

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

RATE SCHEDULE FOR 2X250 MW SATPURA T.P.S (EXTENTION UNITS 10 & 11) - CIVIL, STRUCTURAL, ARCHITECTURAL WORKS ,ROADS,DRAINS AND CULVERTS ETC. AS PER CIVIL SCOPE OF WORKS (SECTION - 4 OF COMMERCIAL BID VOL.-I). ALL THE ITEMS SHOULD BE READ IN CONJUNCTION WITH RELEVANT TECHNICAL SPECIFICATION SECTION - C AND SECTION -D. IN CASE OF ANY CONFLICT BETWEEN SECTION C & D THEN SECTION - C WILL PREVAIL. NO ADDITIONAL CLAIM SHALL BE ENTERTAINED ON ACCOUNT OF INTERPRETATION OF ITEMS IN ISOLATION.

BILL OF QUANTITIES AND RATE SCHEDULE PART - I:

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
101	Earth work in excavation upto 2m depth below ground level for foundation, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with poclain/ excavator etc but does not require chiselling or blasting.	CUM	94695			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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102	Earth work in excavation upto 2m depth below ground level for foundation, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for Hard Rock requiring blasting/controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. Measurement of hard rock shall be made as per stock measurement minus 30% voids or other suitable methods as per IS 1200 as excepted by BHEL/MPPGCL	CUM	50000			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

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103	Earth work in excavation for depth exceeding 2.0m but not exceeding 4.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with poclain/ excavator etc but does not require chiselling or blasting.	CUM	11697			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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104	Earth work in excavation for depth exceeding 2.0m but not exceeding 4.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for Hard Rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. Measurement of hard rock shall be made as per stock measurement minus 30% voids or other suitable methods as per IS 1200 as excepted by BHEL/MPPGCL.	CUM	46788			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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105	Earth work in excavation for depth exceeding 4.0m but not exceeding 6.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with poclain/ excavator etc but does not require chiselling or blasting.	CUM	750			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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106	Earth work in excavation for depth exceeding 4.0m but not exceeding 6.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. Measurement of hard rock shall be made as per stock measurement minus 30% voids or other suitable methods as per IS 1200 as excepted by BHEL/MPPGCL	CUM	13330			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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107	Earth work in excavation for depth exceeding 6.0m but not exceeding 8.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with poclain/ excavatoretc but does not require chiselling or blasting.	CUM	37500			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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108	Earth work in excavation for depth exceeding 6.0m but not exceeding 8.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. Measurement of hard rock shall be made as per stock measurement minus 30% voids or other suitable methods as per IS 1200 as excepted by BHEL/MPPGCL	CUM	7500			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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109	Earth work in excavation for depth exceeding 8.0m but not exceeding 10.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking /disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with poclain/ excavator etc but does not require chiselling or blasting.	CUM	15000			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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110	Earth work in excavation for depth exceeding 8.0m but not exceeding 10.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. Measurement of hard rock shall be made as per stock measurement minus 30% voids or other suitable methods as per IS 1200 as excepted by BHEL/MPPGCL	CUM	5000			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

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111	Earth work in excavation for depth exceeding 10.0 m but not exceeding 12.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with poclain/ excavator etc but does not require chiselling or blasting.	CUM	500			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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112	Earth work in excavation for depth exceeding 10.0m but not exceeding 12.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. Measurement of hard rock shall be made as per stockmeasurement minus 30% voids or other suitable methods as per IS 1200 as excepted by BHEL/MPPGCL.	CUM	500			
116	Disposal of surplus excavated earth/rock beyond an initial lead of 1km in/outside area of the plant earmarked by MPPGCL/BHEL, dumping and levelling the dumped soil/rock and levelling the area from where the material is transported, complete for the following lead and with all lifts as specified and directed by Engineer.					
a	beyond initial lead of 1km & up to 2KM or part thereof	CUM	25000			
b	beyond initial lead of 1km & up to 3KM or part thereof	CUM	50000			
c	beyond initial lead of 1km & up to 4KM or part thereof	CUM	25000			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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d	beyond initial lead of 1km & up to 5KM or part thereof	CUM	25000			
117	Extra for Disposal of surplus excavated earth/rock beyond an initial lead of 5km and upto a lead of 10 Km. , dumping, levelling the dumped soil/rock and levelling the area from where the material is transported, complete with all lifts as specified and directed by Engineer. (Rate for every 1 Km or part thereof over & above the rate applicable for <div style="display: flex; justify-content: space-between; width: 100%;"> Item No. 116d) </div>	CUM	500			
118	Back filling around foundations & plinths etc.to proper grade and level with selected materials within a lead beyond 1 Km but not exceeding 5 Kms. from available excavated soil including re-excavating loose thickness, watering and ramming in layers of 25 cm. thickness to 80% max. dry denisty by manual / mechanical means, compaction with mechanised compaction machine, dressing etc. complete including loading, unloading, transportation.	CUM	9270			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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118X	Back filling around foundations & plinths etc.to proper grade and level with selected materials within a lead upto 1 Km from available excavated soil including re-excavating loose thickness, watering and ramming in layers of 25 cm. thickness so as to achive atleast 90% maximum dry denisty by manual / mechanical means, compaction with mechanised compaction machine, dressing etc. complete including loading,, unloading, transportation.	CUM	35000			
118X1	Back filling around foundations & plinths etc.to proper grade and level with selected materials within a lead upto 1 Km from available excavated soil including re-excavating loose thickness, watering and ramming in layers of 25 cm. thickness so as to achive atleast 95% maximum dry denisty by manual / mechanical means, compaction with mechanised compaction machine, dressing etc. complete including loading,unloading,transportation.	CUM	20000			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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118Y	Back filling around foundations in plinths etc.to proper grade and level with selected materials within a lead beyond 1 Km but not exceeding 5 Km from available excavated soil including re-excavating loose thickness, watering and ramming in layers of 25 cm. thickness so as to achive atleast 90% maximum dry density by manual / mechanical means, compaction with mechanised compaction machine, dressing etc. complete including loading, unloading, transportation.	CUM	69850			
118Z	Back filling around foundations in plinths etc.to proper grade and level with selected materials within a lead beyond 1 Km but not exceeding 5 Km from available excavated soil including re-excavating loose thickness, watering and ramming in layers of 25 cm. thickness so as to achive atleast 95% maximum dry denisty by manual / mechanical means, compaction with mechanised compaction machine, dressing etc. complete including loading, unloading, transportation.	CUM	40165			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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118C	Back Filling using selected approved soil in trenches, plinths, around foundations, below grade slab and for under ground structures, pipes etc using borrowed earth (borrowed earth to be arranged by bidder from their own sources including cost of materials) in layers not exceeding 250 mm in thickness including all lifts, excavation, loading, unloading, carting, filling, watering and compacting/ramming each layer including royalties/charges for borrowed earth if any etc. all complete as per specifications, drawings and as directed by the engineer for the following works. (Contractor shall have to obtain approval of borrowed earth from BHEL/MPPGCL by submitting test results of samples at approved laboratory before bringing the materials at site.					
a	Filled to achive 90% Standard Proctor density	CUM	2500			
b	Filled to achive 95% Standard Proctor density	CUM	5000			
119	Supply and filling sand under floors, in foundation and plinths including cost of sand, transporting for all leads, loading, unloading, spreading in layers in 25 cm loose thickness at all depths, watering, compaction with mechanised compaction machine or manually to minimum 80% of relative density, dressing and levelling etc complete.	CUM	1865			
119a	Supplying & laying 75 thk. Gravel/Clean Coarse sand mixed with 8 to 10% by vol. of hot bitumen of grade 80/100.	SQM	165			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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119b	Providing and Filling in trenches, plinths, area paving and other underground structures with stone (63 mm - 40 mm down graded) , in layers not exceeding 225 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	765			
119c	Providing 50 thk. Crushed stone fill (12 mm & down) mixed with 8 to 10 % by vol. of hot bitumen of grade 80/100.	SQM	205			
121 a	Providing and laying stone soling with specified sizes of approved quality hard rock or hand broken hard metal of sizes ranging from 63mm and down , at all position and depths below or above finished ground floor level, below foundations, below flooring, and for providing hard standing etc in one layer of approximately 225 mm thickness , hand packing, filling in interestices with sand including watering, thoroughly compacting the layer all complete as per specification and the direction of the Engineer .	CUM	905			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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121 b	Providing and laying stone soling with specified sizes of approved quality hard rock rubble or hand broken hard metal of sizes ranging from 100mm to 230mm , at all position and depths below or above finished ground floor level, below foundations, below flooring, and for providing hard standing etc in one or more layers each of approximately 230mm thickness , hand packing, filling in interstices with quarry spalls and providing a layer of 50mm. thickness (consolidated) of moorum over each layer of soling including watering, thoroughly compacting each layer with 10 tonne power roller with minimum 6 passes (or with vibrating plate of approved capacity at places not approachable by power roller) all as per the direction of the Engineer and as per specification.	CUM	500			
