester with min. weight of 40gsm/sqm) or geo-textile non woven polyester (150 gsm), polymerised mastic base preparation, primer, making of filets, cleaning & preparation of surface, vacuum removal of loose sand, expansion joints & sealing at suitable interval	Kg	305	-	-	0.0543101562443%
A912	Providing and fixing pressed steel frames(complying general requirements of IS 4531) fabricated from 1.2 mm thick M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.	Kg	95	-	-	0.0043421462894%
915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc, all complete.					
A9	6 mm thick tinted heat reflecting toughened type float glass	SQM	8	-	-	0.0050928900609%
h	6 mm thick clear toughened safety glass	SQM	10	-	-	0.0057871477965%
AhA	6 mm thick reflective toughened glass conforming to IS 5437. Reflective toughened glass, with technical characteristics: Solar factor 45% or less, U-value less than 5.7 W/m2.K, VLT min 40% shall be used. The glass to be used should be from the manufacturers of glass like Saint Gobain (India) or ASAHI (India) or equivalent. The glass should be free from distortion and thermal stress.					
I (C)	One outer 6mm thick tinted heat-reflecting toughened glass and one inner 6mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).The glazing to be used in all exterior walls shall be of Saint Gobain or equivalent.The glazing to be used should comply to mentioned standards VLT (Visible Light Transmittance) ≥62 %, SHGC/SF (Solar Heat Gain Coefficient/ Solar Factor) 0.2 ≤ 0.32 and U- Value 1.2 TO 2.5 W/Msq K.The properties of performance glass shall be as per detail design values as approved by engineer incharge.The glass to be used should be from the approved manufacturers of glass and should be free from distortion and thermal stress.	SQM	10	-	-	0.0071588756054%
1000	BRICKWORK: Brickwork masonry including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)					
A1001	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.					0.0761780047260%

PART B						
BOQ CUM RATE SCHEDULE						
TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042						
% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE						
Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.						
ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
a	Using table moulded/machine made fly ash lime bricks conforming to IS 12894 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash 25% (including cost of cement for brick making)	CUM	5	-	-	0.0074828209336%
b	Using table moulded/machine made burnt clay fly ash bricks conforming to IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash 25% (including cost of cement for brick making)	CUM	2	-	-	0.0045968664727%
A1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm upto 10m level above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1014), places and position above plinth including raking out joints, curing, scaffolding etc complete but excluding plastering and painting.					
a	Using table moulded/machine made fly ash lime bricks conforming to IS 12894 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash 25% (including cost of cement for brick making)	CUM	60	-	-	0.1148240587485%
b	Using table moulded/machine made burnt clay fly ash bricks conforming to IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash 25% (including cost of cement for brick making)	CUM	20	-	-	0.0542720672420%
A1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm upto 10m above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1015), places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification. (Reinforcement payment shall be made separately as per applicable BOQ in 400 Series)					
a	Using table moulded/machine made fly ash lime bricks conforming to IS 12894 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash 25% (including cost of cement for brick making)	SQM	20	-	-	0.0047087529171%
b	Using table moulded/machine made burnt clay fly ash bricks conforming to IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash 25% (including cost of cement for brick making)	SQM	10	-	-	0.0026708912907%
1005	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.	CUM	1	-	-	0.0004786692047%
1008	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	1	-	-	0.0005560994345%
1010	Filling existing brick wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar 1:6, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	1	-	-	0.0003282795891%
1100	DAMP PROOF COURSE: Damp proof course including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, shuttering, centering, curing etc at all level as per specification, drawings and as directed by engineer - in - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)					
1101	Providing Damp Proof Course of following thickness with 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg/sqm shall be applied one before & one after the DPC.					
b	50mm thick	SQM	20	-	-	0.0021044173806%
1200	PLASTERING: Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/contract specification), scaffolding, curing etc at all level as per specification, drawings and as directed by engineer - in - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)					
A1201	Providing 18mm thick plaster in two layers outside the building/boundary wall/rough surface of internal wall in cement mortar as applicable upto 10m above finished ground level (FGL) or finished floor level (FFL) as applicable (For height greater than 10m from FGL or FFL as applicable, extra over for additional height to be paid in Item No 1206) on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete					
a	Cement Mortar 1:6	SQM	345	-	-	0.0309627880771%
1202	Providing 12mm thick plaster internal/external surfaces of building/boundary wall in cement mortar as applicable above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1206) on walls finished to a smooth finish as per specification all complete.					
a	Cement Mortar 1:6	SQM	350	-	-	0.0254958259567%
1209	Ruled pointing in masonry in Cement Mortar 1:3 (1 cement, and 3 fine sand) including raking out joints, curing etc. complete.	SQM	50	-	-	0.0031423426949%
1210	Providing drip course in cement mortar (1:4) in parapet, chajias, window/door heads, architectural facias, fins etc all complete with all labour, T&Ps as per specification, drawing and instruction of engineer.	SQM	5	-	-	0.0002416271087%
A1210	Providing moldings and cornices on plastered surface at all elevations for all type of work such as chajias, 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	25	-	-	0.0002023478251%
1300	FINISHES TO CONCRETE / PLASTERED SURFACES: Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, surface preparation, scaffolding etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A1304	Two or more coats of Low VOC (volatile organic compound) acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge	SQM	100	-	-	0.0028923836169%

