



Government of Rajasthan  
Office of Project Director  
Rajasthan Urban Infrastructure Development Project

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No. F3 (201)(38)/RUIDP/ PMU/ Ph-III/ICB 01/ 3276

Date: 19.05.2015

Sub: Bid Document for the work of Construction of Work of Water Supply Distribution Network Improvement with house service connections for Non Revenue Water reduction and continuous water supply and providing Sewer Network with house connections, construction of Sewage Treatment Plant & allied works and Operation services of the entire system for 10 years at Tonk (Contract Package No. RUSDP/Tonk/01) – **Advise to the bidders for preparing price bids**

Ref: Invitation No.: BID No RUSDP/ICB/01

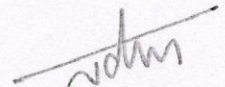
Bidders are advise to note following important points:

- In BOQ, default provision of currency is foreign currency. To quote bid price in local currency, bidders should select currency in INR for each item of local currency.
- Bill of Quantities (BoQ) format available at e-proc allows to submit bid price in only one foreign currency in addition to local currency (INR).
- Bidders who wish to submit bid price in more than one foreign currency (upto 2 additional foreign currencies) will be able to do by filling the Bill of Quantities in form of hard copy for which blank Bill of Quantity is attached with this letter. Such priced BoQ in PDF format will be attached with the Form of Price Bid and uploaded at e proc as single file.

Bidders are required to take into consideration of the clarifications while submitting the Bid.

**Encl:**

1. BoQ in PDF format

  
Project Director

No. F3 (201)(38)/RUIDP/ PMU/ Ph-III/ICB 01/ 3276 - 80

Date: 19.05.2015

Copy to following for information:-

1. Additional Project Director, RUIDP, Jaipur
2. Financial Advisor, RUIDP, Jaipur
3. SE, PIU, Tonk
4. PO Bids, RUIDP Jaipur to upload at e proc.
5. ACP, RUIDP Jaipur to upload the addendum at RUIDP website.

  
Superintending Engineer (IV)

Tender Inviting Authority :Project Director, Rajasthan Urban Infrastructure Development Project



HELP

Name of Work: Construction of Work of Water Supply Distribution Network Improvement with house service connections for Non Revenue Water reduction and continuous water supply and providing Sewer Network with house connections, construction of Sewage Treatment Plant & allied works and Operation Services of the entire system for 10 years at Tonk

Contract Package No: RUSDP/Tonk/01

Bidder Name:

**PRICE SCHEDULE**

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
1	2	3	4	5	6	7
1.00	<b>Part A- Survey Work</b>					
2.00	Topographical survey using Total Station equipment and the spot levels and drawing contours at 0.5 m interval on GIS based digitized map.	71.00	Sqkm			
3.00	Survey of all properties, preparation of GIS based consumer mapping and database, plotting assets on GIS map etc (Satellite image will be provided by the RUIDP)	31000.00	No. of property			
4.00	Surveys for all underground utilities including pipes, cables etc on roads and streets upto 1.5 m depth and marking on GIS based maps by linking with geo referenced points	400.00	kms			
5.00	Preparation of SIP suitable for approval by the Employer and its updation	1.00	Lot			
6.00	To Analyze the soil conditions by drilling bore holes at different locations to represent soil strata to conduct Standard penetration test (SPT) for determining SBC in hole as per IS-2131 including collection of disturbed and undisturbed soil samples at every 3.0 m or at change of strata analyzing the soil or grain size, atterberg limits, bulk & dry densities, shear parameters and specific gravity. In case of rock, collection of core, calculation or RQD (Rock Quality Designation) and core recovery and comprehensive strength of rock. Geo-tech investigation to be done at different locations complete in all respect as per specifications.					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
7.00	In Hard Soil	400.00	metre			
8.00	In Ordinary/ Soft Rock	100.00	metre			
9.00	In Hard Rock	100.00	metre			
10.00	<b>Part B- Sewer line, manhole, inspection chamber etc.</b>					
11.00	Dismantling of flexible pavements for sewer line and manholes and disposal of dismantled materials up to a lead of 50 metres, stacking serviceable and unserviceable materials separately as directed by Engineer including allowances for any additional dismantling beyond the drawings (measurement for payment to be as per standard drawings), rehandling of material/ earth to complete the task.					
12.00	Granular courses	37000.00	Cum			
13.00	Bituminous courses	3800.00	Cum			
14.00	Dismantling of cement concrete pavement for sewer line and manholes by mechanical means using mechanical cutter, pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately as per MoRT&H specification clause 202 including allowances for any additional dismantling beyond the drawings (measurement for payment to be as per standard drawings), rehandling of material/ earth to complete the task.	37000.00	Cum			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
15.00	Earth work for Sewer line and Manhole in excavation in foundation,trenches manholes, road side chambers etc. including dressing of sides and ramming of bottoms, including getting out the excavated material, refilling after laying pipe/ foundation in layers duly compacted to maximum dry density and disposal of surplus excavated material at a lead upto 50m suitable site as per direction of Engineer for following depths, below natural ground / Road top level including allowances for any additional dismantling beyond the drawings (measurement for payment to be as per standard drawings), rehandling of material/ earth to complete the task.					
16.00	In all types soils/ saturated soil such as moorum, sand, sandy silt,clay, black cotton soil, kankar, etc.					
17.00	For 0 to 1.5 m depth	193200.00	Cum			
18.00	above 1.5 to 3.0 m depth	35700.00	Cum			
19.00	above 3.0 to 4.5 m depth	6220.00	Cum			
20.00	above 4.5 to 6.0 m depth	1360.00	Cum			
21.00	above 6.0 to 7.5 m depth	110.00	Cum			
22.00	In ordinary rock.					
23.00	For 0 to 1.5 m depth	31800.00	Cum			
24.00	above 1.5 to 3.0 m depth	6060.00	Cum			
25.00	above 3.0 to 4.5 m depth	2200.00	Cum			
26.00	above 4.5 to 6.0 m depth	550.00	Cum			
27.00	above 6.0 to 7.5 m depth	50.00	Cum			
28.00	In hard rock (Blasting prohibited)					
29.00	For 0 to 1.5 m depth	27000.00	Cum			
30.00	above 1.5 to 3.0 m depth	6600.00	Cum			
31.00	above 3.0 to 4.5 m depth	3000.00	Cum			
32.00	above 4.5 to 6.0 m depth	1100.00	Cum			
33.00	above 6.0 to 7.5 m depth	85.00	Cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
34.00	In hard rock (requiring blasting) including blasting material					
35.00	For 0 to 1.5 m depth	990.00	Cum			
36.00	above 1.5 to 3.0 m depth	320.00	Cum			
37.00	above 3.0 to 4.5 m depth	250.00	Cum			
38.00	above 4.5 to 6.0 m depth	75.00	Cum			
39.00	above 6.0 to 7.5 m depth	10.00	Cum			
40.00	Add extra over above item no. 15 to 39 for excavation in saturated soil, silt, rock and sludge where pumping or bailing out of water including well point if required for sewer line and manhole					
41.00	Excavation from encountered depth of water table 0 to 1.5 m	1600.00	Cum			
42.00	Excavation from encountered depth of water table 1.5 to 3.0 m	380.00	Cum			
43.00	Excavation from encountered depth of water table 3.0 to 4.5 m	450.00	Cum			
44.00	Excavation from encountered depth of water table 4.5 to 6.0 m	240.00	Cum			
45.00	Providing and fixing OPEN timbering in trenches of sewer line and manholes including strutting, shoring and packing cavities (wherever required) complete for following depth below NGL					
46.00	Depth upto 3.0 m	165000.00	Sqm			
47.00	Depth more than 3.0 m and upto 6.0 m	10700.00	Sqm			
48.00	Depth beyond 6.0 m	130.00	Sqm			
49.00	Extra for planking, strutting and packing material for cavities IN OPEN TIMBERING of sewer line and manholes if required to be left permanently in position (face area of timber permanently left to be measured)	3500.00	Sqm			
50.00	Providing and fixing CLOSE timbering in trenches of sewer line and manholes including strutting, shoring and packing cavities (wherever required) complete. (Measurements to be taken of the face area timbered) for following depth below NGL.					
51.00	Depth upto 3.0 m	41000.00	Sqm			
52.00	Depth more than 3.0 m and upto 6.0 m	10700.00	Sqm			
53.00	Depth beyond 6.0 m	300.00	Sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
54.00	Extra for planking, strutting and packing material for cavities IN CLOSE TIMBERING of sewer line and manholes if required to be left permanently in position (face area of timber permanently left to be measured)	1050.00	Sqm			
55.00	Providing and fixing close timbiring made of Steel Girder Piling in sewer line and manholes work for support the both side of trenches with ISMB 250 as vertical member at 1.25 m centre to centre, ISMB 250 as horizontal member for tie at two depths, Struts to support the both side of trench of ISMB 250 and face of trench to be covered with 100*100*1235 mm wooden planks and removing Steel Girder piling after laying the sewers etc. complete as per specifications and as directed by Engineer. (Measurements to be taken of the face area timbered)					
56.00	Depth more than 3.0 m and upto 6.0 m	1100.00	Sqm			
57.00	Depth beyond 6.0 m	25.00	Sqm			
58.00	Carriage of Materials By mechanical transport including loading, unloading and stacking with all lead & lift.					
59.00	Earth					
60.00	Lead up to 2 Km	18000.00	Cum			
61.00	Lead above 2 Km and up to 5 Km	20000.00	Cum			
62.00	Lead above 5 km	15000.00	Cum			
63.00	Stone, boulders, gravelly material					
64.00	Lead up to 2 Km	30000.00	Cum			
65.00	Lead above 2 Km and up to 5 Km	26000.00	Cum			
66.00	Lead above 5 km	22000.00	Cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
67.00	Providing and fixing Barricading at site of work for restricting the general public using 40 mm dia M.S. pipe ("B" class) as vertical post with average spacing of 1.80 meter between two vertical posts, having height at least 1.5 m above road/ ground level and at least 30-45 cm below road/ ground level by making suitable size hole in road/ ground, providing and fixing suitably two rows of 100mm wide PVC Tape preferably of red colour. The M.S. pipe shall be painted in red and white colour strips as per approved pattern as and when it becomes shabby but at least after every alternate shifting at new location. After shifting/ removal of barricading the hole shall be filled up properly and site is to be cleared in all respect. (Note: measurement is to be done in linear basis)	50000.00	metre			
68.00	Providing and Fixing Minimum 0.63mm thick GI corrugated sheets (minimum width of each sheet shall be 60 cm) for covering the barricading in one/ two rows one above another and painting in red and white stripes as per the specifications and directions of the Engineer Incharge with proper fixing arrangements with GI limpet washers nuts and bolts complete in all respect.	150000.00	Sqm			
69.00	Providing and fixing Barricading at site of work for restricting the general public using 40 mm dia M.S. pipe ("B" class) as vertical post with average spacing of 1.80 meter between two vertical posts, having height at least 1.5 m above road/ ground level and at least 30-45 cm below road/ ground level by making suitable size hole in road/ ground, providing and fixing two rows of 40 mm dia M.S. pipe ("B" class) as horizontal members with nuts & bolts. Both vertical and horizontal members shall be painted in red and white colour strips as per approved pattern as when it becomes shabby but at least after every alternate shifting at new location. After shifting/ removal of barricading holes shall be filled up properly and site is to be cleared in all respect. (Note: measurement is to be done in linear basis)	350000.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
70.00	Providing, lowering, laying, aligning, fixing in position and jointing at all level/ depths full round HDPE DWC (double wall corrugated) pipes of SN8 grade as per IS 16098 (Part 2) amended upto date in trenches in complete including all material, labour, testing and commissioning as per Technical Specifications, drawings and as per direction of Engineer. Note: E/w to be measured and paid seperately					
71.00	200 mm ID	212500.00	metre			
72.00	250 mm ID	2900.00	metre			
73.00	300 mm ID	1380.00	metre			
74.00	400 mm ID	3780.00	metre			
75.00	500 mm ID	2770.00	metre			
76.00	600 mm ID	850.00	metre			
77.00	800 mm ID	1030.00	metre			
78.00	Providing granular bedding having width = outer dia of pipe (Bc) +500mm, thickness below pipe = 0.25Bc or 100mm (whichever is higher) and haunching = 0.5Bc, with graded hard crusher broken stone of 100% passing through 10mm sheive, min 50 % passing through 6.3 mm sheive, laying in layers of thickness 10/15cm including ramming, consolidation etc complete for all type of pipes of following sizes as per drawing and or as directed by Engineer.					
79.00	200 mm Diameter	212500.00	metre			
80.00	250 mm Diameter	2900.00	metre			
81.00	300 mm Diameter	1380.00	metre			
82.00	400 mm Diameter	3780.00	metre			
83.00	500 mm Diameter	2770.00	metre			
84.00	600 mm Diameter	850.00	metre			
85.00	800 mm Diameter	1030.00	metre			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
86.00	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level : 1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size).	980.00	Cum			
87.00	Centering and shuttering upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :					
88.00	Foundations, footings, bases of columns, etc. for mass concrete	3000.00	sqm			
89.00	Providing, lowering, laying in trenches, aligning, fixing in position and jointing Ductile Iron (DI) ISI marked K-7 grade S&S pipes as per IS:8329-2000 (amended upto date), with internal cement mortar lining for potable/ waste water/ treated effluent with rubber ring (EPDM/SBR) joints as per IS: 5382-1985 (excluding special accessories) complete including all material, labour, hydraulic testing and commissioning as per Technical Specifications and as per direction of Engineer.					
90.00	200 mm dia	320.00	metre			
91.00	250 mm dia	50.00	metre			
92.00	400 mm dia	2660.00	metre			
93.00	500 mm dia	70.00	metre			
94.00	600 mm dia	70.00	metre			
95.00	700 mm dia	5000.00	metre			
96.00	800 mm dia	30.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