122	Buldozing earth for grading of ground including removable of vegetation complete including disposal of debris upto 5 kms.	CUM	6000			
123	Cutting of wild growth , 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.	3			
ii)	601 mm upto 900 mm girth	Nos.	2			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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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 AT ALL ELEVATIONS (NO EXTRA FOR LIFT SHALL BE PAID) AS PER DRAWING, SPECIFICATIONS UNLESS SPECIFIED OTHERWISE AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING (USING ORDINARY PORTLAND CEMENT GRADE - 43/53 AS PER SECTION - 4 OF COMMERCIAL BID VOL.I) MINIMUM CEMENT CONTENT SHALL BE AS PER IS 456)					
202	Plain Cement Concrete of grade M15 as levelling course, filling, under water retaining structures, equipment foundations, under foundations/floors etc all complete.	CUM	1495			
202a	Plain Cement Concrete / lean concrete / screed concrete of grade M10 as levelling course, filling, under water retaining structures, equipment foundations, under vibratory foundations like BFP, TG, Bowl mill /floors etc all complete.	CUM	4125			
202b	Plain Cement Concrete of grade M20 as filling course, under water retaining structures, equipment foundations etc all complete	CUM	200			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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203	Plain Cement Concrete of grade 1:2:4 as plinth protection, etc all complete.	CUM	885			
204	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size for all major equipment foundations at all heights/depths from finished ground floor level including addition of suitable plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete.	CUM	900			
205	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in foundations,under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/superplasticizer conforming to S:9103 (latest) to achieve required slump in concrete all complete.	CUM	42915			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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206	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in substructure/water retaining structure (below ground) at all heights/depths from finished floor level at any level, shape, position or thickness complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete.	CUM	1645			
207	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in superstructure at all heights from finished floor level at any level, shape, position or thickness complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete.	CUM	11870			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

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208	Concrete of grade M-30 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size for foundation, super structure of T.G. Block including TG deck at all heights/depths from finished ground floor level , addition of suitable plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve a slump more than 125mm in concrete as per manufacturer's recommendation etc. all complete. The rate shall also include Conducting Non-destructive Ultrasonic pulse velocity test as per specification to find out soundness of concrete including all equipments, tools, plants, scaffolding required for testing, preparation of test report etc. all complete as directed by Engineer.	CUM	3470			
209	Extra over item no. 204, 208 for temperature control of fresh concrete (temperature to be maintained between 18deg.C to 23deg. C) with addition of crushed ice in mixing water etc complete.	CUM	1000			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

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211	Concrete of grade M-20 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in precast works like trench covers etc including formwork/moulds for thicknesses varying from 50mm to 250mm including transportation, erection, fixing in position at all levations and use of plasticizer wherever required all complete excluding the cost of reinforcement .	CUM	85			
212	Plain Cement Concrete of grade 1:3:6 under foundations, trenches, underground structures etc. all complete.	CUM	560			
212a	Plain Cement Concrete of grade 1:4:8 (M 7.5) under foundations, trenches ,underground structures etc all complete.	CUM	200			
213	Concrete of Grade M-15 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in paving, underfloor , etc complete.	CUM	8900			
214	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.	CUM	45			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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215	Breaking existing concrete work at any level including cutting reinforcements, removing the rubbish within a lead of 1Km., 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.	CUM	45			
215a	Making openings/cutouts of any shape & size in RCC slabs at any elevation using special tools (viz. using concrete cutter with diamond bit) for pipes/cables noticed during erection & commissioning activity and wherever required. Rate shall be inclusive of labour, materials, T&Ps and scaffolding.	CUM	25			
216	Providing and encasing of structural steel member with concrete (M20) work around flanges, webs etc and filling the gap. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc complete as per specification and as directed by Engineer. Rate shall be inclusive of providing & fixing chicken mesh & all other materials, labour scaffolding etc. complete.	CUM	60			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

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300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATION (NO ADDITIONAL PAYMENT FOR LIFT) INCLUDING ALL LABOUR, MATERIAL, SCAFFOLDING COMPLETE INCLUDING POCKETS ETC. AS PER SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
301	Ordinary form work steel / plywood (reasonably good surface) below finished ground floor level for foundations, footings, bases of columns, walls, columns pilasters, beams, mass concrete, trenches etc.	SQM	45620			
302	Fairface form work (using commercial laminated plywood with steel/wooden frame) below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc for exposed concrete works.	SQM	16465			
303	Ordinary form work steel / plywood (reasonably good surface) above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.	SQM	16250			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

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304	Fairface form work (using commercial laminated plywood with steel/wooden frame) above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.	SQM	49890			
305	Extra over item no.301, 302,303,304 for curved form work for beams, walls, trenches etc as per specification.	SQM	200			
306	Fairface Formwork (using commercial laminated plywood with steel/wooden frame) for TG superstructure (above raft top level), TG top deck with steel structural staging. Contractor shall submit the design of TG deck structural staggering (crips with primary & secondary beams) for approval of BHEL before start of deck staggering.	SQM	6300			
306 (A)	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.	200			
ii)	Upto 600 mm depth	Nos.	210			
iii)	Upto 1000 mm depth	Nos.	120			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
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400	REINFORCEMENT (TMT BARS/HYSD Fe- Grade 415/500 conforming to IS 432/ IS:1786. REINFORCEMENT STEEL TO BE PROCURED FROM ONLY SAIL AND TATA STEEL UNLESS THERE IS SPECIFIC APPROVAL FOR OTHER MANUFACTURER BY BHEL/MPPGCL). RE-ROLLED BARS SHALL NOT BE ACCEPTED.					
401	Providing, straightening, decoiling if any, cutting, bending, placing in position at any level, binding in position of mild steel reinforcement conforming to grade -1 of IS:432 (part-I) procured from SAIL including cost of binding wires, labour, transportation etc complete all as per specification, drawing and as directed by Engineer. Measurement shall be on the basis of actual steel materials used in the job as per joint protocol including spacer bars, chairs, laps, extra bars if any as per actual site condition. (All the scrap & surplus steel materials shall be the property of contractor & shall be permitted to take out after obtaining necessary gate passes from BHEL/MPPGCL)	MT	35			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
402	Providing, straightening, decoiling if any, cutting, bending, placing in position at any level, binding in position of tor steel reinforcements conforming to grade Fe- 415/500 and IS:1786 procured from SAIL including cost of binding wire, labour, transportation etc complete all as per specifications, drawings and as directed by Engineer. Measurement shall be on the basis of actual steel materials used in the job as per joint protocol including spacer bars, chairs, laps, extra bars if any as per actual site condition. (All the scrap & surplus steel materials shall be the property of contractor & shall be permitted to take out after obtaining necessary gate passes from BHEL/MPPGCL)	MT	6965			
500	WATER PROOFING AS PER SPECIFICATIONS . (Contractor has to furnish a guarantee for material and workmanship of Roof water proofing, for a minimum period of 10 years as per specifications.To ensure this successful BIDDER has to submit BG / FD for equivalent amount of respective items valid for 10 years period)					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
501	Providing and mixing approved water proofing compound conforming to IS:2645 in concrete or cement mortar @8kg/cum for works wherever specified or directed as per specification / manufacturer's instructions, testing of samples for water proofing etc complete.	KG	26820			
501A	Providing and laying foam concrete block insulation insitu in suitable panels or precast over roofs including minimum 15 mm cement sand plaster finished smooth over foam concrete and providing of expansion joints at intervals as per the recommendation of manufacturer. Thermal conductivity of the foam concrete shall not exceed 0.125 KCL/Sqmh degree C and weight shall be from 0.3 to 0.5 gm/cu.cm, all complete with fillets as per specification. Before starting the laying of foam concrete samples shall be prepared at site and got tested for approval of the Engineer. Subsequently samples from each batch of the mix shall be kept for test if required by the Engineer.					
i)	75 thick	SQM	5260			
ii)	100 thick	SQM	7165			
501B	Providing four layers of Hessian based tar felt with five layers of bitumen paint finished with 20 mm thick pressed pre-cast concrete tiles on 15 mm thick Cement:Sand (1:4) mortar under bed .	SQM	850			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
501C	Providing Water proofing with extra heavy treatment-Nine courses with fiber based felt comprising of the following .	SQM	12350			
1)	Primer-coat conforming to IS:3384 applied at the rate 0.27 lits/sqm (min.)					
2)	Hot applied bitumen at the rate of 1.2 kg/sqm (min.)					
3)	Fiber-base self-finished felt type 2, grade 1					
4)	Hot applied bitumen at the rate of 1.2 kg/sqm (min.)					
5)	Fiber-base self-finished felt type 2, grade 1					
6)	Hot applied bitumen at the rate of 1.2 kg/sqm (min.)					
7)	Fiber-base self-finished felt type 2, grade 1					
8)	Hot applied bitumen at the rate of 1.2 kg/sqm (min.)					
9)	20 mm thick pressed precast concrete tiles with 15 mm thick 1:4 cement sand mortar underbed.					