PART B					
BOQ CUM RATE SCHEDULE					
TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042					
% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE					
Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.					
ST NO	Item Description	Unit	Quantity	Rate (INR)	Weightage
A1305	Providing and applying two or more coats of low VOC (volatile organic compound) acrylic emulsion paint as per IS 15489 relevant latest code 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. Note: The paint should have VOC content less than 50 grams per litre. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge.	SQM	130	-	0.00505667911762%
A1317	Providing and applying 2 mm thick Acrylic wall putty turning on walls including preparation of surface, sieging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	345	-	0.0112270905309%
A1319	Providing and applying two or more coats of weather coat paint of Premium Acrylic Smooth Paint with Silicone additives, over and including Texture base coat, of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using cor brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification. Textured base coat (Two or more coats applied @ 6.5Kg/10 sqm over and including priming coat of exterior primer applied @ 2.20Kg/10 sqm) of High Quality Exterior Acrylic Modified resin and Special quality Silica Quartz with Trowel Texture (Asian / Dulux / Nerdec / Berger / Equivalent as per selection).	SQM	275	-	0.0112011423980%
1400	FLOORING AND SKIRTING: Flooring and skirting at all level including base layer, labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, curing, polishing etc. at all level as per specification, drawings and as directed by engineer - In - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)				
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2(1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, etc. all complete The ratio of approved quality metallic hardening compound and cement shall be 1:4.(Quoted item rate shall be inclusive of providing glass joint strips).	SQM	30	-	0.0047920726098%
A1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates) with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, etc. all complete as per specification.The ratio of approved quality metallic hardening compound and cement shall be 1: 4.	SQM	3	-	0.0003970778496%
C1402	Providing and laying 25 mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates) with 10 mm thick uniform graded treated iron particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick concrete of mix 1:2 (1 cement :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges etc. all complete as per specification.	SQM	1	-	0.0001323592832%
D1416	Providing and laying matt finish vitrified ceramic tiles of polished variety of size 600x600 / 800x800 of approved shade, colour, pattern and make from reputed / approved manufacturer as Sempolo Varmora or equivalent , complete including 40mm average thick underbed of cement mortar 1:4 with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc.3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Latcrete, Luxture or approved equivalent in approved colour to match colour of tile etc. all complete for following.				
a	9.0 mm (min.) thick tiles in flooring	SQM	60	-	0.0210011332329%
b	9.0 mm (min.) thick tiles in dado	SQM	7	-	0.0025612774068%
1419	Providing and laying granite stone slab of 20mm thickness single piece for wash basin / sink slab / fascia of black or approved colour including 20mm underbed of cement mortar 1:3 with cutting, making corners, moulding and opening etc. all complete.	SQM	4	-	0.0052629446277%
A1420	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick Designer glazed/matt finish of reputed manufacturer Sempolo Varmora or equivalent of approved finish shade and colour on walls, skirting etc.including 20 mm underbed of cement mortar 1:4 in flooring and cement mortar of 1: 3 for skirting/dado with neat cement slurry etc. all complete.				
a	300X300 mm	SQM	20	-	0.0054943385909%
b	600X600 mm	SQM	10	-	0.0026900030543%
A1427	Providing and fixing Designer digitally glazed ceramic tiles of approved color and design as per IS: 15622 of size 300x300mm / 300x450mm, 300X600 of reputed / approved manufacturer Sempolo Varmora or equivalent of approved finish size in dado, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20mm thick underbed plaster shall consist of 1part cement and 3 parts sand by weight, fairly moist but firm. tiles shall be pressed over under bed by applying cement slurry @ 3.3kg/sqm including pigments, curing etc all complete as instructed by engineer.incharge for following thicknesses..				
b	7mm thick	SQM	150	-	0.0440642146087%
1500	ROOFING / SIDE CLADDING: Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at all level as per specification, drawings and as directed by engineer - In - charge.				
A1514	Providing and fixing underdeck insulation with resin bonded rock wool /Mineral wool 50 mm nominal thickness conforming to IS 8183 having a density of 48kg/cum with minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.6 mm dia and 25 mm mesh GI wire netting, fixed with 2mm wire ties at various elevations with rawl plugs including clips, etc complete as per specifications and instructions of the engineer incharge.	SQM	65	-	0.0154117625811%