97.00	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes (using sulphate resistant cement) with internal dia 1.0m and up to specified depth having pre-cast RCC M-40 grade conical piece 0.69m top dia, 1.0m bottom dia, 0.72m total height (0.431m cone height), 125mm wall thickness with inbuilt manhole cover frame on top and circular ring on bottom, required no of pre-cast RCC M-40 grade circular ring of dia 1.0m, height 300/ 225/ 150mm and wall thickness 125mm including concreting PCC M-10 grade (1:4:8) for 150mm thick, 1.2m dia foundation, PCC M20 for 1.1m dia benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty DI manhole cover and frame as per BS EN 124 complete in all respect including shuttering, reinforcement steel, testing for water tightness and fixing ferro-cement foot steps complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer (Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately)</p>					
98.00	Pre-cast RCC M-40 grade circular manholes 0.72 m deep to invert with pre-cast conical piece, 1 no pre-cast circular ring, Cast-in-situ PCC M-10 grade foundation, PCC M15 grade benching and channel portion	1490.00	Each			
99.00	Providing and fixing pre-cast RCC M-40 grade circular ring (using sulphate resistant cement) of dia 1.0m, height 300/225/150mm for constructing extra depth of manhole for depth beyond 0.72m as per drawing and direction of Engineer.	1130.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
100.00	Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes (using sulphate resistant cement) with internal dia 1.20m and up to specified depth having pre-cast RCC M-40 grade conical piece 0.69m top dia, 1.2m bottom dia, 0.92m total height (0.631m cone height), 125mm wall thickness with inbuilt manhole cover frame on top and circular ring on bottom, required no of pre-cast RCC M-40 grade circular ring of dia 1.2m, height 300/ 225/ 150mm and wall thickness 125mm including concreting PCC M-10 grade (1:4:8) for 150mm thick, 1.4m dia foundation, PCC M20 for 1.3m dia benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty DI manhole cover & frame as per BS EN 124 complete in all respect including shuttering, reinforcement steel, testing for water tightness and fixing ferro-cement foot steps complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer.(Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately)					
101.00	Pre-cast RCC M-40 grade circular manholes 0.92 mtr deep to invert with pre-cast conical piece, 1 no pre-cast circular ring, Cast-in-situ PCC M-10 grade foundation, PCC M15 grade benching and channel portion	790.00	Each			
102.00	Providing and fixing pre-cast RCC M-40 grade circular ring (using sulphate resistant cement) of dia 1.2m, height 300/225/150mm for constructing extra depth of manhole for depth beyond 0.92m as per drawing and direction of Engineer.	810.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
103.00	Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes (using sulphate resistant cement) with internal dia 1.50m and up to specified depth having pre-cast RCC M-40 grade conical piece 0.69m top dia, 1.5m bottom dia, 1.22m total height (0.931m cone height), 125mm wall thickness with inbuilt manhole cover frame on top and circular ring on bottom, required no of pre-cast RCC M-40 grade circular ring of dia 1.5m, height 300/ 225/ 150mm and wall thickness 125mm including concreting PCC M-10 grade (1:4:8) for 150mm thick, 1.7m dia foundation, PCC M20 for 1.6m dia benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty DI manhole cover & frame as per BS EN 124 complete in all respect including shuttering, reinforcement steel, testing for water tightness and fixing ferro-cement foot steps complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer.(Note:- excavation of earth work and road cutting for manhole will be measured and paid separately)					
104.00	Pre-cast RCC M-40 grade circular manholes 1.22 mtr deep to invert with pre-cast conical piece, 1 no pre- ast circular ring, Cast-in-situ PCC M-10 grade foundation, PCC M15 grade benching and channel portion	1295.00	Each			
105.00	Providing and fixing pre-cast RCC M-40 grade circular ring (using sulphate resistant cement) of dia 1.5m, height 300/225/150mm for constructing extra depth of manhole for depth beyond 1.22m as per drawing and direction of Engineer.	3070.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
106.00	Providing and constructing of SEWER-BRICK masonry circular manholes (using sulphate resistant cement) of "Type-A" with internal dia 0.90m and depth upto 1.65m having 230mm thick sewer brick masonry wall in cement sand mortar 1:4, including concreting PCC M-10 grade (1:4:8) for 225mm thick foundation including curing compaction and form work etc complete, PCC M15 for benching and channel portion, RCC M20 for 200mm thick cover slab including reinforcement, PCC M20 for fixing the manhole frame and cover using stone aggregate 20mm nominal size, 20mm thick inside and outside plaster in C. M. 1:3, inside plaster finished with floating coat of neat cement, vata in CM1:1 around pipe entering and leaving the manhole and also at the junction of masonry and concrete slab, providing and fixing of SFRC foot steps of approved make at every 0.30m height fixed in CM 1:3, supplying and fixing heavy duty DI manhole cover & frame as per BS EN 124 having clear opening of 560mm, including refilling of Jhiri, including curing, watering, ramming, hydro testing of manhole, conveyance & cost of water, and dewatering complete as directed by the Engineer. Note-Only Excavation work will be measured and paid separately.					
107.00	Manhole "Type-A" of depth 0.90 m	1360.00	Each			
108.00	Providing and constructing extra depth of manhole (using sulphate resistant cement) "Type-A" for depth beyond 0.90 m and upto 1.65 m with SEWER-BRICK masonry including 20mm plaster inside and outside as per drawing and direction of Engineer.	100.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
109.00	Providing and constructing of SEWER-BRICK masonry circular manholes (using sulphate resistant cement) of "Type-B" with internal dia 1.20m and depth upto 2.50m having sewer brick masonry wall 230mm thick upto 1.5m, 345mm thick from 1.50m to 2.50m in cement sand mortar 1:4, including concreting PCC M-10 grade (1:4:8) for 225mm thick foundation including curing compaction and form work etc complete, PCC M15 for benching and channel portion, RCC M20 for 200mm thick cover slab including reinforcement, PCC M20 for fixing the manhole frame and cover using stone aggregate 20mm nominal size, 20mm thick inside and outside plaster in C. M. 1:3, inside plaster finished with floating coat of neat cement, vata in CM1:1 around pipe entering and leaving the manhole and also at the junction of masonry and concrete slab, providing and fixing of SFRC foot steps of approved make at every 0.30m height fixed in CM 1:3, supplying and fixing heavy duty DI manhole cover & frame as per BS EN 124 having clear opening of 560mm, including refilling of Jhiri, including curing, watering, ramming, hydro testing of manhole, conveyance & cost of water, and dewatering complete as directed by the Engineer. Note-Only Excavation work will be measured and paid separately.					
110.00	Manhole "Type-B" of depth 1.70 m	86.00	Each			
111.00	Providing and constructing extra depth of manhole (using sulphate resistant cement) "Type-B" for depth beyond 1.70 m and upto 2.50 m with SEWER-BRICK masonry including 20mm plaster inside and outside as per drawing and direction of Engineer	42.00	metre			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
112.00	<p>Providing and constructing of SEWER-BRICK masonry circular manholes (using sulphate resistant cement) of "Type-C" with internal dia 1.50m and depth upto 5.0m having sewer brick masonry wall 230mm thick upto 1.5m, 345mm thick from 1.50m to 2.50m and 460mm from 2.50 to 5.0m in cement sand mortar 1:4, including concreting PCC M-10 grade (1:4:8) for 225mm thick foundation including curing compaction and form work etc complete, PCC M15 for benching and channel portion, RCC M20 for 200mm thick cover slab including reinforcement, PCC M20 for fixing the manhole frame and cover using stone aggregate 20mm nominal size, 20mm thick inside and outside plaster in C. M. 1:3, inside plaster finished with floating coat of neat cement, vata in CM1:1 around pipe entering and leaving the manhole and also at the junction of masonry and concrete slab, providing and fixing of SFRC footsteps of approved make at every 0.30m height fixed in CM 1:3, supplying and fixing heavy duty DI manhole cover &amp; frame as per BS EN 124 having clear opening of 560mm, including refilling of Jhiri, including curing, watering, ramming, hydro testing of manhole, conveyance &amp; cost of water, and dewatering complete as directed by the Engineer. Note-Only Excavation work will be measured and paid separately.</p>					
113.00	Manhole "Type-C" of depth 2.60 m	70.00	Each			
114.00	<p>Providing and constructing extra depth of manhole (using sulphate resistant cement) "Type-C" for depth beyond 2.60 m and upto 5.0 m with SEWER-BRICK masonry including 20mm plaster inside and outside as per drawing and direction of Engineer.</p>	40.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
115.00	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes (using sulphate resistant cement) with internal dia 0.9m and up to specified depth having pre-cast RCC M-40 grade cylindrical piece 0.80m total height, 125mm wall thickness with inbuilt manhole cover frame on top and circular ring on bottom, required no of pre-cast RCC M-40 grade circular ring of dia 0.9m, height 300/ 225/ 150mm and wall thickness 125mm including concreting PCC M-15 grade (1:4:8) for 150mm thick, 1.35m dia foundation, PCC M-20 for benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty DI manhole cover &amp; frame as per BS EN 124 complete in all respect including shuttering, reinforcement steel, testing for water tightness and fixing ferro-cement foot steps complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer (Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately)</p>					
116.00	<p>Pre-cast RCC M-40 grade circular manholes 0.8 m deep to invert with pre-cast conical piece, 1 no pre-cast circular ring, Cast-in-situ PCC M-15 grade foundation, RCC M-40 grade benching and channel portion</p>	3775.00	Each			
117.00	<p>Providing and fixing pre-cast RCC M-40 grade circular ring of dia 0.9m, height 300/225/150mm for constructing extra depth of manhole for depth beyond 0.8m as per drawing and direction of Engineer.</p>	545.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
118.00	Providing, fixing of Plastic circular manhole made from HDPE double wall (inner wall plain and outer corrugated) with internal dia 1.00m and up to specified depth having 1 No conical piece 0.641m top ID, 1.0m bottom ID, 3.00m total height (0.882m cone height), 77mm wall thickness with inbuilt DI manhole cover frame on top and circular bottom peice for sewer pipe connection, circular column in between bottom and top piece for height adjustment of same maaterial and thickness including concreting PCC M-10 grade (1:4:8) 150mm thick, 1.1m dia foundation, etc complete with curing compaction and form work, supplying and fixing heavy duty DI manhole cover & frame as per BS EN 124, complete in all respect including testing for water tightness and fixing foot steps or ladder complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer.(Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately)					
119.00	HDPE circular manholes 1.45 mtr deep to invert with HDPE conical piece and bottom piece, Cast-in-situ PCC M-10 grade foundation.	500.00	Each			
120.00	Providing and fixing HDPE circular column shaft of dia 1.0m ID of required height for constructing extra depth of manhole for depth beyond 1.45m as per drawing and direction of Engineer.	30.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