502	Providing and fixing Poly Urethane based roof water proofing treatment using high solid content liquid applied elastomeric water proofing membrane) with separate wearing course as per Item No. 507 conforming to ASTM C836 & C- 898. Thickness of the membrane shall be 1.5mm. This treatment shall include application of polymerized mastic over the roof to achieve smooth surface and primer coat as per relevant Specification in Section-D	SQM	500			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
503	Providing and grading under bed over roof slab, floors to achieve the specified slope with 1:4 cement mortar plaster (by volume) of average 15 mm thickness at all elevations including all labour, material, equipment, handling, preparation of surface, transportation, batching, mixing, placing, leveling, curing, testing etc. complete as per specification, drawing and instruction of engineer.	SQM	2225			
507	Providing wearing course on the top of membrane shall consist of 40mm thick PCC(1:2:4) using 12.5mm and down aggregate cast in panels of maximum size 1.2X1.2 m and reinforced with 0.56mm dia. galvanised chicken wire mesh and sealing of joints using sealing compound/ elastomeric water proofing membrane.	SQM	12400			
508	Screed concrete M10 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 to maintain the required grade complete.	CUM	85			
509	Screed concrete M10 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size in manholes.	CUM	25			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
510	Providing and applying two coats of bitumen grade 85/25 as per IS 702 mixed with 1% antistripping compound meeting the requirement of IS 6241 on concrete surface exposed to soil/ash in foundation, wall, column etc. all complete as per drawing. Specification and as directed by the engineer. The Total application of bitumen shall be 2.0KG/sq.M.	SQM	23500			
511	Providing and laying cement concrete chequered flooring tiles 22 mm thick over roof as per IS 13801. Under bed shall be 20 mm thk wearing course PCC 1:2:4 with 6 mm down aggregate reinforced with 0.56 mm GI chicken wire mesh. Tiles shall be laid over under bed with 8 mm thick 1:3 cement mortar with fine joints including sealing of joints between wearing course and the tiles with silicon sealant all complete with labour, material, equipment, handling, scaffolding, transporting etc. as per drawing and specification. Depth of silicon sealing shall be 22mm & thickness of joints not exceeding 3mm. Size of the tiles shall be 250x250mm/300x300mm.	SQM	1300			
512	Anti termite chemical treatment of soil with Chloropyrifos emulsifiable concentrates (1%) conforming to IS :8944	SQM	5255			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
512	WATER PROOFING OF UNDERGROUND STRUCTURES -Binding material shall be blown bitumen of 65/25 grade conforming to IS:702. Water proofing shall be provided on the outside of walls and top of RCC slab and shall be carried out up to 150 mm above ground level.The number of layers of bitumen felt to be used for walls and floor unless otherwise shown in the drawing shall be:-					
a)	2 Layers-for depth up to 5m below ground level	SQM	2625			
b)	3Layers-for depth up to 5m below ground level	SQM	2625			
600	SUPPLYING & INSTALLATION OF PREMOULDED JOINT FILLER IN BETWEEN EQUIPMENT FOUNDATIONS, MAT FOUNDATIONS, PILE CAPS, WALLS, BASEMENT SLABS ETC. COMPLETE INCLUDING LABOUR, EQUIPMENT AND MATERIALS, SEALING OF JOINTS INCLUDING COST OF SEALING COMPOUND (POLYSULFIDE BASE SEALANT AS PER IS:12118) ETC. COMPLETE AS PER SPECIFICATIONS AND DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
601	12mm thick joints.	SQM	235			
602	20mm thick joints.	SQM	195			
603	25mm thick joints	SQM	245			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
700	M.S. EMBEDMENTS					
701	Supply, fabricating and fixing of embedments, MS inserts, pipe sleeves, guide rails, angle pieces, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting complete as per specifications, drawings and as directed by Engineer.	MT	70			
702	Supply, fabrication, transportation, delivery at site and erection, installation and alignment of MS Foundation bolts (Grade- 1 of IS: 432 & IS: 2062) assembly in concrete along with nuts, locknuts (IS: 1363, IS: 1364 & IS: 3138), washers, anchor plates, stiffener plates, protective tapes etc. upto & inclusive of 80mm diameter and upto 3000mm long, for columns including pipe sleeves, templates wherever necessary etc. all complete as per specifications and directed by the Engineer.	MT	50			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
703	Taking delivery of material from BHEL stores/storeyard, transportation to work spot and erection, installation and alignment of embedments, MS inserts, pipe sleeves, rails, guide rails, angle pieces, anchor bolts, foundation bolts of various diameters, plates of dimensions as required including cost of all labour, equipment, material, templates, loading, unloading etc. all complete as per specifications, drawings and as directed by Engineer.	MT	15			
800	GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:					
801	Providing & grouting cement slurry mix at any elevation/depth with pressure pump for water retaining concrete structures, including supply and fixing nozzles, cost of approved cement, admixture, curing etc all complete as per specification and as directed by the Engineer.	SQM	35			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
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, Power house foundations at any elevations including roughning 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	15			
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	25			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
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	25			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
900	DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTITIONS ETC. COMPLETE INCLUDING FRAMING , KICK PLATES, STOPPERS AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING. ALL STEEL DOOR, WINDOW, VENTILATOR SHALL CONFORM TO IS: 1038 & IS: 1361 AND ALLUMINIUM DOOR ,WINDOW AND VENTILATOR SHALL BE FABRICATED AS PER IS: 1948 and IS: 1949. ALUMINIUM SECTIONS FOR FABRICATING DOORS WINDOWS, PARTITIONS ETC. SHALL BE EXTRUDED SECTIONS CONFORMING TO IS: 733 OR IS: 1285. ALL WOODWORK SHALL BE PAINTED WITH TWO COATS OF POLYURETHANE PAINT OVER A COAT OF APPROVED PRIMER AS PER ITEM NO. 1312.ALL STEEL DOORS, WINDOWS, VENTILATORS, LOUVERS, ROLLING SHUTTERS SHALL HAVE TWO COATS OF SYNTHETIC ENAMEL PAINT OVER A COAT OF RED OXIDE ZINC CHROMATE PRIMER CONFORMING TO IS-2014 AS PER ITEM NO. 1309. QUOTED RATE SHALL BE INCLUSIVE OF ALL THE ABOVE WITH PRIMER BUT EXCLUDING PAINTING.					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
901	Providing and fixing 40mm thick solid core flush door shutters (single or double) with commercial faces and hard board edges conforming to IS: 2202 (part-I) Core of solid core doors shall be of block board or wood particle board of approved make with glazed vision panel including all fixtures, Godrej make Mortice lock with handle on both sides, shop painting/polishing as per specification all complete including test certificates. (Frames shall be measured and paid under separate item No. 914).	SQM	210			
901(A)	Providing and fixing steel windows/ventilator of fixed type with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision. Glazing shall be of 6.0mm thk. toughened safety glass panes including all fittings, metal beadings, hold fasts, primer painting as per specification all complete. Rate shall be inclusive of Glazing.	SQM	50			
902	Providing and fixing steel windows of fixed type with steel sections as per IS:1038, IS:1361 6.0mm thk. wired glass panes including all fittings, metal beadings, hold fasts, primer painting as per specification all complete. Rate shall be inclusive of Glazing.	SQM	675			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
903	Providing and fixing steel openable windows/ventilators with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision. Glazing shall be of 5.0mm thick float glass panes including all fittings, metal beadings, hold fasts, primer painting as per specification all complete. Rate shall be inclusive of Glazing.	SQM	630			
903a	Providing and fixing steel partly fixed and openable windows with steel sections as per IS:1038 and IS:1361 & IS:7452 Latest Revision. Glazing shall be 6 mm thk wired glass on fixed portion and 4 mm thk float glass on openable portion including all fittings, beadings, hold fasts, shop and final painting as per specification all complete(excluding glazing). Glazing shall be paid separately under Item No. 919.	SQM	235			
903b	Providing and fixing steel partly fixed and openable windows with steel sections as per IS:1038 and IS:1361 & IS:7452 Latest Revision. Glazing shall be 5.5 mm thk float glass on fixed portion and 4 mm thk float glass on openable portion including all fittings, beadings, hold fasts, shop and final painting as per specification all complete (excluding glazing). Glazing shall be paid separately under Item No. 919.	SQM	510			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
903c	Providing and fixing fixed/openable type steel ventilators with steel section as per IS:1038 and IS:1361 & IS:7452 Latest Revision. Glazing shall be 6 mm thk ground glass on fixed portion and 4 mm thk ground glass on openable portion including all fittings, beadings, hold fasts, shop and final painting as per specification all complete(excluding glazing). Glazing shall be paid separately under Item No. 919.	SQM	110			
904	Providing and fixing anodized extruded aluminium windows (single or double shutter) including aluminium frame conforming to IS:1948, IS:1949 fabricated from extruded sections of INDAL/JINDAL or approved equivalent having minimum 3.0mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 4.0mm thickness including snap fit type beading, concealed screws, fixtures, Godrej make Mortice lock with handle on both sides etc complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required.(Frames shall be measured and paid under separate item under Item No. 910). Rate shall be inclusive of Glazing.	SQM	635			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
905	Providing and fixing anodized extruded aluminium ventilators conforming to IS:1948, IS:1949 fabricated from extruded sections of INDAL/JINDAL or approved equivalent having minimum 3.0mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 4.0mm thickness including snap fit type beading, concealed screws, fixtures, etc complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required.(Frames shall be measured and paid under separate item under Item No. 910). Rate shall be inclusive of Glazing.	SQM	130			
906	Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge teel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, semitubular edge and central stiffening rail spot welded in position at not more than 150mm on centres including all superior quality fittings, Godrej make Mortice lock with handle on both sides, primer painting complete as per specification. (Frames shall be measured and paid under separate item No. 914).	SQM	85			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
907	Providing and fixing steel single or double shutter doors. Shutters shall be of 18gauge M.S. sheets and shall present a flush surface on the outside. The inside shall be stiffened with semitubular edge and central stiffening rail which shall convey the lock. Complete with fixtures, Godrej make Mortice lock with handle on both sides, primer painting as per specification. (Frames shall be measured and paid under separate item No. 914).	SQM	415			
908	Providing and fixing fire proof steel door shutters (single or double shutter) conforming to IS:3614(part-1 & part-2). Shutters shall be minimum 60mm thick 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 with mineral wool insulation, with zinc sillicate primer (minimum DFT 75 micron) after blast cleaning and shall be finished painted with epoxy based painting including door frame, all fittings complete as per specification. and shall be TAC approved with minimum 2 hrs. fire rating.	SQM	215			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
909	Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of INDAL/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 6.0mm thickness including snap fit type beading, concealed screws, fixtures, Godrej make Mortice lock with handle on both sides etc complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Frames shall be measured and paid under separate item under Item No. 910). Rate shall be inclusive of Glazing.	SQM	960			
910	Providing and fixing in position anodised aluminium frame for doors, windows, ventilators having minimum 3mm wall thickness as per IS:1285 and electro colour coating of minimum 15 micron thickness including holdfast, fillingup of gapes at junctions, at top, bottom and sides etc all complete as per specification.	Kg	5250			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
910a	Providing and fixing anodized aluminium work in doors, windows, ventilators and partitions etc with extruded standard tubular and other sections including all fittings and fixtures and accessories of aproved make confirming to IS 733 and IS 1285, anodised and Electrolically dyed to required shape according to IS 1868 (min. anodic coating of grade AC15), fixed with roll plucks, expansion fasteners, screws or with fixing clips including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bimetallic protection etc. including reperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/paneling with all fittings and fixtures (like tower bolts, handles, door stoppers with rubber shoes, "L" drops, stays, floor springs, hydrolic door closers of YALE make etc), C.P. brass/ stainless steel screws, providing and fixing hinges/pivots, and making provisions for fixing of fittings where ever required including the cost of PVC/neoprene gas fits all complete as per..Contd.	Kg	14600			
Contd.drawings, specifications and instruction of engineer (glazing and paneling to be measured and paid separately under Item No. 919 and 921)					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
911	Providing and fixing aluminium glazed partition. Aluminium sections shall be of extruded sections of INDAL/JINDAL or approved equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 5.5mm thickness of concealed screws, hold fast, fixtures, Godrej make Mortice lock with handle on both sides, necessary fillingup of gaps at the junctions, at top, bottom and sides, etc complete. Aluminium section shall be smooth, rust free, straight, mitred & jointed mechanically wherever required. Rate shall be inclusive of Glazing.	SQM	850			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
912	Providing and fixing aluminium glazed partition with double glazing. Aluminium sections shall be of extruded sections of INDAL/JINDAL or approved equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Double glazing shall be of two clear float glass of 5.5mm thickness sealed and separated by 12mm air-gap including colour anodised aluminium beading, concealed screws, hold fast, fixtures, PVC/neoprene gasket, necessary fillingup of gaps at the junctions, at top, bottom and sides, etc complete. Aluminium section shall be smooth, rust free, straight, mitred & jointed mechanically wherever required. Minimum anodising thickness shall be 15micron. Rate shall be inclusive of Glazing.	SQM	410			
913	Providing and fixing of over head hydraulic door closers of "Yale" make or approved equivalent & quality as directed by Engineer.	NOS	270			
913 (A)	Providing and fixing floor mounted Hydraulic door closer of approved make & quality as directed by engineer	Nos	10			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
914	Providing and fixing pressed steel frames fabricated from 16 gauge M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars etc complete as per specifications.	Kg	4500			
915	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres 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, primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make - Mechanically operated . The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.	SQM	155			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
916	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres 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, primer & shop coats of approved enamel paint etc, all complete as per as per IS 6248 and specification of approved make - Hand operated. The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanisedsteel plate and securely rivetted with stiffening angles.	SQM	75			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
917	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres 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, primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make - Electrically operated . The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.	SQM	200			
918	Providing and fixing in position PVC doors of best quality Sintex for toilet doors including all fittings of best quality.	SQM	500			
919	Providing, fitting and fixing glazing of approved quality of Modiguard or equivalent at various elevations, where required, cleaning after fixing, with all labour and material etc. complete as per specification, drawing and instructions of engineer in charge.					