PART B						
BOQ CUM RATE SCHEDULE						
TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042						
% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE						
Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.						
ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
1600	FALSE CEILING: False ceiling including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, suspension system etc at all level as per specification, drawings and as directed by engineer - in - charge.					
A1602	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. 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 for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. The size of tiles shall be 600 X 600 mm or 600 X 1200 mm. Required M.S. channel shall be measured & paid extra under respective item unit rate. (All mineral fiber board to be used should be with appropriate % of recycled content.	SQM	65	-	-	0.0267013428815%
A1607	Providing and Fixing 12mm thick Calcium silicate board of HILUX or equivalent in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. Metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per IS: 277) and nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. Suspension system shall be as per manufacturer's specification. Movement platform of structural steel shall be provided if required for the movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). Work shall include 25mm thick resin bonded mineral wool insulation (as per IS:8183) bound in polythene bags on top of ceiling. The work to be complete as per specifications, drawings and direction of engineer. Payment terms - a) On receipt of Gypsum board false ceiling at site - 50%; b) On completion of erection & fixing - 50%.	SQM	25	-	-	0.0121795536462%
1700	RAIN WATER DOWN TAKE PIPES: Rain water down take pipes at all level including all labour, material (unless otherwise specified in BOQ/contract specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc as per specification, drawings and as directed by engineer - in - charge.					
A1704	Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239 (part-I) with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over coat or primer all complete. Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m, as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629.	RM	15	-	-	0.0070309917799%
C1704	Providing and fixing galvanised MS down take pipes of 100 mm dia- Medium quality as per IS:1239 (part-I) with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over a coat or primer all complete. Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m, as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629.	RM	15	-	-	0.0051741529147%
1705	Providing and fixing UPVC down take pipes of 110mm diameter- Class 3 as per IS:4985 all complete.	RM	5	-	-	0.001141479789%
1708	Providing and fixing UPVC down take pipes of 160mm diameter- Class 3 as per IS:4985 all complete.	RM	20	-	-	0.0062085073852%
1800	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
A1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 200 mm in compacted thickness including breaking of stone boulders to required sizes, filling the interstices with selected moorumium expansive soil and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	30	-	-	0.0224606085809%
B1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of 40 mm size rammed consolidated in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected fine sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	5	-	-	0.0037434347635%
A1804	Providing and fixing weep holes in drains consisting of 75 mm dia HDPE pipe sleeves including sand (250sq x 150 mm thick), aggregates (250sq x 150 mm thick), 200mm dia geo-textiles (pasted on concrete surface) etc. all complete as per specifications, drawings and guided by engineer-in-charge. (Item is inclusive the cost of materials like HDPE pipe, sand, aggregates, etc.).	EACH	3,333	-	-	0.1912194088442%
1807	Anti termite chemical treatment of soil with Chlorpyrifos/Lindane E.C. 20% with 1% concentration conforming to IS 8844 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment). Drilling 12mm dia hole @300 c/c using material one liter per hole.	SQM	125	-	-	0.0082129411345%
1808	Laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	1	-	-	0.0036801117971%
1809	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 & cement/steel to be supplied by BHEL free of cost)	NO	2	-	-	0.0061085237540%
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	20	-	-	0.0006427519149%
A1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 610 g/sqm etc. all complete.	Kg	20	-	-	0.0005784767234%