121.00	Providing, fixing of Plastic circular manhole made from HDPE double wall (inner wall plain and outer corrugated) with internal dia 1.20m and up to specified depth having 1 No conical piece 0.641m top ID, 1.2m bottom ID, 3.00m total height (0.935m cone height), 77mm wall thickness with inbuilt manhole cover frame on top and circular bottom peice for sewer pipe connection, circular column in between bottom and top piece for height adjustment of same maaterial and thickness including concreting PCC M-10 grade (1:4:8) 150mm thick, 1.3m dia foundation, etc complete with curing compaction and form work, supplying and fixing heavy duty DI manhole cover & frame as per BS EN 124, complete in all respect including testing for water tightness and fixing foot steps or ladder complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer.(Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately)					
122.00	HDPE circular manholes 1.57 mtr deep to invert with HDPE conical piece and bottom piece, Cast-in-situ PCC M-10 grade foundation.	50.00	Each			
123.00	Providing and fixing HDPE circular column shaft of dia 1.2m ID of required height for constructing extra depth of manhole for depth beyond 1.57m as per drawing and direction of Engineer.	20.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
124.00	Providing PVC-U pipes as per IS 15328 drop connection externally for depth from 0.60 m and upto 1.0 m drop from branch sewer line to main sewer manhole or vice versa including inspection and cleaning eye, PVC-U drop pipe and bend encased around with cement concrete M15 with all form work, cutting holes in walls and making good with brick/ stone masonry work in cement sand mortar 1:4 plastered with cement sand mortar 1:3 with stiff cement mortar 1:1 around PVC-U pipe in masonry wall, making required channels complete as per standard design and specifications and/ or as the directed of the Engineer:					
125.00	110mm dia	650.00	Each			
126.00	160mm dia	10.00	Each			
127.00	315mm dia	2.00	Each			
128.00	Extra for additional drop depth of PVC-U pipes as per IS 15328 drop connection beyond 1.0 m complete as per standard specification and the direction of the Engineer. (To be paid for actual depth beyond 1.0 m)					
129.00	110mm dia	470.00	metre			
130.00	160mm dia	10.00	metre			
131.00	315mm dia	1.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
132.00	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular Road Side Inspection Chamber (using sulphate resistant cement) with internal dia 0.30m and up to 0.45m depth having pre-cast RCC M-40 grade cylindrical piece 0.45m total height, 100mm wall thickness with inbuilt manhole cover frame on top including concreting PCC M-15 grade for 100mm thick, 0.55m dia foundation, PCC M-20 for benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing with circular 300mm dia precast SFRC MD manhole frame and cover complete in all respect including shuttering, reinforcement steel testing for water tightness including opening for 2 Nos. 110 OD and plugging the same etc complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer (Note:- Excavation of earth work and road cutting for chamber will be measured and paid separately)</p>	11100.00	Nos			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
133.00	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular Road Side Inspection Chamber (using sulphate resistant cement) with internal dia 0.45m and up to 0.60m depth having pre-cast RCC M-40 grade cylindrical piece 0.60m total height, 100mm wall thickness with inbuilt manhole cover frame on top including concreting PCC M-15 grade for 100mm thick, 0.70m dia foundation, PCC M-20 for benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing with circular 450mm dia precast SFRC MD manhole frame and cover complete in all respect including shuttering, reinforcement steel testing for water tightness including opening for 2 Nos. 110 OD and plugging the same etc complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer (Note:- Excavation of earth work and road cutting for chamber will be measured and paid separately)</p>	22300.00	Nos			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
134.00	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular Road Side Inspection Chamber (using sulphate resistant cement) with internal dia 0.45m and up to 0.90m depth having pre-cast RCC M-40 grade cylindrical piece 0.90m total height, 100mm wall thickness with inbuilt manhole cover frame on top including concreting PCC M-15 grade for 100mm thick, 0.70m dia foundation, PCC M-20 for benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing with circular 450mm dia precast SFRC MD manhole frame and cover complete in all respect including shuttering, reinforcement steel testing for water tightness including opening for 2 Nos. 110 OD and plugging the same etc complete in all respect (including the cost of manhole cover and frame) as per specification and the direction of the Engineer (Note:- Excavation of earth work and road cutting for chamber will be measured and paid separately)</p>	1100.00	Nos			
135.00	<p>Construction of road side inspection chamber (using sulphate resistant cement) of "Type-A" internal dia 450mm and depth of 900mm with 200 mm thick PCC M10 in foundation, 75mm thick PCC M15 flooring in slop, 230mm thick brick masonry in CM (1:4), 20mm thick inside and outside plastering with CM (1:3), inside plaster finished with neat coat of cement, with circular 450mm dia precast SFRC MD manhole frame and cover embedded in 200mm thick PCC M20 grade concrete, refilling of Jhiri with watering and ramming including fixing 2 Nos. 110 OD uPVC pipe pieces (stiffness class SN 8) as per IS 15328 and plugging the same etc complete as per approved drawing and/or directed by Engineer. Note: Only excavation work will be measured and paid separately</p>	2250.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
136.00	Construction of road side inspection chamber (using sulphate resistant cement) of "Type-A1" internal dia 450mm and depth above of 700mm with 200 mm thick PCC M10 in foundation, 75mm thick PCC M15 flooring in slop,230mm thick brick masonry in CM (1:4),20mm thick inside and outside plastering with CM (1:3), inside plaster finished with neat coat of cement, with circular 450mm dia precast RCC manhole cover & frame HD-20 embedded in 200mm thick PCC M20 grade concrete, refilling of Jhiri with watering and ramming including fixing 2 Nos. 110 OD uPVC pipe pieces (stiffness class SN 8) as per IS 15328 and plugging the same etc complete as per approved drawing and/or directed by Engineer. Note: Only excavation work will be measured and paid seperately	210.00	Each			
137.00	Construction of road side inspection chamber (using sulphate resistant cement) of "Type-A" internal dia 450mm and depth of 500mm with 200 mm thick PCC M10 in foundation, 75mm thick PCC M15 flooring in slop,230mm thick brick masonry in CM (1:4),20mm thick inside and outside plastering with CM (1:3), inside plaster finished with neat coat of cement, with circular 450mm dia precast SFRC MD manhole frame and cover embedded in 200mm thick PCC M20 grade concrete, refilling of Jhiri with watering and ramming including fixing 2 Nos. 110 OD uPVC pipe pieces (stiffness class SN 8) as per IS 15328 and plugging the same etc complete as per approved drawing and/or directed by Engineer. Note: Only excavation work will be measured and paid seperately	300.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
138.00	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint , (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing and commissioning etc complete as directed by Engineer. Note : E/w to be measured and paid separately 110 mm Nominal Dia	125000.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
139.00	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint , (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing and commissioning etc complete as directed by Engineer. Note : E/w to be measured and paid separately 160 mm Nominal Dia	40000.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
140.00	<p>Providing, fixing and erecting precast RCC (M20) Vent shaft with cowl, 125mm and 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.0m over all length, bottom 1.175m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and minimum 200mm all around with top 150mm in PCC M15 with 20mm nominal size graded stone aggregate , junction of vent shaft and concrete grouted with cement mortar 1: including making connection with sewer manhole with 150mm dia NP4 RCC pipe (IS 458-amended upto date) as required including Type-A bedding complete as per standard design and finished with water proofing cement of approved brand as per drawings and/or as directed by Engineer. Only Excavation work will be measured and paid separately</p>	35.00	Each			
141.00	<p>Raising circular manhole with circular cover 560mm dia and frame slab to required level including dismantling existing slab, taking out the existing CI frame &amp; cover of manhole and raising it upto ground/ road level, refixing of frame and cover in M15 (1:2:4) concrete all around the frame, including making good the damage, form work, curing, complete as directed by Engineer. (Brick/ concrete work of raising depth of manhole to be paid separately)</p>	200.00	Each			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
142.00	Lowering of circular manhole with circular cover 600mm dia and frame slab to required level including dismantling existing slab and manhole wall, taking out the existing CI frame & cover of manhole and lowering it upto ground/ road level, refixing of frame and cover in M15 (1:2:4) concrete all around the frame, including making good the damage, form work, curing, complete as directed by Engineer. (Dismantling of brick/ concrete work depth of manhole to be paid separately)	200.00	Each			
143.00	Providing, lowering, laying in trenches, aligning, fixing in position and jointing Ductile Iron (DI) ISI marked K-9 grade S&S pipes as per IS:8329-2000 (amended upto date), with internal cement mortar lining for potable water with rubber ring (EPDM/SBR) joints as per IS: 5382-1985 (excluding special accessories) complete including all material, labour, hydraulic testing and commissioning as per Technical Specifications and as per direction of Engineer. 700 mm diameter	4200.00	metre			
144.00	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/ depths S&S standard specials with rubber ring (EPDM/SBR) joints as per IS: 5382-1985 such as tees, bends, tapers, caps etc. within trenches in DI pipe line complete including all material, labour, testing and commissioning along with pipeline as per Technical Specifications and as per direction of Engineer.					
145.00	Specials S&S DI K-12: Above 300mm diameter	5000.00	Kg			
146.00	Specials S&S DI K-9: Above 300mm diameter	5000.00	Kg			
147.00	Providing, lowering, laying, aligning, fixing in position at all level/depths flanged standard specials such as tees, bends, tapers, caps etc. within trenches in DI pipe line complete as per Technical Specifications and as per direction of Engineer.					
148.00	Special Flanged DI K-12: Above 300mm diameter	2000.00	Kg			
149.00	Special Flanged DI K-9: Above 300mm diameter	2000.00	Kg			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
150.00	Fabrication, supply of flanged/ plain ended MS pipe made from MS sheet strips of relevant IS specification of approved thickness by welding, lowering, laying, aligning, fixing in position at all level/ depths in trenches complete (excluding flanged jointing wherever required) including all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer					
151.00	MS pipe specials upto 600mm dia (with minimum 5mm thickness sheet)	2000.00	Kg			
152.00	Construction of RCC valve chamber for fixing different type of valves including earthwork excavation, plain cement concrete 1:3:6 (1 Cement : 3 fine/ coarse sand : 6 graded stone aggregate 20mm nominal size) as levelling course, Reinforced Cement Concrete of 1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20mm nominal size) for base slab, side wall and cover slab with ferro cement cover of class A loading, including cost of structural work, proper curing of concrete work and providing cover slab, SFRC steps with all material cost, labour cost, including all taxes and duties, with all lead and lift charges etc. complete as per standard specifications and drawings and also as directed by Engineer.					