i)	4 mm clear sheet glass	SQM	40			
ii)	5.5 mm sheet glass	SQM	500			
iii)	4 mm clear float glass	SQM	50			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
iv)	5.5 mm clear float glass	SQM	50			
v)	6 mm wired glass	SQM	30			
vi)	Polycarbonate sheet	SQM	100			
vii)	5.5 mm tinted glass	SQM	20			
viii)	Two nos. 6 mm thick clear toughened safety glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	150			
921	Providing and fixing 12 mm thick BWP particle board , decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading (excluding the cost of aluminium works).	SQM	50			
1000	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, SCAFFOLDING ETC. COMPLETE AS PER SPECIFICATIONS, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
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.					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	1445			
1002	Providing brick work in cement mortar 1:6 (1 part cement 6 part 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 and painting.					
i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	9275			
1003	Providing brick work in cement mortar 1:4 (1 part cement 4 part coarse sand) in partition walls, chambers etc. 115mm in thickness heights, places and position above or below plinth/graded level including providing H.B. netting 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	2355			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1004	Providing 254mm thick brick work in cement mortar 1:4 (1cement : 4 coarse sand) in walls, chambers etc. at all heights, places and position above or below plinth including raking out joints, curing, scaffolding, providing 3 nos. 6mm dia. MS bars at every third layer including cutting, bending, placing, tying/welding of reinforcement bar etc complete but excluding plastering and painting, using bricks of class designation 7.5 as per specification.					
i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ²	CUM	1950			
1005	Providing 127mm thick brick work in cement mortar 1:4 (1 cement : 4 coarse sand) in partition walls, chambers etc. at all heights, places and position above or below plinth/graded level including providing 2 nos. 6mm dia. MS bars at every third layer, raking out joints, curing, scaffolding etc. all complete using bricks of class designation 7.5 excluding plastering and painting as per specification.					
i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ²	SQM	395			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1006	Providing and laying brick using fly ash lime bricks on edge surfacing with class designation 7.5 of nominal dimensions including 12mm thick cushion of sand, excavation, disposal of surplus earth, spreading of earth, ramming, watering etc. complete in all respects, as per specification and directed by Engineer.	SQM	165			
1007	Providing and encasing of structural steel member with masonry work using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm ² around flanges, webs etc and filling the gap between steel and masonry by minimum 12mm thick mortor. Encased member shall be wrapped with chicken wire mesh as per specification.	CUM	220			
1008	Making openings/cutout in existing finished brick wall or partition wall including making good the broken edges/surface with cement mortar, fixing steel section to be paid seperately under Item ST no.701/207 respectively , painting, finishing to match with existing finishing, scaffolding/ staging works, gas cutting of reinforcement/structural work, cleaning and removing of all debris within 1Km lead etc. all complete and as directed by Engineer.	CUM	135			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1009	Dismantling existing brick work at all level including stacking and removing the debris within a lead of 1Km., including transportation, loading, unloading, etc all complete and as directed by Engineer.	CUM	75			
1010	Filling existing brick wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar 1:4, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris etc. all complete and as directed by Engineer.	SQM	65			
1011	Ruled pointing in masonry in CM 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	165			
1012	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	230			
1013	Providing and filling brick bats using fly ash lime bricks in soak pits, below plinth protection etc complete.	CUM	685			
1100	DAMP PROOF COURSE INCLUDING ALL MATERIALS, LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1101	Damp Proof Course 40mm thick 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	SQM	730			
1200	CEMENT MORTAR PLASTER INCLUDING MAKING GROOVES WHEREVER REQUIRED AT ANY HEIGHT, ALL MATERIALS, SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish as per specification including providing 3mmx3mm size grooves at junctions of two dissimilar materials.	SQM	16590			
1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification.	SQM	49670			
1202a	Providing 12mm thick plaster in cement mortar 1:6 on walls with rough finish as per specification.	SQM	800			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1203	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth as per specification.	SQM	8235			
1205	Providing 18mm thick plaster in cement mortar 1:6 on walls finished to a wooden float/smooth/ rough finish as per specification.	SQM	1580			
1300	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION AT ANY HEIGHT INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
1303	Two or more coats of distempering with oil bound washable distemper as per IS:428 of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete over 2mm thick P.O.P punning which will be paid separately under Item No.1310.	SQM	68880			
1305	Providing two coats of Acrylic emulsion paint of approved brand and manufacture to give an even shade, one coat of solvent thinnable cement primer of approved shade & quality complete over 2mm thick P.O.P punning which will be paid separately under Item No.1310. as per specifications.	SQM	2315			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1305(a)	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	13360			
1306	Providing and applying 2 or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying primer etc all complete as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level.	SQM	215			
1306a	Providing and applying 2 or more coats of Acid Alkali resistant chlorinated rubber paint over a suitable primer of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying primer etc all complete as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level.	SQM	25			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1307	Two or more coats of fire resistant paint to withstand 2 hrs of fire as per approved grade and manufacture to give an even shade complete.	SQM	510			
1308	Two or more coats of black anti-corrosive bitumastic painting of approved brand and manufacture to give an even shade complete.	SQM	110			
1309	Two or more coats of synthetic enamel paint made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to all interior, exterior surfaces and steel surfaces complete.	SQM	1060			
1309a	7 mm thick mirror polished vitrified ceramic tiles on masonry walls upto false ceiling height including underbed of cement mortar 1:3 with neat cement punning as per specification	SQM	1060			
1309b	Coloured 5 mm thick ceramic tiles upto 2.10m with border tiles in toilets/canteen including underbed of cement mortar 1:3 with neat cement punning as per specification.	SQM	1190			
1309c	Resin bonded grannular textured finish (Vineratex)	SQM	1545			
1309d	20 mm thick polished granite on lift facia, control room wall facing TG bay including underbed of cement mortar 1:3 with neat cement punning as per specification.	SQM	690			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1309e	oil resistant paint upto 1.2 m height	SQM	1050			
1310	Providing and applying 2 mm thick plaster of paris punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	48000			
1311	Providing and applying ready made Epoxy Paint over areas other than steel structure with suitable pigments of approved shade as per specification and direction of Engineer. The epoxy paint shall be a two pack material and shall be resistant to water, splash, spillage & acidic environment. The epoxy paint coating shall be of 150micron thickness over epoxy primer.	SQM	5260			
1312	Providing and applying two coats of polyurethane paint over wood work of approved shade as per specification and direction of Engineer.	SQM	250			
1313	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	250			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1400	FLOORING AND SKIRTING INCLUDING BASE LAYER AND ALL MATERIALS, LABOUR, CURING, POLISHING ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS, DESCRIBED IN SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
1401	Providing and laying 40 mm thick heavy duty cement concrete flooring of size 300mm x 300mm with metallic hardener pigmented topping using 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). Dividing strips shall be paid separately under item 1424	SQM	37290			
1402	Providing and laying 40 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping using 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. Dividing strips shall be paid separately under item 1424	SQM	1180			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
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 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. Contractor shall obtain approval from BHEL/MPPGCL before procurement along with laboratory test of the samples.	SQM	375			
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	45			
1405	Providing and laying interlocking M30 concrete blocks of thickness 60 mm as paving (for covered parking area) of approved colour and pattern and should be laid on the consolidated subbase and bedding (Stone crusher dust) as per specifications and recommendations of manufacturer.	SQM	210			
1406	Providing and laying 50mm thk floor finish with 25 thk Terrazo Tiles including cement mortar bedding of 1:3 with neat cement punning as per specification.	SQM	425			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1407	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 tonechip 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	3370			
1408	Providing polished Kota stone 20 mm thk in skirting projecting 6mm from adjacent plaster including cutting brickwall upto the required depth, edding, finishing etc. complete.	SQM	80			
1409	Marble stone Flooring laid in minimum 50mm overall thickness with 19mm thick marble slabs (grade -1) of size 600mm x 450mm and 31mm thick underbed of 1:3 cement mortar.	SQM	475			
1410	Providing and laying polished Granite stone of approved color and texture 20 mm thk in flooring with brass/ stainless steel strips. 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	45			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1411	Providing and laying polished Granite stone 20 thk in skirting and dado with 6mm thick projection from adjacent plaster including pigments, curing, grinding, granite polishing etc. complete.	SQM	20			