PART B

BOQ CUM RATE SCHEDULE

TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042

% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE

Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain**area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.**

ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
1821	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL. Free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	780	-	-	0.2018383846467%
1827	Anti weed chemical treatment of soil with suitable chemical etc all complete.	SO/M	1,000	-	-	0.0009522250591%
2100	WATER SUPPLY: Water supply work including men, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)					
B2104	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, conforming to IS 15778, having thermal stability for hot & cold water supply including all CPVC plan & brass threaded fittings shall be concealed, complete for internal works with sockets, unions, elbows, tees, nipples etc of approved manufacturer supreme.prakash, ajay pipes or equivalent and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	15	-	-	0.0017775661290%
b	20 mm nominal bore.	RM	10	-	-	0.0012797904784%
Ac	32mm nominal bore.	RM	15	-	-	0.0026399249482%
d	50 mm nominal bore.	RM	10	-	-	0.0026399249482%
2105	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
a	15 mm nominal bore.	RM	5	-	-	0.0004534971844%
b	20 mm nominal bore.	RM	5	-	-	0.0005118209693%
c	25 mm nominal bore.	RM	5	-	-	0.0006332296643%
d	50 mm nominal bore.	RM	5	-	-	0.0008962818369%
A2106	Providing and fixing 600mm x 900mm x 6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws - edge mounting with teak beading and minimum 12 mm thick plywood backing etc all complete.	EACH	2	-	-	0.0009090409564%
2108	Providing and fixing 25 mm diameter stainless steel towel rails (600mm X 25mm) with C.P. mounting brackets all complete.	NOS	2	-	-	0.0006560830857%
2110	Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	NOS	2	-	-	0.0004094567754%
2111	Providing and fixing stainless steel / C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	NOS	2	-	-	0.0003337548832%
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. all complete.	NOS	2	-	-	0.0003689839366%
2114	Providing & fixing in position P.V.C. water tank of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105.					
a	500 litres capacity	NOS	2	-	-	0.0039422117448%
A2116	Providing, and fixing glass shelves 600mmx127mmx4 mm with chromium plated brackets all complete.	NOS	1	-	-	0.0039422117446%
A2118	Providing and fixing electric operated hand dryer with photo voltaic control etc all complete..	EACH	2	-	-	0.0004126943406%
2200	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)					0.0023413119303%
A2201	Supply and fixing coloured glazed vitreous oval shape china wash basin 450x550mm conforming to IS: 2556 mounted over 18 to 20 mm thk granite beveled edge counter. The Basin shall be fitted with approved shape bib cock, photo-voltic control system for water control with flow rate less than 5 LPM (litres per minute) at 45 psi, CP brass chain with rubber plug, 40mm CP brass waste and bottle trap as per IS: 2556 with angle valve, taps, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required necessary union including cutting of notch in granite counter slab etc all complete as per specification	EACH	2	-	-	0.0072921395024%
A2202	Providing and fixing approved vitreous china laboratory sink of size 600x400x200mm conforming to IS:2556 (part-5) with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, 40mm heavy duty CP brass waste bottle trap and 15mm CP brass pillar tap (not and cold dual function) with elbow operated level ISI marked, with necessary union elbow angle valve, tees, junctions, extension pipes complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	1	-	-	0.00242626894505%
A2203	Providing and fixing stainless steel kitchen sink of size 610 x 510 mm, bowl depth 200 mm as per approved manufacturer with drain board of at least 450 mm length with trap, hot and cold water mixer, conforming to IS: 13983 including all fittings, necessary union, elbow, angle valve, tees, junctions, extension pipes etc. all complete.	EACH	1	-	-	0.0021834520605%
A2204	Providing and fixing colour glazed vitreous china European type water closet of approved make conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC, dual flushing system) with valveless fittings, 2 way angle valve, with health faucet necessary C.P. connections, water faucet etc all complete.	EACH	2	-	-	0.0085014653274%
b	Wall mounted	EACH	3	-	-	0.0180698955598%
A2206	Providing and fixing white/coloured water efficient flat black glazed vitreous china urinals of size 610x375x390mm with photo voltaic control flushing systems of approved manufacturer simplo, vamor or equivalent per IS: 2556 (pt-6 sec-1) with flush pipes, lead pipes, gratings, traps and necessary C.P fitting etc. all complete as per specification having flow rate of 2 LPF (litres per flush) or less at 45 psi.	EACH	20	-	-	0.0021472675082%
2207	Supply, laying and joining UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
a	75mm dia pipes	RM	20	-	-	0.0021472675082%