153.00	150mm diameter Air Valve	4.00	Each			
154.00	Providing bedding/ hunching for pipe with clean sand passing through IS sieve 2.36mm and retained on 180 micron sieve in layers including ramming, consolidation complete in all respect as per specification and the direction of the Engineer with all lead and lift.	880.00	Cum			
155.00	Providing, lowering, laying, aligning, fixing in position and jointing in pipe line single chamber automatic Ductile Iron Air Valves of following diameter (including jointing and jointing material), including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer, 150mm diameter.	4.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
156.00	<p>Providing, constructing coffer dam in river basin / dam storages as per type design including excavation, filling the middle portion with B.C. soil (in gunny bags if required). Providing impervious / semipervious materials on both sides of B.C. soil (in gunny bags if required) including ramming, compacting to the satisfaction of Engineer-in-charge till the completion of work including dismantling coffer dam after completion of works and disposing off the material as directed by the Engineer-in-charge.</p> <p>Note : Pay line maximum. Top width payable shall be 2 Mtr. and maximum payable side slopes shall be 1.5 horizontal to 1 vertical, if the constructed top width of the side slopes are less, then the measurements at actual are payable. Extra top width or flat slopes are not payable. Contractor is free to use ballies, plastic sheets, piles, pipes, CGI sheets for supporting hearting materials instead of impervious/ semi-pervious hearting materials for which no extra payments shall be payable. 30% payment shall be withheld for dismantling of coffer dam.</p>	3600.00	Cum			
157.00	<p>Earth work in excavation in soil unsuitable for road construction such as marshy soil including pumping out water, removal of the same and disposal with all lift and lift upto 1 km as per MoRT&amp;H specification clause 301</p>	3750.00	Cum			
158.00	<p>Construction of embankment with approved material obtained from borrow pit with all lifts and leads, transporting to site, spreading, grading to required slope and compacting by vibratory roller 8-10 tonne to meet requirement of table 300-2 including cost of compensation for earth taken from private land complete as per MoRT&amp;H specification clause 305. (Lead taken upto 5 km)</p>	9820.00	Cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
159.00	Random rubble stone masonry work in cement mortar with mechanical mixer in foundation (at any level) complete as per drawing and technical specification and as per clause 1000 and 1400 of MoRT&H specification including all scaffolding material, labour, machinery but excluding pointing and plastering. In cement mortar 1:3 (1 cement : 3 coarse sand)	1480.00	Cum			
160.00	Providing and laying graded stone aggregate Filter Material underneath pitching in slopes complete as per drawing and Technical specifications and as per clause 2504 of MoRT&H Specification.	280.00	Cum			
161.00	Laying of a geotextile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment material through the voids of the stone pitching/cement concrete blocks as well as to allow free movement of water without creating any uplift head on the pitching.	3030.00	Sqm			
162.00	Providing, laying and compacting plain/ reinforced cement concrete of specified grade in foundation/ leveling course/ pile cap using concrete mixer and vibrater complete including cost of form work, as per drawing and technical specifications and as per clause 1100, 1500,1700,2100 of MoRT&H specification including all scaffolding material, labour, machinery. PCC Grade M -15	76.00	cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
163.00	Providing and laying structural plain/ reinforced cement concrete (design mix) of specified grade in substructure at all levels using concrete mixer and vibrater, including cost of form work, as per drawing and technical specifications complete as per clause 1500, 1700 and 2200 of MoRT&H specification including all material, labour, scaffolding etc. RCC Grade M -20	20.00	cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
164.00	Providing and laying structural plain/ reinforced cement concrete (design mix) of specified grade in substructure at all levels using concrete mixer and vibrator, including cost of form work, as per drawing and technical specifications complete as per clause 1500, 1700 and 2200 of MoRT&H specification including all material, labour, scaffolding etc. RCC Grade M -25	80.00	cum			
165.00	Providing and laying specified apron for protection against scour complete as per drawing and technical specification as per clause 2503 of MoRT&H Specification. Boulder/Quarry stone, not less than 40 kg each and specific gravity not less than 2.65, without wire crates.	186.00	cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
166.00	Supplying, fitting and placing TMT bar reinforcement in sub structure/ superstructure at all level complete as per drawing and clause 1600 & 2200 of MoRT&H Specification including all material, labour, machinery etc.	12.00	MT			
167.00	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50m and lift upto 1.5m.	100.00	cum			
168.00	Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications and as per clause 2504 of MoRT&H Specification. With R.R. Stone/ bolder, weighing not less than 40 kg, thickness not less than 150mm, Specific gravity not less than 2.65.	54.00	cum			
169.00	Back filing in foundation, trench behind abutment, wing wall and return wall etc and below pipe bed in layers not exceeding 20cm in depth, consolidating each deposited layer compacted by mechanical means with all lead and lift as per drawing and technical specification including all material, labour, machinery as per clause 2100 and 2200 of MoRT&H specification including all material, labour, machinery, using selected granular material (as per clause 2200 of MoRT&H)	12.00	cum			
170.00	Providing weep holes in brick/ stone masonry/ Plain/ Reinforced concrete abutment, wing wall/ return wall with following dia AC pipe, extending through the full width of the structure with slope of 1V : 20H towards drawing face complete as per drawing, technical specifications and clause 2205 of MoRT&H Specification including all scaffolding, material, labour, machinery etc. 100 mm dia	100.00	Mtr			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
171.00	<b>Part C- NH Crossing &amp; Trenchless Work</b>					
172.00	Providing, laying and jointing RCC NP4 pipe with cement mortar joints by trenchless method adopting any suitable technology below ground at required depth under running traffic condition as per the direction of NHAI including carrying out survey work at the job site for determining underground cable trenches like telephone, power cable, water & sanitary lines and resistivity tests for finding the soil strata using necessary equipments for completion of work, mobilizing of machineries and specialized crew at the job site, etc. complete in all respects, including excavation of drive pit and exit pit (upto 3 metre depth) with proper protection at the three sides, providing and casting of MS cutting edges for front shield and constructing thrust bed at designed level as directed by the Engineer, necessary de-watering and providing concrete foundations at the base of the Drive pit, crane for handling of pipes, and any other machinery, tool & tackels required, construction of temporary works as per requirement and as approved by NH authorities complete in all respect for the road crossing at necessary depth (all depths) with all lead and lifts, as per specification and the direction of the Engineer.					
173.00	In all types of soils					
174.00	600 mm dia RCC pipe	600.00	Rmtr			
175.00	800 mm dia RCC pipe	1500.00	Rmtr			
176.00	In Rock					
177.00	600 mm dia RCC pipe	100.00	Rmtr			
178.00	800 mm dia RCC pipe	200.00	Rmtr			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
179.00	Supply and Pushing of MS casing pipe of specified thickness by trenchless method adopting any suitable technology below ground at required depth under running traffic condition as per National Highway standards including carrying out survey work at the job site for determining underground cable trenches like telephone, cable, water & sanitary lines and resistivity test for finding the soil strata using necessary equipments for completion of works, mobilizing of machineries and specialized crew at the job site complete in all respect, including excavation of driven pit and exit pit (upto 3m depth) with proper protection at three sites with shoring sheets and ISMB's. Providing MS cutting edges for front shield and constructing thrust bed at designated level. Necessary dewatering and providing concrete foundation at the base of the driven pit, PVC/Rubber saddle as per the requirement of National Highway Authority, crane for handing of pipe and any other machinery, tools, and tackles required, construction of temporary works as per requirement and as per approved by National Highway authorities, specification and the direction of the Engineer. (Protective coating/lining if done that will be paid extra).					
180.00	In all type of soils					
181.00	600mm dia. 12mm thick casing pipe	50.00	mtr			
182.00	800mm dia. 12mm thick casing pipe	100.00	mtr			
183.00	In Rock					
184.00	800 mm dia 12 mm thick casing pipe	10.00	Rmtr			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
185.00	Fabrication, supply of flanged/ plain ended MS pipe made from MS sheet strips of relevant IS specification of approved thickness by welding, lowering, laying, aligning, fixing in position at all level/ depths in trenches complete (excluding flanged jointing wherever required) including all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer. MS pipe above 600mm dia (with minimum 6.3mm thickness sheet).					
186.00	MS pipe upto 600mm dia (with minimum 5 mm thickness sheet).	3600.00	Kg			
187.00	MS pipe above 600mm dia (with minimum 6.3mm thickness sheet).	9600.00	Kg			
188.00	Extra for excavation of driven pit/ exit pit / intermediate pit beyond 3 metre depth, required for pushing/ pulling of MS/HDPE/RCC pipe in trenchless technology, with proper protection at three sides with shoring sheets/ wooden planks and ISMB's, maintaining during pushing/ pulling of pipe, back filling, necessary de-watering including all machinery, tools, and tackles required as per specification and the direction of the Engineer					
189.00	In all types of soil	620.00	Per pit per metre			
190.00	In rocks	100.00	Per pit per metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
191.00	Providing, jointing, laying, testing and commissioning of HDPE PE- 100/PN-6 (suitable for pulling method for jointing) pipes for sewer line as per IS-14743:1996 by trenchless method adopting any suitable technology below ground at required depth including carriage etc. complete in all respect, construction of thrust pit and receiving pit of required size upto 3 metre depth and soil investigation, making suitable arrangement for barricading of pits, traffic diversion, lights, traffic permission from relevant authority (though department will assist in getting the permission), refilling of pits in compacted layers of 150 mm including disposal of surplus material with all lift and lead upto 50 metre as per specification and the direction of the Engineer. In all types of soil					
192.00	200 mm dia HDPE Pipe	5445.00	metre			
193.00	250 mm dia HDPE Pipe	2385.00	metre			
194.00	315 mm dia HDPE Pipe	1260.00	metre			
195.00	400 mm dia HDPE Pipe	4630.00	metre			
196.00	500 mm dia HDPE Pipe	4080.00	metre			
197.00	630 mm dia HDPE Pipe	600.00	metre			
198.00	800 mm dia HDPE Pipe	1500.00	metre			