1412	Providing and laying 7 mm thk vitrified ceramic tiles of polished variety of size 300x300 from reputed manufacturer, complete including underbed of cement mortar 1:3 with neat cement punning as per specification	SQM	6600			
1412a	Providing and laying 7 mm thk vitrified ceramic tiles of unpolished variety of size 300x300 from reputed manufacturer including underbed of cement mortar 1:3 with neat cement punning complete as per specification.	SQM	115			
1413	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 including underbed of cement mortar 1:3 with neat cement punning complete as per specification.	SQM	100			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1413a	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 including underbed of cement mortar 1:3 with neat cement punning complete as per specification.	SQM	30			
1414	Providing and laying best quality granite stone slab of 20mm thickness single piece for wash basin slab, Pantry platform in service building of black or approved colour with cutting and opening complete.	SQM	20			
1415	Providing and laying Heavy Duty dust pressed Ceramic Tiles of size 300x300x7mm thick of reputed manufacturer of approved finish shade and colour including underbed of cement mortar 1:3 with neat cement punning .	SQM	400			
1416	Providing & fixing 20mm thick Acid / Alkali resistant vitreous tile lining confirming to IS:4457 in flooring/Dado and shall be laid over over bitumastic lining of min 12mm thick (to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441 & 4443 including preparation of surface, application of bitumen primer, curing etc. all complete as per specification and direction of Engineer.	SQM	230			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1417	Providing & fixing 38mm thick Acid / Alkali resistant vitreous tile lining confirming to IS:4457 in flooring/Dado and shall be laid over over bitumastic lining of min 12mm thick (to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441 & 4443 including preparation of surface, application of bitumen primer, curing etc. all complete as per specification and direction of Engineer.	SQM	280			
1418	Providing & fixing 75mm thick AR bricks (conforming to Class-I of IS:4860) lining laid over over bitumastic lining of min 12mm thick (to be laid in layers of 6mm each). The brick shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441 & 4443 including preparation of surface, application of bitumen primer, curing etc.all complete as per specification and direction of Engineer.	SQM	115			
1419	Providing and laying marble dado of minimum 20mm thickness projecting 6mm from adjacent plaster all complete including underbed cement mortar 1:3, labour, material, scaffolding, etc as per specification.	SQM	20			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1420	Providing and laying Heavy Duty Ceramic Tiles (Matt Finish) of size 300x300mm, 7mm thick of reputed manufacturer (Kajaria, Spartek or equivalent) of approved finish, shade and colour. The tiles shall be scratch resistance of minimum 5 on Mohr's scale and shall have a bending strength of 350 Kg./sqm,with under layer of 20mm thick consisting of 1 part of lime putty:1 part surkhi:2 parts coarse sand by weight complete as per specification. including all material, labour, etc all complete.	SQM	80			
1421	Providing and laying 2mm thick antistatic PVC floor of approved shade including all labour, material etc all complete as per drawing and as directed by Engineer.	SQM	120			
1422	Providing and laying 40mm thick Cast-in-situ terrazo finish in floors , landings, treads and risers. Under layer 28mm thk cement concrete 1:1.5:3 by Volume and topping of 12mm thk. with marble chips of size 1mm to 10mm nominal size laid in white, grey cement or mixture or both in proportion 1:1.5 with white marble powder 3:1 in proposition mixed dry in cement including pigments rubbing/grinding, polishing etc. including 40X3 mm aluminum strips all complete as per specification. Dividing strips shall be paid separately under item 1424	SQM	850			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1423	Providing and laying 25mm thick terrazo finish cast in situ skirting/dado projecting out 6mm from adjacent plaster/finish as per specification all complete and topping of 12mm thk with marble chips of size 1mm to 10mm nominal size laid in white grey or mixture of both in proportion 1:1.5 with white marble powder 3:1 in proportion mixed dry in cement including pigments rubbed/grinding, polishing etc. including 40X3 mm aluminum strips all complete as per specification. Diving strips shall be paid separately under item 1424	SQM	90			
1424	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	500			
ii)	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	500			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1500	PROVIDING AND ERECTING ROOFING/SIDE CLADDING INCLUDING FLASHINGS (EXPOSED SURFACE OF FLASHINGS SHALL BE MEASURABLE), LAPS, SCAFFOLDING , HOOKS, WASHERS, CORNER PIECES, ETC. COST OF ALL MATERIAL, LABOUR, EQUIPMENT, CLEATS, SHEETING RUNNERS, RAILS, MILD STEEL WIND TIES (HORIZONTAL/VERTICAL) AND ANY OTHER STEEL WORKS (WHICH SHALL BE MEASURED AND PAID SEPARATELY UNDER ITEM NO.2300) ETC. AT ALL ELEVATIONS COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY THE ENGINEER FOR THE FOLLOWING:					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1501	Designing, providing and fixing permanently color coated galvanised MS troughed metal sheet decking plate as per IS:513 over roof purlins as per relevant IS code and specification. Thickness of deck plate shall be minimum 0.8mm (base metal excluding coating), with minimum trough depth of 44 mm, with minimum yeild strength of 240 Mpa and shall serve as permanent shuttering to the cast-in-situ roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete, imposed loads and construction loads over a span of around 1800mm between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc. complete as per engineers approval and specification. The sheet shall be permanently coated with silicon modified polyster paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising as per IS:277 @ 275 gm/sqm	SQM	11550			
	contd.. including fixing of sheet to purlin with self drilling white zinc plated heat treated high carbon steel screws of minimum 5.5 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. (height of trough required as per design should be included in the cost). Measurement shall be of the plan area of roof covered by MS trough metal decking.					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1501A	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	20			
1502	Design, supply & erection of permanent colour coated thermally insulated sandwiched metal cladding for external walls having troughed zinc-aluminium alloy coated (both sides) of M.S. sheet having 0.6mm minimum thickness and galvanized @ 275gm/sqm (or high tensile steel sheet having min. yield strength of 350 Mpa and 0.5mm minimum thickness coated with Zinc alluminium alloy galvanization @ 150gm/sqm). The outer sheet (exposed face) shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of Dry Film Thickness (DFT) 20 microns (minimum) over primer. Inner side of both sheet shall be provided with Polyfluro Vinyl Coating (PVF2) as a pre-coating of minimum DFT of 7 microns. Galvanised M.S. sheets of minimum 0.6mm thickness shall be used as inner liner (internal face) of cladding system. The exposed face of inner sheet shall be permanently colour coated with silicon modified polyester paint of DFT 20 microns (minimum) over primer.contd	SQM	7400			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
	contd..... .The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. Inner sheet shall be fixed directly to side runners and Z spacers made out of atleast 2 mm thick galvanized steel sheet of grade 375 as per IS : 277. Inner sheet shall be fixed @ not more than 1.50 m center to center to hold the insulation and external sheeting. The insulation shall be of bonded mineral wool blanket of minimum thickness 50 mm conforming to IS : 8183, having a density of 32 Kg/cu.m. for glass wool & 48 Kg/cu. M. for rock wool.Cladding shall be fixed to supports/rails by concealed fixing system with high quality corrosion resistant grade of self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm.					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1503	Design, supply & erection of single sheet metal cladding for external walls , ridge, hips, flashing/trimming /closure for vertical/ horizontal joints, capping (made out of plain sheets having same material and coating specification as mentioned below) with sheeting having troughed zinc-aluminium alloy coated (both sides) M.S. sheet having 0.6mm minimum thickness galvanisation @ 275gm/sqm (or high tensile steel sheet having minium yield strength of 350 Mpa and of 0.5mm minimum thickness coated both sides with troughed Zinc alluminium alloy galvanization @ 150gm/sqm) shall be used for the cladding system. The outer side (exposed face) shall be permanently colour coated with PVF2 paint of minimum DFT 20 microns over primer and the inner side (internal face) shall be coated with same paint of minimum DFT 12 microns over primer. These shall be fixed directly to runners with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap.. The sheets shall meet the general requirement of IS: 14246 and shall conform to class 3 for the durability.	SQM	1580			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1503(A)	Design, supply & erection of Permanent colour coated non insulated metal cladding (made of two sheets outer and inner which will be measured as a single area) for external walls , ridge, hips, flashing/trimming /closure for vertical/ horizontal joints, capping (made out of plain sheets having same material and coating specification as mentioned below).M.S. sheet 0.6mm minimum thickness and having troughed zinc-aluminium alloy coated (both sides) @275 gm/sqm of galvanisation (or high tensile steel sheet having minimum yield strength of 350 Mpa of 0.5mm minimum thickness coated with zinc alluminium alloy on both sides having galvanization @150 gm/sqm). The exposed face of outer sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of Dry Film Thickness (DFT) 20 microns (minimum) over primer. The exposed surface of inner sheet shall be permanently colour coated with silicon modified polyester paint of DFT 20 microns (minimum) over primer. Inner face of both sheet shall be provided with Polyfluro Vinyl Coating (PVF2) as a pre-coating of minimum DFTContd.	SQM	2500			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
	Contd.... of 12 microns over primer. The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. Inner sheet shall be fixed directly to side runners and Z spacers made out of atleast 2 mm thick galvanized steel sheet of grade 375 as per IS : 277. Inner sheet shall be fixed at the rate not more than 1.50 m center to center. 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.					