PART B

BOQ CUM RATE SCHEDULE

TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042

% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE

Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain**area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.**

ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
b	110mm dia pipes	RM	35	-	-	0.005965898951%
c	160mm dia pipes	RM	95	-	-	0.0223213456660%
d	200mm dia pipes	RM	80	-	-	0.0274431262025%
2208	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 all complete for following.					
a	200mm dia	RM	60	-	-	0.0187255057867%
b	300mm dia	RM	90	-	-	0.0451640345519%
c	450mm dia	RM	60	-	-	0.0383794310080%
d	600mm dia	RM	90	-	-	0.0708741111469%
e	900mm dia	RM	20	-	-	0.0212965134462%
2209	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 complete for following.					
a	150mm dia	RM	5	-	-	0.0012021841371%
b	250mm dia	RM	5	-	-	0.0015497462836%
c	300mm dia	RM	5	-	-	0.0017485232647%
d	450mm dia	RM	5	-	-	0.0024543600898%
e	500mm dia	RM	5	-	-	0.0028900030543%
A2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx600mm including frame from reputed manufacture conforming to IS:4111 etc all complete as per specification.	EACH	3	-	-	0.0123408367656%
2212	Providing and fixing circular heavy duty G.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	3	-	-	0.0127514838223%
2213	Providing and fixing square mouth S.W Gully 'trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2.4 Cement Concrete) 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. etc all complete for following sizes:					
a	100x100mm P or S Type.	EACH	2	-	-	0.00123177031139%
b	150x100mm P or S Type.	EACH	2	-	-	0.0013426373333%
A2214	Providing and fixing Heavy duty CP brass floor traps size 100mm with stainless steel grating etc all complete.	EACH	4	-	-	0.0022643879167%
A2216	Providing and installing approved brand single lap water efficient water cooler of 50 L cooling capacity all complete.	EACH	1	-	-	0.0102204278555%
2218	Providing and fixing white vitreous unglazed partitions of size 675x325x85mm all complete.	EACH	3	-	-	0.0026152661247%
2219	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS 10592) all complete as per specification.	EACH	1	-	-	0.0050663134266%
2222	Providing and fixing HDPE pipes in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete.					
d	200 mm dia	RM	5	-	-	0.0023424736453%
2223	Providing and fixing vertical wall mounted water geysers/heaters(minimum 5 star rating) of required capacity including all connections & fittings(angular stop cock, and brass connection pipes, etc.) all complete as per specification.					
b	25 Litres	Each	1	-	-	0.0041757449403%
A2225	Supply, laying and jointing sand cast iron pipe conforming to IS 1729 including bends, branches and all other necessary fittings. M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
a	110mm dia pipes	RM	10	-	-	0.0027421701139%
b	160mm dia pipes	RM	20	-	-	0.0082265103416%
2400	ROAD WORKS: Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc, as per specification, drawings and as directed by engineer - in - charge. (Cement shall be provided by BHEL free of cost unless otherwise noted)					
2401	Preparation of sub grade by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	7,800	-	-	0.1281218816985%
2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using borrowed soil (borrowed soil to be arranged by the bidder) and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seigniorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing etc all complete.	CUM	800	-	-	0.0750353346551%
A2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using excavated soil within a lead upto 1km soil and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seigniorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing etc all complete.	CUM	1,785	-	-	0.0463174171547%
A2404	Providing & laying granular sub-base using close graded material conforming to specification, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	CUM	5,850	-	-	4.1277527973292%
A2406	Providing & Laying water bound macadam sub base/base course with stone aggregate 53 mm to 22.4 mm size stone conforming to MORTH specification (Table 400-7) (IRC 19-grading -3) mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications, drawings and directions of Engineer-in-Charge.	CUM	1,625	-	-	1.1725163750848%