199.00	Providing, jointing, laying, testing and commissioning of HDPE PE- 100/PN-6 (suitable for pulling method for jointing) pipes for sewer line as per IS-14743:1996 by trenchless method adopting any suitable technology below ground at required depth including carriage etc. complete in all respect, construction of thrust pit and receiving pit of required size upto 3 metre depth and soil investigation, making suitable arrangement for barricading of pits, traffic diversion, lights, traffic permission from relevant authority (though department will assist in getting the permission), refilling of pits in compacted layers of 150 mm including disposal of surplus material with all lift and lead upto 50 metre as per specification and the direction of the Engineer. In Rocks.					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
200.00	200 mm dia HDPE Pipe	605.00	metre			
201.00	250 mm dia HDPE Pipe	265.00	metre			
202.00	315 mm dia HDPE Pipe	140.00	metre			
203.00	400 mm dia HDPE Pipe	740.00	metre			
204.00	500 mm dia HDPE Pipe	450.00	metre			
205.00	630 mm dia HDPE Pipe	100.00	metre			
206.00	800 mm dia HDPE Pipe	225.00	metre			
207.00	<b>Part D- Water Supply Works</b>					
208.00	Earthwork in excavation in foundation, trenches etc. including dressing of sides and ramming of bottoms, including getting out the excavated material, refilling after laying pipe/foundation in layers duly compacted to maximum dry density and disposal of surplus excavated material at a lead upto 50m suitable site as per direction of Engineer for following depth, below natural ground/ road top level.					
209.00	In all types soils/saturated soil such as moorum, sand, sandy silt, clay, black cotton soil, kankar etc.					
210.00	Depth upto 1.50m	182000.00	cum			
211.00	Above 1.5 m and up to 3.0 mtr	1000.00	cum			
212.00	In ordinary rock					
213.00	Depth upto 1.50m	23500.00	cum			
214.00	Above 1.5 m and up to 3.0 mtr	1000.00	cum			
215.00	In hard rock (blasting prohibited) including blasting materials					
216.00	Depth upto 1.50m	22600.00	cum			
217.00	Above 1.5 m and up to 3.0 mtr	1000.00	cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
218.00	Providing and fixing Barricading at site of work for restricting the general public using 40 mm dia M.S. pipe ("B" class) as vertical post with average spacing of 1.80 meter between two vertical posts, having height at least 1.5m above road/ ground level and atleast 30-45 cm below road/ ground level by making suitable size hole in road/ ground, providing and fixing suitably two rows of 100mm wide PVC Tape preferably of red colour. The M.S. pipe shall be painted in red and white colour strips as per approved pattern as and when it becomes shabby but at least after every alternate shifting at new location. After shifting/ removal of barricading the hole shall be filled up properly and site is to be cleared in all respect. (Note: measurement is to be done in linear basis)	525000.00	metre			
219.00	Providing and fixing Barricading at site of work for restricting the general public using 40 mm dia M.S. pipe ("B" class) as vertical post with average spacing of 1.80 meter between two vertical posts, having height at least 1.5 m above road/ ground level and atleast 30-45 cm below road/ ground level by making suitable size hole in road/ ground, providing and fixing two rows of 40 mm dia M.S. pipe ("B" class) as horizontal members with nuts & bolts. Both vertical and horizontal members shall be painted in red and white colour strips as per approved pattern as when it becomes shabby but at least after every alternate shifting at new location. After shifting/ removal of barricading holes shall be filled up properly and site is to be cleared in all respect. (Note: measurement is to be done in linear basis)	87000.00	metre			
220.00	Providing and Fixing Minimum 0.63mm thick GI corrugated sheets (minimum width of each sheet shall be 60 cm) for covering the barricading in one/ two rows one above another and painting in red and white stripes as per the specifications and directions of the Engineer-in-charge with proper fixing arrangements with GI limpet washers nuts and bolts complete in all respect.	52000.00	sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
221.00	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/depths ISI marked HDPE pipes, accessories / fittings of PE-100 grade & PN-6 (electro-fusion) for potable water as per IS: 4984 (amended upto date) in trenches in complete including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.					
222.00	110mm diameter	305000.00	metre			
223.00	140mm diameter	28550.00	metre			
224.00	160mm diameter	19200.00	metre			
225.00	200mm diameter	20500.00	metre			
226.00	250mm diameter	9700.00	metre			
227.00	315mm diameter	3000.00	metre			
228.00	Providing, lowering, laying in trenches, aligning, fixing in position and jointing Ductile Iron (DI) ISI marked K-7 grade S&S pipes as per IS:8329-2000 (amended upto date), with internal cement mortar lining for potable water with rubber ring (EPDM/SBR) joints as per IS: 5382-1985 (excluding special accessories) complete including all material, labour, hydraulic testing and commissioning as per Technical Specifications and as per direction of Engineer					
229.00	100mm diameter	33000.00	metre			
230.00	125 mm diameter	3000.00	metre			
231.00	150mm diameter	2100.00	metre			
232.00	200mm diameter	2200.00	metre			
233.00	250mm diameter	1100.00	metre			
234.00	300mm diameter	500.00	metre			
235.00	350mm diameter	2000.00	metre			
236.00	400mm diameter	700.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
237.00	Providing, lowering, laying in trenches, aligning, fixing in position and jointing Ductile Iron (DI) ISI marked K-9 grade S&S pipes as per IS:8329-2000 (amended upto date), with internal cement mortar lining for potable water with rubber ring (EPDM/SBR) joints as per IS: 5382-1985 (excluding special accessories) complete including all material, labour, hydraulic testing and commissioning as per Technical Specifications and as per direction of Engineer					
238.00	150mm diameter	550.00	metre			
239.00	200mm diameter	150.00	metre			
240.00	250mm diameter	3400.00	metre			
241.00	300mm diameter	4100.00	metre			
242.00	350mm diameter	3000.00	metre			
243.00	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/ depths S&S standard specials with rubber ring (EPDM/SBR) joints as per IS: 5382-1985 such as tees, bends, tapers, caps etc. within trenches in DI pipe line complete including all material, labour, testing and commissioning along with pipeline as per Technical Specifications and as per direction of Engineer.					
244.00	Specials S&S DI K-12:					
245.00	Upto 300mm diameter	5000.00	Kg			
246.00	Above 300mm diameter	5000.00	Kg			
247.00	Specials S&S DI K-9:					
248.00	Upto 300mm diameter	10000.00	Kg			
249.00	Above 300mm diameter	7000.00	Kg			
250.00	Providing, lowering, laying, aligning, fixing in position at all level/depths flanged standard specials such as tees, bends, tapers, caps etc. within trenches in DI pipe line complete as per Technical Specifications and as per direction of Engineer.					
251.00	Specials flanged DI K-12:					
252.00	Upto 300mm diameter	10000.00	Kg			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
253.00	Above 300mm diameter	10000.00	Kg			
254.00	Specials flanged DI K-9:					
255.00	Upto 300mm diameter	19000.00	Kg			
256.00	Above 300mm diameter	13000.00	Kg			
257.00	Providing, lowering, laying, aligning, fixing in position at all level/ depths CI Class - B double flanged specials as per IS : 7181 in trenches complete (excluding jointing) including all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer					
258.00	Standard Specials	5000.00	Kg			
259.00	Non Standard Specials	5000.00	Kg			
260.00	Fabrication, supply of flanged/ plain ended MS pipe made from MS sheet strips of relevant IS specification of approved thickness by welding, lowering, laying, aligning, fixing in position at all level/ depths in trenches complete (excluding flanged jointing wherever required) including all material, labour, testing and commissioning along with pipe line as per Technical Specifications and as per direction of Engineer					
261.00	MS pipe specials upto 600mm dia (with minimum 5mm thickness sheet)	17000.00	Kg			
262.00	Providing, lowering, laying in trenches, aligning, fixing in position and double flanged (welded) centrifugally (spun) Ductile Iron (DI) ISI marked K-9 grade as per IS:8329-2000 (amended upto date) (including jointing & jointing material) complete including all material, labour, hydraulic testing and commissioning as per Technical Specifications and as per direction of Engineer					
263.00	100mm diameter	1050.00	Mtr			
264.00	150mm diameter	550.00	Mtr			
265.00	200mm diameter	300.00	Mtr			
266.00	250mm diameter	270.00	Mtr			
267.00	300mm diameter	350.00	Mtr			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
268.00	350mm diameter	270.00	Mtr			
269.00	400mm diameter	80.00	Mtr			
270.00	Providing, lowering, laying, aligning, fixing in position in pipeline, manually operated Resilient Seated D/F Sluice valves of approved make & design standard PN 1.0 class of following dia. complete (including jointing & jointing material ) including all material, labour, testing and commissioning along with pipeline as per Technical Specification & as per direction of Engineer.					
271.00	80 mm diameter	5.00	Each			
272.00	100mm diameter	163.00	Each			
273.00	125mm diameter	46.00	Each			
274.00	150mm diameter	52.00	Each			
275.00	200mm diameter	38.00	Each			
276.00	250mm diameter	10.00	Each			
277.00	300mm diameter	3.00	Each			
278.00	350mm diameter	8.00	Each			
279.00	400mm diameter	4.00	Each			
280.00	Providing, lowering, laying, aligning, fixing in position and jointing in pipe line single chamber automatic Ductile Iron Air Valves of following diameter (including jointing and jointing material), including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer					
281.00	80mm diameter	5.00	Each			
282.00	Providing, lowering, laying, aligning, fixing in position and jointing CI dismantling joint (suitable for sluice valves etc.) as per IS specifications complete of the following sizes including all jointing material, cost of all labour, testing and commissioning as per Technical Specifications and as per direction of Engineer					
283.00	100mm diameter PN 1.0	163.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
284.00	125mm diameter PN 1.0	50.00	Each			
285.00	150mm diameter PN 1.0	89.00	Each			
286.00	200mm diameter PN 1.0	71.00	Each			
287.00	250mm diameter PN 1.0	19.00	Each			
288.00	300mm diameter PN 1.0	9.00	Each			
289.00	350mm diameter PN 1.0	18.00	Each			
290.00	400mm diameter PN 1.0	9.00	Each			
291.00	Construction of RCC valve chamber for fixing different type of valves including earthwork excavation, plain cement concrete 1:3:6 (1 Cement : 3 fine/ coarse sand : 6 graded stone aggregate 20mm nominal size) as levelling course, Reinforced Cement Concrete of 1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20mm nominal size) for base slab, side wall & cover slab with 600x600 mm DI manhole cover with frame, including cost of structural work, proper curing of concrete work and providing cover slab, SFRC steps with all material cost, labour cost, including all taxes and duties, with all lead and lift charges etc. complete as per standard specifications and drawings and also as directed by Engineer.					
292.00	80 mm diameter	5.00	Each			
293.00	100mm diameter	161.00	Each			
294.00	125mm diameter	50.00	Each			
295.00	150mm diameter	87.00	Each			
296.00	200mm diameter	71.00	Each			
297.00	250mm diameter	19.00	Each			
298.00	Chamber for Pressure Transmitter	134.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
299.00	Construction of RCC valve chamber for fixing different type of valves including earthwork excavation, plain cement concrete 1:3:6 (1 Cement : 3 fine/ coarse sand : 6 graded stone aggregate 20mm nominal size) as levelling course, Reinforced Cement Concrete of 1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20mm nominal size) for base slab, side wall and cover slab with ferro cement cover of class A loading, including cost of structural work, proper curing of concrete work and providing cover slab, SFRC steps with all material cost, labour cost, including all taxes and duties, with all lead and lift charges etc. complete as per standard specifications and drawings and also as directed by Engineer.					
300.00	300mm diameter	3.00	Each			