1600	PROVIDING AND FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING POLISHING/ PAINTINGS, LABOUR ETC., ALL COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1602	Providing 50 mm thick fibre glass under deck insulation having min. density 24kg/cum faced with reinforced aluminium foil (FSK) and fixing to ceiling with anchor fasteners at interval of 600mm c/c in both directions, sealing the joint with 75mm wide aluminium foil tape / PVC adhesive tape and held in position with 22 G GI cross wires and wire netting of 12.5mm x 0.71mm (22 G) shall be stretched over the finished insulation and secured with anchor fasteners to prevent any sagging etc. all complete as per specifications and drawings.	SQM	2590			
1603	Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour and Luxalon make or approved equivalent (Type-84C, Interior) with corrosion resistant aluminium alloy panels of minimum thickness 0.5mm 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) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. M.S. channels shall be paid under item no. 2301					
1603(a)	Tile type square pattern panels of 600mm X 600mm size with Tee support.	SQM	150			
1603(b)	Lineal pattern (closed type) of 100 mm nominal width with carrier support	SQM	350			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1605	Providing and Fixing 12.5mm thick Gypsum board plain false celing tiles of India Gypsum or equivalent make 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 all complete with smooth finish as per specifications, drawings and as directed by Engineer. Painting shall be measured & paid separately under item no. 1305	SQM	1690			
1606	Providing and Fixing partical board false ceiling 12mm conforming to IS:3087.	SQM	900			
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	HCI down take pipes of 100 mm dia with water tight lead joint as per specifications	RM	1230			
1702	MS down take pipes of 100 mm dia- Medium quality galvanised as per IS:1239(part-I)	RM	550			
1703	HCI down take pipes of 150mm dia with water tight lead joint as per specifications	RM	1250			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1704	MS down take pipes of 150 mm dia- Medium quality galvanised as per IS:1239(part-I)	RM	1250			
1800	MISCELLANEOUS					
1801	Providing and fixing PVC water stops					
a)	150mm wide 8mm thick in all construction joints in under ground structur	RM	500			
b)	225mm wide 8mm thick in all expansion joints in under ground structur	RM	3750			
1802	Providing and fixing in position 25mm wide and 25mm thick blown bitumen in expansion joints as per specification.	RM	110			
1803	Supplying and installation of 25mm thick vibration damping resistoflex or approved equivalent pads around foundation of vibrating equipment and other locations as directed by the Engineer including cost of all materials labour equipment etc complete as per drawing and specifications.	SQM	110			
1804	Providing and fixing bitumen impregnated fibre joint filling board of following thickness , fillers along with PVC water bar etc for expansion joint in water retaining structures all complete as per specifications, drawing and as directed by Engineer.					
a	12mm thick joints.	SQM	160			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
b	20mm thick joints.	SQM	20			
c	25mm thick joints.	SQM	80			
1805	Supplying and laying of rounded gravels of specified thickness in transformer yards, pathway etc, as directed by Engineer.	Cum	800			
1806	Providing 50mm thick anticorrosive layer laid to slope consisting of compacted crushed stone screenings, fine gravel, clean sand or similar material as directed by the Engineer, mixed in hot asphalt 10% by volume and rolled or compacted complete as per drawings and specifications, below fuel oil tanks and at such other places as per specifications and as directed by the Engineer.	SQM	200			
1807	Providing 50mm thick premix carpet surfacing laid to slope in two layers 30mm and 20mm respectively with 12mm and down broken stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction and cost of all material, labour all complete as per specification and as directed by the Engineer.	SQM	530			
1808	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	110			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1809	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide unless specified otherwise with minimum lap of 50mm length all complete as per specification.	RM	160			
1810	Providing, laying and fixing transformer rails including guide rails in concrete including joining of rails, anchoring lugs etc complete as per specification and as directed by Engineer.	MT	65			
1810A	Providing, laying and fixing rails over the girder beam for EOT crain in TG Hall including guide rails in concrete including joining of rails, anchoring lugs etc complete as per specification and as directed by Engineer.	MT	25			
1811	Supplying and 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. Earthwork excavation & backfilling shall be paid separately under relevant items.	MT	450			
a)	Main Earthing pit with charcoal & salt, GI pipes, GI wire & GI strips etc. complete as per specification & standard practice	Nos.	3			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1812	Design, supply, fabrication, installation of truly levelled and aligned min. 400mm high cavity flooring comprising of 35mm thick Deco board / Nova teak super particle board of size 610mm x 610mm floor panels having 2mm thick anti-static PVC sheet on top, 2mm thick hard PVC strip lipping on edges and 26 G aluminium sheet fixed with araldite on underside including cutting of panels where required for cables etc with supporting system comprising of 25mm dia galvanised MS threaded rod and pressure die cast zinc alluminium alloy adjustable head attachment at top and welded to 100x100x8mm base plate, pedestal fixed to floor by means of expansion fasteners to existing floor at a distance of 610mm center to center bothways etc all complete as per specification and as directed by Engineer.	SQM	210			
1813	Designing, providing and fixing of Heavy duty galvanised friction anchor fasteners of Hilti/Equivalent make of dia. 16mm and appropriate length in concrete (minimum grade M30) to take direct tension of minimum 1.8MT including anchor fastener, materials, equipment, labour, scaffolding complete as per direction of Engineer.	Each	55			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1814	Designing, providing and fixing of Heavy duty galvanised friction anchor fasteners of Hilti/Equivalent make of dia. 20mm and appropriate length in concrete (minimum grade M30) to take direct tension of minimum 2.5Mton including anchor fastener, materials, equipment, labour, scaffolding complete as per direction of Engineer.	Each	55			
1815	Designing, providing and fixing of Heavy duty galvanised chemical anchor fasteners of Hilti/Equivalent make of dia. 12mm and appropriate length in concrete (minimum grade M30) to take direct tension of minimum 1.0Mton including anchor fastener, materials, equipment, labour, scaffolding complete as per direction of Engineer.	Each	55			
1816	Designing, providing and fixing of Heavy duty galvanised chemical anchor fasteners of Hilti/Equivalent make of dia. 16mm and appropriate length in concrete (minimum grade M30) to take direct tension of minimum 1.6Mton including anchor fastener, materials, equipment, labour, scaffolding complete as per direction of Engineer.	Each	55			
1816(A)	Providing & fixing PVC pipes in cable duct banks, opening in RCC works at all elevations of following category and size including cutting, fixing & levelling in position as per drawings, specifications all complete					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
a	LDPE pipes (medium duty with wall thickness 3mm)					
	100mm dia.	Rm	100			
	150mm dia.	Rm	150			
	200mm dia.	Rm	200			
b	HDPE pipes (Heavy duty with wall thickness 5mm)					
	100mm dia.	Rm	100			
	150mm dia.	Rm	150			
	200mm dia.	Rm	200			
c	UPVC pipes (4Kg/sqcm pressure)					
	100mm dia.	Rm	100			
	150mm dia.	Rm	150			
	200mm dia.	Rm	200			
1818	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	1630			
1819	Providing, laying and fixing Aluminium nosing angle for RCC staircase in concrete including anchoring lugs etc complete as per specification and as directed by Engineer.	Kg	200			
2000	FENCING AND GATES.					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2001	Supplying and fixing 600mm high G.I. barbed wire fencing consisting of min. 6 nos. strands on top of boundary wall/ above chain link fencing in ransformer yard including supplying & fixing galvanised mild steel posts, GI clips, anchors, with touch of equivalent G.I. paint in case of welding etc.,complete as per specification, drawing and as directed by the Engineer.	SQM	150			
2002	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 all complete. Excavation,backfilling, concreting required for fixing the gate post shall be paid under relavant Items of BOQ.	MT	5			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2003	Supplying and erecting in position 2.4 m high PVC coated galvanized chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 mm and galvanized concertina. Galvanized barbed wires of a height of 0.6 m. shall be provided above chain link fencing. 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 as per specification all complete. Structural post with painting/Galvanization, excavation,backfilling, concreting required for fixing the fencing post shall be paid under relavant Items of BOQ	SQM	1680			
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.	70			
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	NO.	90			
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.	NO.	35			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2104	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.	NO.	10			
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 - 15 mm nominal bore.	RM	245			
2106	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 - 20 mm nominal bore.	RM	200			
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 - 25 mm nominal bore.	RM	45			
2108	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete (for external work) - 15mm nominal bore (N.B).	RM	55			
2109	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete (for external work) - 20mm nominal bore (N.B).	RM	540			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2110	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete (for external work) - 25mm nominal bore (N.B).	RM	145			
2111	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete (for external work) - 50mm nominal bore (N.B).	RM	65			
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.	30			
2112a	Providing and fixing wall to wall 5.5 mm thick float glass Beveled edges mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets, Chromium plated fittings etc complete with CP screws as per specification.	Sq.m.	60			
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.	30			
2113a	Providing and fixing stainless steel towel rails (600mm X 20mm) complete as per specification.	NO.	35			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
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.	30			
2115	Providing and fixing C.P. soap holder mounted with C.P. screws etc complete as per specification.	NO.	30			
2116	Providing and fixing Stainless steel 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.	30			
2117	Providing & fixing P.V.C. water tank of 1000 litres capacity (Syntex or approved equivalent make) in position. The work to include making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete as per specification and at all heights and levels.	NO.	20			
2118	Providing & fixing P.V.C. water tank of 2000 litres capacity (Syntex or approved equivalent make) in position. The work to include making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete as per specification at all heights and levels.	NO.	10			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2118A	Providing & fixing P.V.C. water tank of 5000 litres capacity (Syntex or approved equivalent make) in position. The work to include making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete as per specification at all heights and levels.	NO.	15			
2200	SANITARY WORKS					
2201	Supply and fixing vitreous china Wash Basin oval shaped 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 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.	35			
2202	Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x400x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass trap with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.	NO.	5			
2202a	Providing stainless steel kitchen sink (750mm size) as per specification.	NO.	15			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2203	Providing and fixing colour glazed vitreous china European type water closet with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed vitreous china flushing cistern (same colour as WC) with valveless fittings, necessary C.P connections etc complete as per specification and directed by Engineer.	NO.	30			
2204	Providing and fixing colour glazed vitreous indian type Orissa pattern (580x440mm) water closet (IS:2556-Part 3) with all fittings including flushing cistern (appropriate capacity) with valveless fittings, necessary C.P connections etc complete as per specification and directed by Engineer.	NO.	20			
2205	Providing and fixing wall type glazed vitreous china urinals with photo voltaic control flushing system with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings all complete as per specifications.	NO.	60			
2206	Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bituminous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete and as per specifications.	RM	680			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
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 bituminous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete and as per specifications.	RM	245			
2208	Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bituminous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete and as per specifications.	RM	290			
2208a	Supply, laying and jointing 200mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bituminous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete and as per specifications.	RM	250			
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 - 200mm dia , as per specification.	RM	375			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
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 - 300mm dia , as per specification.	RM	345			
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 - 450mm dia , as per specification.	RM	25			
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 - 600mm dia , as per specification.	RM	25			
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 - 800mm dia , as per specification.	RM	25			
2213a	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 - 150mm dia , as per specification.	RM	25			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2213a1	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 - 250 .mm dia, as per specification.	RM	120			
2213b	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 - 300 mm dia, as per specification.	RM	290			
2213b1	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 - 500 mm dia, as per specification.	RM	290			
2213c	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete - 450mm dia , as per specification.	RM	20			
2213d	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete - 600mm dia , as per specification.	RM	20			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2213e	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete - 800mm dia , as per specification.	RM	20			
2214	Providing and fixing C.I Manhole cover of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.	NO.	35			
2215	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame all complete as per specification.	NO.	65			
2216	Providing and fixing square mouth S.W Gully trap grade 'A' complete with 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.	55			
2217	Providing and fixing square mouth S.W Gully trap grade 'A' complete with 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.	25			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2218	Providing and fixing square mouth S.W Gully trap grade 'A' complete with 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.	25			
2219	Construction of road /yard gullies in 250TH brickwork - 750mm deep with cement concrete M-20 grade foundation, including reinforcement, 12mm cement mortar (1:3) plastering both inside and outside, M.S. rungs @ 250 c/c, C.I. Grating along with frames as per IS standards including necessary earthwork in excavation, backfilling etc complete as per drawings/specifications.	NO.	10			
2220	Providing and fixing C.I. floor traps with C.P jalli complete as per specification.	NO.	75			
2221	Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.	NO.	2			
2222	Providing and installing approved brand single tap water cooler of 150 L cooling capacity complete in all respect.	NO.	2			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2300	STRUCTURAL STEEL WORKS procured from SAIL including Supply, Fabrication, Erection, Alignment, preparation of Fabrication drawings as per specifications from approved agency of BHEL PEM including painting with a coat of primer and also inclusive of all necessary quality test to the satisfaction of engineer/customer for the following.					