PART B					
BOQ CUM RATE SCHEDULE					
TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042					
% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE					
Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.					
ST NO	Item Description	Unit	Quantity	Rate (INR)	Weightage
A2410	Providing & laying 40mm bitumen mastic wearing course over concrete pavement with industrial bitumen of grade 85/25 conforming to IS : 702, prepared by using mastic cooker and laid to required level and slope, including providing antiskid surface with bitumen fine grained hard stone chipping of approved size at the rate of 0.005 precoated cum per 10 sqm and at approximate spacing of 10 cm centre to centre in both directions, pressed into surface protruding 1 mm to 4 mm over mastic surface, including cleaning the surface, removal of debris etc. all complete as per specification, drawings and as per direction of engineer-in-charge. (Considering bitumen using 10.2% as per MORTH specification).	SQM	500	-	0.1625329147708%
A2413	Supplying and laying 450mmx250mmx500mm deep precast concrete kerb stone of grade M25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	5,570	-	1.3611853970067%
A2415	Supply and laying 200mm dia R.C.C NP3 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	1,225	-	0.3823124098118%
A2419	Providing and laying cement concrete of grade M35/M40 using 20 mm nominal size stone aggregate with including addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent, provision for necessary joints, including compaction, finishing to lines and grades, curing and providing & fixing formwork etc. all complete, (Excluding the cost of reinforcement and dowel bar).	CUM	4,875	-	5.8014609294447%
A2421	Providing & laying dry lean cement concrete of grade M10 with 20 mm nominal size graded stone aggregate over a prepared sub-base including compaction, finishing, curing etc all complete	CUM	2,925	-	3.4286529645832%
B2421	Providing and laying of plain cement concrete of grade M15 using 40 mm graded stone aggregate including providing and fixing formwork, compaction etc. all complete	CUM	2,025	-	2.3736628216345%
REINFORCEMENT					
A2423	Providing and fixing in position MS dowel bar reinforcement including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	52	-	1.0409191099770%
A2424	Providing, straightening cutting, bending, placing in position at any level, binding in position of steel reinforcement of mild steel reinforcements including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer.(BHEL shall provide Reinforcement free of cost)	MT	3	-	0.0079024919596%
MISCELLANEOUS					
A2427	Providing and laying debonding strip/tape of specified thickness before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	6,500	-	0.0961997288743%
A2428	Providing & laying 75 mm thick precast interlocking concrete pavers of grade M35 of approved colour and pattern as per specification and recommendation of manufacturer.	SQM	11,570	-	2.9884274169598%
A2429	Providing and laying 20mm thick sand layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	11,570	-	0.1490633104202%
A2430	Providing and laying Impermeable plastic sheeting 125 microns thick laid flat without creases as per IRC 15-2002 etc all complete as per specification, drawing and as directed by Engineer.	SQM	19,500	-	0.0867607959763%
A2431	Supplying, fixing and removing formwork for concrete road pavement complete as per specification and as directed by the engineer-in-charge.	SQM	1,460	-	0.2359946975157%
A2432	Providing and installation of Variable message signs including Cantilever type MS supports etc. all complete as per drawings, specifications, manufacturer's recommendations, Indian standards.	EACH	20	-	0.0264706663609%
2600 LEVELING & GRADING: Levelling & grading works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge.					
A2601	Removing and disposal of roots of trees of all girths more than 300 mm measured etc at specified area within the plant boundary and disposal of unserviceable parts/materials within a lead upto 1km etc all complete.				
a)	300mm upto 600mm girth	Nos	50	-	0.0055943222221%
b)	601mm upto 1200mm girth	Nos	50	-	0.0250554218669%
2602	Earth work in stripping of top soil upto a maximum depth of 0.30 m below ground level so as to exclude all debris, grass, vegetation, bushes, trees having girth upto 300mm including roots and organic materials etc for levelling and grading including dressing to specified levels & grades and compacting the grade/stripped surface by manual/mechanical means, disposal of stripped materials within a lead upto 1km etc all complete as per specification, drawing and as directed by the engineer-in-charge.	Sq.m	1,67,725	-	1.0381278622163%
2603	Earth work in excavation upto any depth below ground level in all types of soil including moorum, ash which can be excavated by any means for grading including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, levelling to grade, all lifts, ramming/compacting the excavated bottom/graded surface, stacking/disposal of surplus excavated materials within a lead upto 1km, spreading/levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	29,000	-	0.7041704311856%
A2609	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300mm compacted thickness so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VI) with selected approved soil/soft rock from compulsorily excavated earth available within a lead upto 1km and compacted as specified including re-excavation of stacked earth, all lifts, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	29,000	-	0.8284358013948%