301.00	350mm diameter	23.00	Each			
302.00	400mm diameter	10.00	Each			
303.00	Providing bedding/ haunching for pipe with clean sand passing through IS sieve 2.36mm and retained on 180 micron sieve in layers including ramming, consolidation complete in all respect as per specification and the direction of the Engineer with all lead and lift.	9900.00	cum			
304.00	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 50 metres, stacking serviceable and unserviceable materials separately as directed by Engineer					
305.00	Bituminous courses	4400.00	cum			
306.00	Granular courses	35000.00	cum			
307.00	Dismantling of cement concrete pavement by mechanical means using mechanical cutter, pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately as per MoRT&H specification clause 202	30000.00	cum			
308.00	Carriage of Materials by mechanical transport including loading, unloading and stacking With all lead & lift.					
309.00	Stone boulders, gravelly material					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
310.00	Lead up to 2 Km	36000.00	Cum			
311.00	Lead above 2 km & up to 5 Km	35800.00	Cum			
312.00	Earth					
313.00	Lead up to 2 Km	8200.00	Cum			
314.00	Lead above 2 km & up to 5 Km	8000.00	Cum			
315.00	Dismantling of C.I. sluice valve including stacking of useful materials within a lead of 50metres.					
316.00	Upto 150mm diameter	144.00	Each			
317.00	Above 150mm diameter	38.00	Each			
318.00	Labour Charges for making connection with proposed pipe line to existing pipeline of AC/ DI/ CI/ GI including dewatering etc. complete but excluding the cost of pipes, specials, joints etc as directed by site engineer for following dia. (Earthwork to be measured and paid separately)					
319.00	80-200mm diameter	50.00	Each			
320.00	250-500mm diameter	19.00	Each			
321.00	Labour Charges for making connection with proposed pipe line to existing pipe line of PVC/ HDPE/ GRP including dewatering etc. complete but excluding the cost of pipes, specials, joints etc as directed by site engineer for following dia. (Earthwork to be measured and paid separately)					
322.00	80-200mm diameter	33.00	Each			
323.00	Making disconnection of existing pipeline of AC/ DI/ CI/ PVC/ GI etc including dewatering, cost of clamps, plates, specials, joints etc. complete as directed by site engineer for following dia. (Earthwork to be measured and paid separately)					
324.00	80-200mm diameter	100.00	Each			
325.00	250-500mm diameter	50.00	Each			
326.00	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level : 1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size).	670.00	Cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
327.00	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/ depths HDPE pipe accessories/ fittings of PE-100 grade & PN-6 for potable water moulded/ machined within pipeline in trenches complete including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer. (HDPE fittings suitable for Valve) Following HDPE Stub End (Long neck pipe end) with MS galvanised flange as per to BS-10 table D/IS:1538					
328.00	110mm HDPE Stub End (LNPE) with MS Galvanised Slip on flange Suitable connecting Valve of 100mm diameter	312.00	Each			
329.00	140/160 mm HDPE Stub End (LNPE) with MS Galvanised Slip on flange Suitable connecting Valve of 125mm diameter	92.00	Each			
330.00	200mm HDPE Stub End (LNPE) with MS Galvanised Slip on flange Suitable connecting Valve of 200mm diameter	90.00	Each			
331.00	250mm HDPE Stub End (LNPE) with MS Galvanised Slip on flange Suitable connecting Valve of 200mm diameter	62.00	Each			
332.00	315 mm HDPE Stub End (LNPE) with MS Galvanised Slip on flange Suitable connecting Valve of 200mm diameter	5.00	Each			
333.00	Supply, fixing, testing and commissioning of Multi jet magnetic type domestic water meter of with end coupling as per relevant technical specification with 7 years warranty and the direction of the Engineer , Class-B confirming IS:779-1996 / EEC/ MDIL					
334.00	15mm size	27000.00	Each			
335.00	20mm size	600.00	Each			
336.00	25mm size	680.00	Each			
337.00	Making house service connection from water supply distribution pipe line upto water meter chamber, with HDPE (Class-PE 80) composite pipes of 20 mm Diameter below the ground & 15 mm GI pipe class B above the ground including supply and fixing of ferrules, Electrofusion tapping saddle for PE pipes/ clamps for DI/ welded for GI pipes, union, end plug, compression fittings including all material, labour, testing and commissioning as per technical specifications and the direction of the Engineer					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
338.00	For Connection upto 10 M	22000.00	Each			
339.00	For Connection more than 10 M and upto 20 M	5000.00	Each			
340.00	Making house service connection from water supply distribution pipe line upto water meter chamber, with HDPE (Class-PE 80) composite pipes of 25 mm Diameter below the ground & 20 mm GI pipe class B above the ground including supply and fixing of ferrules, Electrofusion tapping saddle for PE pipes/ clamps for DI pipes, union, end plug, compression fittings including all material, labour, testing and commissioning as per technical specifications and the direction of the Engineer					
341.00	For Connection upto 10 M	480.00	Each			
342.00	For Connection more than 10 M and upto 20 M	120.00	Each			
343.00	Making house service connection from water supply distribution pipe line upto water meter chamber, with HDPE (Class-PE 80) composite pipes of 32 mm Diameter below the ground & 25 mm GI pipe class B above the ground including supply and fixing of ferrules, Electrofusion tapping saddle for PE pipes/ clamps for DI pipes, union, end plug, compression fittings including all material, labour, testing and commissioning as per technical specifications and the direction of the Engineer					
344.00	For Connection upto 10 M	544.00	Each			
345.00	For Connection more than 10 M and upto 20 M	136.00	Each			
346.00	METER BOX- with Weather resistant PE/ GRP, Lid fixing & locking: press fitted and locked with built-in or external lock.	21000.00	Each			
347.00	Providing & lowering of G.I. flange pipe B Class including rubber washer and nuts of 8 mm dia complete in all respect.					
348.00	75 mm dia	2000.00	Mtr			
349.00	100 mm dia	5000.00	Mtr			
350.00	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work :					
351.00	80 mm dia nominal bore	5000.00	Mtr			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
352.00	Supply, delivery at site with necessary packing, receiving, unloading, shifting, storing, installation, testing and commissioning of Horizontal Centrifugal Split Casting pumps with motor, CI casing and casing ring, SS 316 impeller, SS 410 Shaft and shaft sleeve, coupling guard, common base plate, foundation bolts etc. complete with all respect as per the specification					
353.00	Discharge 51 to 60 lps & head 31 to 40 mtr	2.00	Each			
354.00	Discharge 71 to 80 lps & head 61 to 70 mtr	2.00	Each			
355.00	Providing, installation, testing and commissioning of SCADA Compatible Electromagnetic Flow meter etc. including all materials (excluding CI/DI fittings) and making connection with existing pipeline required for Electromagnetic Flow meter including cutting the existing pipe line etc., complete in all respect as per technical specification and as per direction of Engineer.					
356.00	EMF 150 for DN 150mm	1.00	Each			
357.00	EMF 200 for DN 200mm	2.00	Each			
358.00	EMF 250 for DN 250mm	5.00	Each			
359.00	EMF 350 for DN 350mm	8.00	Each			
360.00	EMF 400 for DN 400mm	4.00	Each			
361.00	Providing, installation, testing and commissioning of Bulk Flow Meter with removable mechanism class "B" conforming to IS: 4064/1 including all materials (excluding CI/DI fittings) and making connection with existing pipeline required for Bulk Flow Meter including cutting the existing pipe line etc complete in all respect as per technical specification and as per direction of Engineer					
362.00	BFM 125 for DN 125	4.00	Each			
363.00	BFM 150 for DN 150	31.00	Each			
364.00	BFM 200 for DN 200	29.00	Each			
365.00	BFM 250 for DN 250	1.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
366.00	Providing, lowering, laying, aligning, fixing in position in pipeline, Resilient Seated, vaccum tight D/F Butterfly valves with electrical acuator (SCADA compatible) of approved make & design standard PN 1.0 class of following dia. complete (including jointing & jointing material ) including all material, labour, testing and commissioning along with pipeline as per Technical Specification & as per direction of Engineer.					
367.00	150mm diameter	1.00	Each			
368.00	200mm diameter	4.00	Each			
369.00	250mm diameter	7.00	Each			
370.00	350mm diameter	6.00	Each			
371.00	400mm diameter	4.00	Each			
372.00	Providing, lowering, laying, aligning, fixing in position in pipeline, D/F Flow Control Valve ( Plunger valve) with electrical acuator suitable for SCADA compatibility of approved make & design standard PN 1.6 class of following dia. complete (including jointing & jointing material ) including all material, labour, testing and commissioning along with pipeline as per Technical Specification & as per direction of Engineer.					
373.00	150mm diameter	4.00	Each			
374.00	200mm diameter	2.00	Each			
375.00	250mm diameter	5.00	Each			
376.00	300mm diameter	6.00	Each			
377.00	350mm diameter	1.00	Each			
378.00	Providing, lowering, laying, aligning, fixing in position and jointing in pipe line, dual plate check valves resilient seated in accordance with EN 12334 of PN 1.0 rating of following dia (including jointing and jointing material), including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer. (Non Return Valve)					
379.00	200mm diameter	2.00	Each			
380.00	250mm diameter	2.00	Each			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
381.00	Providing, installation, testing and commissioning of following Stainless steel AISI 304 Expansion bellows of 10 bar rating with tie rods as per technical specifications and layout drawings including jointing material like nuts, bolts, rubber gaskets etc. complete in all respect as per technical specification and as per direction of Engineer.					
382.00	150mm diameter	2.00	Each			
383.00	200mm diameter	4.00	Each			
384.00	250mm diameter	2.00	Each			
385.00	Providing, Supplying and fixing of DI D/F Pressure Reducing Valve as per standard/ technical specification and direction of Engineer-in-Charge etc., complete.					
386.00	150mm diameter	3.00	Each			
387.00	200mm diameter	4.00	Each			
388.00	350mm diameter	1.00	Each			
389.00	400mm diameter	1.00	Each			
390.00	SITC of wall/free standing floor mounted dust and vermin proof compartmentalised cubical panel made out of CRCA sheet, required hardware, duly painted by two coats of zinc/red oxide primer followed by Powder coated / epoxy / PU painted with phosphatisation in grey or required shade after rinsing. The panel having PU/Neoprene rubber gasket of not less than 3mm thickness, separate detachable, gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. Thickness of sheet shall not be less than 1.6mm up to 600mm length/width of any compartment and be of 2.0mm above 600mm. Load bearing structure shall be of 2.0mm thick sheet supported by base M.S. channel if required. Side walls and cable alley compartments having bolted type doors with detachable extension type structure (only outer area on all sides shall be measured and panel to be fabricated from CPRI approved fabricator).	26.00	Sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
391.00	Supplying and fixing of Aluminium / Copper bus bar by means of SMC / DMC type insulator, high tensile nuts and bolts spring washers in existing panel including bending , cutting in required shape and size and colour coding with heat shrinkable PVC sleeves.					
392.00	Electrolytic grade aluminium bus bar	30.00	kg			
393.00	<b>Incoming Panel</b>					