2301	Supply, Fabrication, Erection, Alignment, welding, primer painting (primer coat consisting of 2 coats of redoxide zinc-chromate as per IS:2074 & surface preparation as per IS:1477 (Parts I & II). One coat to be applied at shop and the other after erection) of structural steel made from mild steel shall conform to Grade 'A' of IS:2062 for thickness upto and including 20mm and shall conform to Grade 'B' of IS:2062 for thickness beyond 20mm. Medium and High Strength steel shall conform to grade 'Fe-490B' of IS: 8500 or equivalent. Rolled Sections and Plates up to and including 20mm thickness shall be semi-kilned condition and conform to IS 2062 Grade-A. Plates beyond 20mm thickness shall be kilned condition. All steel upto and including 40mm thickness shall be in as rolled condition. Plates beyond 25 mm thickness shall be Normalised and Ultrasonically tested.Pipes shall conform to IS:1161 / IS:1239, Hollow (square and rectangular) Steel Sections shall be Hot Formed conforming to IS:4923 and shall be of Minimum grade Yield strength 240contd	MT	22350			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
	contdchequered plate conforming to IS: 3502 and shall be minimum 6mm thick excluding projection, Steel for chequered Plates shall conform to Grade 'A' of IS:2062, and mild steel rounds, at all elevations involving rolled sections (including mild steel rounds), built up sections fabricated out of plates, rolled sections and combination of plates and rolled sections, in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, shear connectors, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, diaphragm, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails, fencing post contd					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
	contd.....toe plates, MS Rungs, insert plates, edge angles, embedments, lugs,posts, stays, louvers, lacings, gusset plates, safety chains for walkways adjacent to crane girders etc, collection of steel from stores, transportation, straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, erection bolts & nuts (weight erection bolts & nuts not payable, Supply of permanent bolt of grade C mild steel bolts & nuts to be paid separately under ST NO. 2309 (i), assembly, edge preparation, preheating(& use of low hydrogen/ radiogenic electrodes as per specification), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing (as per specification), rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures (Scaffolding, Access ladders, Working Platforms etc.), setting column bases, ... contd					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
	contd.....surface preparation, touch-up painting, dismantling and removal of all temporary structures (weight of temporary structures not payable) complete with all labour,material, electrodes and other consumables, equipment, testing (mechanical and non- destructive as per specification), preparation of fabrication drawings (As per IS 800, IS 816, IS 9595, IS 1367 and IS 9178), joint design calculations and obtaining approvals from BHEL PEM/New Delhi and all other general and special requirements,all other activities required for completion of the work as per specification, drawings and instructions of the Engineer. (All the scrap & surplus steel materials shall be the property of contractor & shall be permitted to take out after obtaining necessary gate passes from BHEL/MPPGCL . Rate for testing of weld joints shall be quoted separately under Item No.2319 to 2322 for UT,RT and DPT test. and for painting under Item No. 2304 & 2305.					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2304	Providing & application of synthetic enamel paint of approved make and colour in coats of minimum 50 micron over steel sections(DFT) already having primer coats (as per ST NO. 2301) Total dry film thickness (DFT) of finished paint should not be less than 100 micron,.at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer.	MT	23050			
2305	Providing and applying Epoxy paint of approved make and 150 micron DFT over epoxy primer over MS Grating/Chequered plate/any other steel structure with all materials,labour, equipment, handling,including protection and Cleaning,scaffolding etc. complete as per specification, drawings and instructions of the Engineer.	MT	5			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2307	Supplying, fabrication , transportation, erection and alignment of factory made electroforged gratings with steel conforming to IS:2062 at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of permanent grade 'C' mild steel bolts and nuts to be paid separately under ST NO. 2309(i)), all welding, edge preparation, blast cleaning of steel surfaces to near white metal surface (Sa 2 1/2) followed by two coats of red oxide zinc-chromate primer and two coats of approved colour, enamel finish paint, testing, complete as per specifications, drawings and instructions of the Engineer.	MT	475			
			322.4			
2308	Extra over above ST NO. 2301 and 2307, for finshing the fabricated grating unit and structural post of fencing with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces, as per specifications, drawings and instructions of Engineer instead of painting with 2 coats of red oxide primer followed by two coats of enamel finish paint.	MT	265			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2309(i)	Supplying and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work complete as per specification, drawings and instructions of the Engineer.	Quintal	85			
2309(ii)	Supply and fixing in positing of high strength structural bolts (of property class 8.8 and product grade 'C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work complete as per specification, drawings and instructions of the Engineer.	Quintal	150			
2309(iii)	Supply and fixing in positing of MS bolts (of grade 4.6) for nominal connections, complete as per specification, drawings and instructions of the Engineer.	Quintal	2			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2310	Dismantling of steel structure at any elevation, lowering of material and carriage of the dismantled material up to field fabrication shop, or, return to projects storage including temporary dismantling, cutting, re- welding, supporting, and restoring to correct position all temporarily dismantled members, re alignment of all adjacent connected members to their correct positions, (weight of such adjacent members and temporarily dismantled members not payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc completeas per specification, drawings and instructions of the Engineer.	MT	35			
2310a	Dismantling of G.I. sheet in cladding at any elevation, lowering of material and carriage of the dismantled material up to field fabrication shop, or, return to projects storage including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per specification, drawings and instructions of the Engineer.	SQM	60			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2311	Addition to, alterations in and/or modification of "Erection Marks" either in erected position or in the shop including cutting of parts, gouging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, turn of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members, (weight of such temporarily dismantled and adjacent members not payable), complete as per specifications, drawings and instructions of the Engineer.					
i)	In erected position	MT	75			
ii)	In fabrication yard	MT	85			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2312	Re-erection of dismantled fabricatied structural steel members requiring additions, modification, (dismantling and additions to, alterations in and/or modification to be paid separately under ST NO. 2310 and 2311 respectively) including carriage of modified "Erection Marks" from the field abrication shop to erection site, lifting to required posiion, aligning in position, tack welding, final welding and touch up painting including emporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position f all temporarily dismnatled members, re-alignment of adjacent connected members, (weight of such temporarily dismantled members and djacent membersnot payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per the specifications, rawings and instructions of the Engineer.	MT	50			
2317	Providng and fixing in position of PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per he construction drawings and for maximum displacement of + 50mm including all taxes, duties, transportations,installation, drilling, bolting , recting, alighning etc., complete as per specification, drawings and instructions of the Engineer (Vertical load carrying capacity of individual earing shall vary from 10MT to 65 MT, as specified in the construction drawings).					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
	Total vertical load carrying capacity for all bearings.					
a)	10MT/15MT vertical load Capacity	Nos.	10			
b)	20MT/25MT vertical load Capacity	Nos.	10			
c)	40MT/45MT vertical load Capacity	Nos.	10			
d)	60MT/65MT vertical load Capacity	Nos.	10			
2318	Supply, fabrication and erection of 4.0mm thick stainless steel liner for coal bunkers of grade AISI:304 (Finish grade 2B cold rolled, Annealed & pickled and skin passed) on entire inclined portion of hoppers and mouth of the hoppers (without allowing any projections in coal flow path). as directed by the Engineer including fixing with stainless steel studs, bolting (including countersunk), welding etc. complete as per specifications and IS standards. Electrode classification shall be E308 D for welding of stainless steel to stainless steel and E309 for stainless steel to mild steel etc. complete as per specifications, drawings and instructions of the Engineer.	MT	60			
2319	Conducting radiography test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).	RM	125			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2320	Conducting ultasonic test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).	RM	75			
2321	Conducting magnetic particle test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).	RM	95			
2322	i) Conducting Dry penetration test on Fillet welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).	RM	5			
2322	ii) Conducting Dry penetration test on Butt welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).	RM	10			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2323	Supplying and fixing in position corrugated galvanized iron sheets of not less than 22 gauge thick with 450 gms / sq. m. at all elevations, complete as per specification, drawings and instructions of the Engineer.	SQM	500			
	TOTAL OF PART - I					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
BILL OF QUANTITIES AND RATE SCHEDULE PART - II FOR CONSTRUCTION OF ROADS,DRAINS AND CULVERTS						
100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
101	Earthwork in excavation upto 2m depth below ground level for foundation, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with poclain/excavator etc but does not require chiselling or blasting.	CUM	20000			
102	Earth work in excavation upto 2m depth below ground level for foundation, trenches, pipe lines, storm water drains etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting/controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.	CUM	19950			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
103	Earth work in excavation for depth exceeding 2.0m but not exceeding 4.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe, pneumatic rock bracker attachment with poclain/excavator etc but does not require chiselling or blasting.	CUM	25			
104	Earth work in excavation for depth exceeding 2.0m but not exceeding 4.0m below ground level for foundation, trenches, pipe lines, storm water drains etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.	CUM	825			
116	Disposal of surplus excavated earth/rock beyond an initial lead of 1km in/outside of the plant at the area earmarked by BHEL/BHEL's Customer for the following lead dumping and levelling the dumped soil/rock & levelling the area from where the material is transported, complete with all lifts as specified and directed by Engineer.					