PART B

BOQ CUM RATE SCHEDULE

TENDER NO-BHEL/CPC/KOD/RD_DRN/25/042

% WEIGHTAGE FOR AMOUNT OF INDIVIDUAL ITEMS W.R.T. THE TOTAL PACKAGE VALUE

Civil, Structural & Architectural Works of Priority-I Road area, Drains along Priority-I Road, Safety Control Room Including Levelling & Grading in periphery of the building up to garland drain, Levelling & Grading in Priority -I Road & Drain**area and Non-Facility areas near Switchyard, Cooling Towers and CHP/AHP area (in the North Side of Fly Ash Silo and East Side of Gypsum Storage Shed) at 2x800 MW DVC Koderma Ph-II, Jharkhand.**

ST NO	Item Description	Unit	Quantity	Rate (INR)	Amount (INR)	Weightage
C2609	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300mm compacted thickness so as to achieve at least 85% relative density as per IS-2720 (Part-XIV) with approved pond ash (pond ash to be arranged by bidder) and compacted as specified including re-excavation of stacked earth, all lifts, dewatering if required, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	7,00,000	-	-	36.9939435450455%
A2610	Extra over ST No. 2601 to C2609 for carriage of unserviceable material/earth for every 500m or part thereof beyond an initial lead of 1km.	CUM	50,318	-	-	0.1557206966982%
2611	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300 mm loose thickness so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII) with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty/seigniorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	1,36,285	-	-	13.0747297117292%
A2612	Providing and laying 300mm thick stone pitching including caulking with 1 cement: 4 sand mortar on the slopes of earth fill/cut with approved quality of rock fragments including materials, testing, necessary excavations if any, compaction etc all complete as per specification, drawing and as directed by the engineer.	CUM	4,096	-	-	2.4708486188875%
2700	RAIN WATER HARVESTING					
2701	Making 250mm dia bore hole up to a maximum depth of 20 m below ground level in all types of rocks including all equipments, tools & plants, lowering casing pipes, bentonite slurry, removal of casing pipes etc, complete in all types of soil.	RM	20	-	-	0.0072635251394%
2702	Supply & fixing 150mm dia perforated PVC pipe ISI mark 6 Kg/ cm2 with air vent at top as per the drawing & specification complete.	RM	20	-	-	0.0043992797729%
2703	Providing & fixing 150 dia PVC pipe ISI mark 6 Kg/cm2 as per specification.	RM	10	-	-	0.0019896726241%
2704	Supply & packing uniformly 6mm to 3mm size gravel in the bore hole surrounding the perforated PVC pipe.	CUM	3	-	-	0.0017532843300%
2705	Supply & packing uniformly downgraded 40mm size gravel at all depth in the well dug for rain water harvesting.	CUM	4	-	-	0.0036622543034%
2706	Supply & packing uniformly downgraded 40mm size pebbles at all depth in the well dug for rain water harvesting.	CUM	4	-	-	0.0042174047866%
2707	Supply & laying 300mm thick coarse sand layer at all depth in the well dug for rain water harvesting.	CUM	3	-	-	0.0019325407574%
2708	Supply & fixing Netlon jali/ PVT net in the well dug for rain water.	SCM	5	-	-	0.0004255255733%
Total						100.00000000000000%