a	Carriage beyond initial lead of 1KM but not exceeding 2 Km.	CUM	10,000			
b	Carriage beyond initial lead of 1 KM but not exceeding 3 Km.	CUM	5,000			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
c	Carriage beyond initial lead of 1KM but not exceeding 4KM	CUM	3,000			
d	Carriage beyond initial lead of 1KM but not exceeding 5 Km.	CUM	2,000			
117	Extra for Disposal of surplus excavated earth/rock beyond an initial lead of 5km and upto a lead of 10 Km. dumping, levelling the dumped soil/rock and levelling the area from where the material is transported, complete with all lifts as specified and directed by Engineer. (Rate for every 1 Km or part thereof)	CUM	150			
118	Back filling around foundations and plinths, etc.to proper grade and level with selected materials within a lead beyond 1 Km but not exceeding 5 Kms. from available excavated soil including re-excavating loose thickness, watering and ramming in layers of 25 cm. thickness to 80% max. dry denisty by manual / mechanical means, compaction with mechanised compaction machine, dressing etc. complete including transportation.	CUM	5000			
118-X	Back filling around foundations in plinths etc.to proper grade and level with selected materials within a lead upto 1 Km from available excavated soil including re-excavating loose thickness, watering and ramming in layers of 25 cm. thickness so as to achive atleast 90% maximum dry denisty by manual / mechanical means, compaction with mechanised compaction machine, dressing etc. complete including transportation.	CUM	5185			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
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) USING ORDINARY PORTLAND CEMENT GRADE - 43/53 AS PER SECTION - 4 OF COMMERCIAL BID VOL.I COMPLETE AT ALL ELEVATIONS AS PER DRAWING, SPECIFICATIONS UNLESS SPECIFIED OTHERWISE AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
202	Plain Cement Concrete of grade M15 as levelling course,filling, under water retaining structures, equipment foundations, under foundations/floors etc all complete using Ordinary Port land cement 43 Grade	CUM	425			
202a	Plain Cement Concrete of grade M10 as levelling course,filling, under water retaining structures, equipment foundations, under foundations/floors etc all complete using Ordinary Port land cement 43 Grade.	CUM	210			
203	Plain Cement Concrete of grade M20 as levelling course,filling, under water retaining structures, equipment foundations, under foundations/floors etc all complete using Ordinary Port land cement 43 Grade.	CUM	200			
205	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in foundations, under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete using Ordinary Port land cement 43 Grade	CUM	3780			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATION INCLUDING ALL LABOUR, MATERIAL, SCAFFOLDING COMPLETE INCLUDING POCKETS ETC. AS PER SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
301	Ordinary form work (reasonably good steel/plywood surface) below finished ground floor level for foundations, footings, bases of columns, walls, columns pilasters, beams, mass concrete, trenches etc.	SQM	21115			
302	Fairface form work (using commercial laminated plywood with steel/wooden frame) below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc for exposed concrete works.	SQM	1265			
400	REINFORCEMENTS					
401	Providing, straightening, decoiling if any, cutting, bending, placing in position at any level, binding in position of mild steel reinforcement conforming to Grade -1 of IS:432 (part-I) procured from SAIL including cost of binding wires, labour, transportation etc complete all as per specification, drawing and as directed by Engineer. Measurement shall be on the basis of actual steel materials used in the job as per joint protocol including spacer bars, chairs, laps, extra bars if any as per actual site condition. (All the scrap & surplus steel materials shall be the property of contractor & shall be permitted to take out after obtaining necessary gate passes from BHEL/MPPGCL	MT	5			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
402	Providing, straightening, decoiling if any, cutting, bending, placing in position at any level, binding in position of tor steel reinforcements conforming to grade Fe- 415/500 and IS:1786 procured from SAIL including cost of binding wire, labour, transportation etc complete all as per specifications, drawings and as directed by Engineer. Measurement shall be on the basis of actual steel materials used in the job as per joint protocol including spacer bars, chairs, laps, extra bars if any as per actual site condition. (All the scrap & surplus steel materials shall be the property of contractor & shall be permitted to take out after obtaining necessary gate passes from BHEL/MPPGCL	MT	370			
500	WATER PROOFING AS PER SPECIFICATIONS. (Contractor has to furnish a guarantee for material and workmanship of Roof water proofing, for a minimum period of 10 years as per specifications. To ensure this successful BIDDER has to submit BG / FD for equivalent amount of respective items valid for 10 years period)					
501	Providing and mixing approved water proofing compound conforming to IS:2645 in concrete or cement mortar @8kg/cum for works wherever specified or directed as per specification / manufacturer's instructions, testing of samples for water proofing etc complete.	KG	18980			
700	M.S. EMBEDMENTS					
701	Supply , fabricating and fixing of embedments, MS inserts , pipe sleeves, guide rails, angle pieces, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting complete as per specifications, drawings and as directed by Engineer.	MT	12			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
1000	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, SCAFFOLDING ETC. COMPLETE AS PER SPECIFICATIONS, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
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/cm ²	CUM	270			
1200	CEMENT MORTAR PLASTER INCLUDING MAKING GROOVES WHEREVER REQUIRED, ALL MATERIALS, SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
1204	Providing 15mm thick neat plaster in drains/culverts as per specification.	SQM	16310			
1205	Providing 18mm thick plaster in cement mortar 1:6 on walls finished to a wooden float/smooth/rough finish as per specification.	SQM	190			
1206	Providing and fixing weep holes in Drains/retaining wall etc. 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.	5000			
2400	ROAD WORK (MAIN PLANT ROAD & APPROACH WBM ROAD FROM MAIN ROAD TO OPEN STORAGE YARD)					

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2401	Preparation of sub grade for construction of Plant Roads, approach road (WBM road from main road to open storage yard) by excavating earth to required depth for all types of soil , dressing to camber and consolidating the base including making good the undulation etc. and disposal of surplus earth within a lead of 1.0 KM in accordance with IS:2720 all complete as per specification.	CUM.	12150			
2401(a)	Preparation of sub grade for construction of Plant Roads, approach road (WBM road from main road to open storage yard) by excavating earth to required depth for all types of rock including blasting/chiselling, dressing to camber and consolidating the base including making good the undulation etc. and disposal of surplus earth within a lead of 1.0 KM in accordance with IS:2720 all complete as per specification.	CUM.	14710			
2402	Supplying and filling with selected good earth obtained from excavation of approved quality under pavement and shoulders etc. in compacted layers of 200 mm thk. including watering, rolling/consolidating and dressing etc. to required camber including transportation, royalties complete.	CUM.	760			
2403	Providing, stacking and laying granular morrum including watering, compaction with road roller to required level etc. complete as per specification.	CUM.	6675			
2404	Providing and Laying water bound macadam base/sub base course in layers of required thickness with stone aggregate 90mm to 40mm 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.	7750			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2405	Providing & Laying water bound macadam base / sub 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 etc. all complete as per specification.	CUM.	5080			
2406	Laying water bound macadam wearing 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 etc. all complete as per specification.	CUM.	5230			
2407	Providing and applying Tack coat of low viscosity liquid bitumen of a suitable approved grade confirming 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	29400			
2408	Providing, mixing and laying of compacted 75 thk. Bituminous Macadam Course . Bitumen shall be of a suitable grade (60/70 grade @3.3% by weight of total mix) complying with IS 73 and aggregates, binder material as specified in specification including hot mixing, hot laying, rolling all complete.	SQM	14700			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
2409	Providing & laying 20mm thick premix carpet surfacing with 2.25cum and 1.12 cum of stone chippings of size 12.5mm and 10mm respectively per 100 sqm with hot bitumen @ 52 kg. and 56 kg. per cu.m. of 12.5mm & 10mm size stone chippings respectively including a tack coat with hot bitumen @ 1.00 kg. per sq.m. of road surface including consolidation with road roller etc,all complete, with bitumen heated and then mixed with solvent at the rate of 70 gms. per kg. of bitumen including cost of all material, labour all complete as per specification, drawings and instructions of the Engineer.	SQM.	29400			
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.	20100			
2411	Providing & laying edge protection on both edges of black topping using brick on edge (bricks with crushing strength of 75 kg/cm2) with full brick width (230 mm) etc all complete as per drawings and specifications.	RM	2100			
2412	Supply and laying (400mm x 150mm X 350mm deep) precast concrete kerb stone (Concrete grade M20) 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	3675			
2413 (a)	Supply and laying 150mm dia R.C.C NP-2 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing in 13mm thk. cement mortar, finishing of joints with neat cement paste complete as per spec.	RM	425			
b)	Supplying & laying storm water drain crossing the roads by RCC hume pipe class NP3 with 300mm dia.	RM	150			
c)	Supplying & laying storm water drain crossing the roads by RCC hume pipe class NP3 with 450mm dia.	RM	100			

BHEL ; PS-WR
TS : BHE/PW/PUR/SAT-CVL/667
PRICE BID- PART-II (VOL-III)

ST. NO	DESCRIPTION OF ITEMS	Unit	Quantity	Rate		Amount
				In Figures	In Words	
d)	Supplying & laying storm water drain crossing the roads by RCC hume pipe class NP3 with 600mm dia.	RM	100			
e)	Supplying & laying storm water drain crossing the roads by RCC hume pipe class NP3 with 900mm dia.	RM	50			
2414	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	660			
2415	Providing 20mm thick premix carpet on existing/damaged road surfaces by spreading of 2.25cum and 1.12 cum of stone chippings of size 12.5mm and 10mm respectively per 100 sqm with hot bitumen @ 52 kg. and 56 kg. per cu.m. of 12.5mm & 10mm size stone chippings respectively including a tack coat with hot bitumen @ 1.00 kg. per sq.m. of road surface including consolidation with road roller etc,all complete, with bitumen heated and then mixed with solvent at the rate of 70 gms. per kg. of bitumen including cost of all material, labour, cleaning, repairing damaged carpet, WBM, sub grade/sub base,to the required thickness wherever required,consolidation with road roller etc all complete as per specification and as directed by Engineer.	SQM	660			
	TOTAL OF PART - II					
	GRAND TOTAL PART - I AND PART-II					
GRAND TOTAL IN WORDS (RS.....)						