394.00	SITC of quick make and quick break 4 POLE current limiting MCCB having following current rating, short circuit breaking capacity at 440/415 V, 50 Hz; O/L & S/C settings and conforming to IS 13947-2 / IEC 60947- 2 with front face and centralised adjustable, line load interchangeability, having positive isolation capability, provision for UVR , shunt trip ,earth fault trip, push (test) to trip , including making connections with lugs / spreaders etc. as required					
395.00	400 Amp, 35/50 kA, Adjustable O/L & adjustable S/C setting Group 1	1.00	Each			
396.00	P & F of energy analyser (multy function energy meter) with LCD/ LED display capable of minimum 20 numbers electrical parameters display with 1A/5A CT input for LV/ HV network, RS 485 communication port etc. complete in all respect.	1.00	Each			
397.00	SF of CT operated direct reading type Ampere meter on existing panel , making connection by PVC insulated copper conductor with PVC sleeves / channel etc. as required. Analog type (96 mm x 96 mm)					
398.00	Below 500A	1.00	Each			
399.00	SF of Current Transformer , with all necessary support in existing panel including connection etc. as required .					
400.00	from 200 / 5 to 400/5 Ratio , 10 VA , class 1 accuracy	4.00	Each			
401.00	SF of CT linked selector switch of 10 A for Ampere meter (4 position ) including making connection etc. as required .	1.00	Each			
402.00	SF of (0-500) V range Volt meter on existing panel , making connection by PVC insulated copper conductor with PVC sleeves / channel etc. as required.					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
403.00	Analog Type (96 mm x 96 mm)	1.00	Each			
404.00	SF of selector switch for voltmeter (4 position ) including making connection etc. as required .	1.00	Each			
405.00	SF of 240/220 V, LED (22.5 mm dia ) Pilot lamp with integral circuit, terminal block, including connection etc. as required.					
406.00	Red/yellow/Green colour	3.00	Each			
407.00	<b>Outgoing Panel</b>					
408.00	SITC of quick make and quick break 3 POLE current limiting MCCB having following current rating, short circuit breaking capacity at 440/415 V, 50 Hz; O/L & S/C settings and conforming to IS 13947-2 / IEC 60947- 2 with front face and centralised adjustable, line load interchangeability, having positive isolation capability, provision for UVR , shunt trip , earth fault trip, push ( test ) to trip, including making connections with lugs / spreaders etc. as required With Thermal Magnetic release					
409.00	250 Amp , 35/50 kA, adjustable O/L & adjustable S/C setting Group 1	2.00	Each			
410.00	Up to 100 Amp , 16/25 KA, adjustable O/L & fixed S/C setting Group 1	2.00	Each			
411.00	SITC of Soft Starters with panel supplied by manufacturer conforming to applicable standards with logic inputs & outputs, relay outputs and analogue outputs, plug in I/O connections, display of electrical parameters, state of load & operating time, RS 485 serial link for connections to Modbus. PROVIDING AND FIXING OF SOFT STARTER IN EXISTING PANEL					
412.00	90 KW	2.00	Each			
413.00	37 KW	2.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
414.00	SITC of self healing MPP/MP type shunt capacitor (banks) conforming to IS:13340-41 / IEC :831-1&2 in existing panel or parallel with load terminals , the capacitor shall be fitted with discharge resistors, pressure sensitive disconnecter ( PSD ) and shall have dissipation factor less than 0.0025 at 50 Hz and total wattage loss less than 0.5 Watt per KVAR. including making connections with suitable capacity conductors/cables testing as required.					
415.00	Heavy duty Three phase 440 V , 50 Hz capacitor (Bank)	80.00	KVAR			
416.00	SITC of microprocessor based intelligent power factor correction relay having sensitivity up to 50 milli Amp secondary current and following way, self analysing auto c/k setting according to targeted power factor setting, the relay shall have minimum three digit display unit for display of real power factor, targeted power factor, lag/lead capacitor switching status, alarm output for under current, over current, insufficient compensation, indication of switching on units, auto/manual status, and shall have over load protection, no volt release etc. as required.					
417.00	6 to 14 stage - sensitivity upto 50 milli Amp.	1.00	Each			
418.00	P & F Cam operated rotary switches on existing panel with 2 way and off position Three Pole					
419.00	16 A	8.00	Each			
420.00	32 A	1.00	Each			
421.00	63 A	1.00	Each			
422.00	P & F of 440 Volt 3 pole capacitor (AC 6 B ) duty contactor with 3 no. early make and post break auxiliary contacts in series with quick discharge damping resistors/ reactors to limit the inrush current , conforming to IS:13947-4-1/IEC:947-4-1, Din rail mounting type including making connections, testing etc. as required. suitable for following capacity capacitor bank.					
423.00	21 to 30 KVAR	1.00	Each			
424.00	11 to 20 KVAR	1.00	Each			
425.00	7 to 10 KVAR	2.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
426.00	Up to 6 KVAR	6.00	Each			
427.00	P&F TP&N 415 V metal clad HBC cum rewire able switch fuse unit with porcelain kit-kat & neutral link and conforming to IS:13947 P-I&III and making connections with lugs testing etc. as required.					
428.00	63 A rating Group -1	1.00	Each			
429.00	32 A rating Group -1	1.00	Each			
430.00	16 A rating Group -1	6.00	Each			
431.00	P&F bolted type/ Din type HBC (High breaking capacity) fuse links of 80 KA breaking capacity, conforming to IS:13703 in the existing fuse base, fuse switch unit etc. of the following type and rating. Din (knife type) type					
432.00	6 A to 160 A Group -1	30.00	Each			
433.00	SF of CT operated direct reading type Ampere meter on existing panel , making connection by PVC insulated copper conductor with PVC sleeves / channel etc. as required. Analog type (96 mm x 96 mm)					
434.00	Below 500 A	4.00	Each			
435.00	SF of Current Transformer , with all necessary support in existing panel including connection etc. as required .					
436.00	up to 150 / 5 Ratio , 5 VA , class 1 accuracy	6.00	Each			
437.00	from 200 / 5 to 400/5 Ratio , 10 VA , class 1 accuracy	6.00	Each			
438.00	SF of CT linked selector switch of 10 A for Ampere meter (4 position ) including making connection etc. as required .	4.00	Each			
439.00	SF of 240/220 V, LED (22.5 mm dia ) Pilot lamp with integral circuit, terminal block, including connection etc. as required.					
440.00	Red/yellow/Green colour	12.00	Each			
441.00	SF of rubber matting with one side corrugated as per IS specificationv 15652/2006					
442.00	3.3 KV, 20 mm thick,	6.00	Sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
443.00	P/Laying XLPE insulated / P.V.C. sheathed cable of 1.1 KV grade with aluminium conductor Armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, IInd class bricks covering, refilling earth, compaction of earth, making necessary connection, testing etc. as required of size.					
444.00	3.5 Core x 300 sq.mm, Group -1	30.00	Mtr.			
445.00	3C x 70 sq.mm Group -1	40.00	Mtr.			
446.00	3C x 25 sq.mm Group -1	40.00	Mtr.			
447.00	Supplying and making one end termination with heavy duty single compression brass gland SIBG type, aluminium lugs duly crimped with crimping tool, PVC tape etc for following size of Armoured PVC insulated & PVC sheathed/ XLPE aluminium conductor cable of 1100 volt grade as required of size.					
448.00	3.5 x 300.0 sq.mm	2.00	Set			
449.00	3x70 sq.mm	4.00	set			
450.00	3 x 25 sq.mm	4.00	Set			
451.00	Supply, Fabricating & installing following sizes of perforated M.S. cable trays including horizontal and vertical bends, reducers tees, cross members and other accessories as required and duly suspended from the ceiling with M.S. suspenders and including painting as required.					
452.00	300mm x 50mm x 1.6mm	30.00	Mtr.			
453.00	Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 3 to 4 mtr. below the ground level with 20 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size 300mm x 300mm complete with alternate layers of salt and coke/charcoal, testing of earth resistance as required.	2.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
454.00	S & Laying following size earth wire/strip in horizontal or vertical run in ground/surface/recess including riveting, soldering, saddles, making connection etc. as required.					
455.00	25mm x 3mm G.I. Strip	240.00	Mtr.			
456.00	50mm x 6mm G.I. Strip	80.00	Mtr.			
457.00	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level :					
458.00	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate of 20mm nominal size)	220.00	Cum			
459.00	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20mm nominal size)	60.00	Cum			
460.00	Random rubble dry stone Kharanja (soling) under floor.	135.00	Cum			
461.00	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete. 40mm thick with 20mm nominal size stone aggregate.	150.00	sqm			
462.00	Random rubble masonry with hard stone in foundation and plinth Cement mortar 1:6 (1 cement : 6 coarse sand)	400.00	Cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
463.00	Random rubble masonry with hard stone in superstructure above plinth level & up to two stories Cement mortar 1:6 (1 cement : 6 coarse sand)	170.00	Cum			
464.00	Cement plastering including T&P, scaffolding, material and complete labour, including cost of water, curing, racking of joints etc. with 20mm cement plaster of mix 1:4 (1 cement : 4 fine/ coarse sand)	1800.00	Sqm			
465.00	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets etc. upto two stories, excluding the cost of centering, shuttering and finishing : 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	40.00	Cum			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
466.00	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement - All work upto plinth level : 1:1:2 (1 Cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size) (As per design mix)	280.00	Cum			
467.00	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. upto two stories excluding cost of centering, shuttering, finishing and reinforcement : 1:1:2 (1 Cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size) (As per design mix)	800.00	Cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
468.00	Add extra for laying reinforced cement concrete above two stories (or 7.50 mtr height above plinth level) for every one storey or 3.00 m height or part thereof.					
469.00	7.51m to 10.50m above GL	120.00	Cum			
470.00	10.51m to 13.50m above GL	120.00	Cum			
471.00	13.51m to 16.50m above GL	250.00	Cum			
472.00	16.51m to 19.50m above GL	120.00	Cum			
473.00	19.51m to 22.5m above GL	220.00	Cum			
474.00	22.5 m to 25.50m above GL	500.00	Cum			
475.00	25.5 m to 28.5m above GL	130.00	Cum			
476.00	28.5 m to 31.5m above GL	120.00	Cum			
477.00	Reinforced cement concrete work in beams, suspended floors, roofs having slope upto 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto two stories excluding the cost of centring, shuttering, finishing and reinforcement: M-30 Grade Concrete	870.00	Cum			
478.00	Reinforcement for RCC work at all levels i/c straighteing, cutting, bending, placing, in position and binding all complete, Thermo mechanically treated bars.	212000.00	Kg			
479.00	Centering and shuttering upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :					
480.00	Foundations, footings, bases of columns, etc. for mass concrete	2900.00	sqm			
481.00	Columns, Pillars, Piers, Abutments, Posts and Struts	1600.00	sqm			
482.00	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	1420.00	sqm			
483.00	Stairs, (excluding landings) except spiral-staircases.	80.00	sqm			
484.00	Suspended floors, roofs, landings, balconies and access platform	230.00	sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
485.00	Arches , dome , vault for span exceeding 6.0 mtr	1010.00	sqm			
486.00	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	2480.00	sqm			
487.00	Add extra for doing centering & shuttering work for each subsequent storey above two storey					
488.00	7.50 to 10.50m	330.00	sqm			
489.00	10.5m to 13.5m above GL	400.00	sqm			
490.00	13.5 m to 16.5m above GL	400.00	sqm			
491.00	16.5m to 19.50m above GL	400.00	sqm			
492.00	19.5m to 22.50m above GL	600.00	sqm			
493.00	22.50m to 25.50m above GL	2020.00	sqm			
494.00	25.5 m to 28.5m above GL	1050.00	sqm			
495.00	28.5 m to 31.5m above GL	750.00	sqm			
496.00	Extra for shuttering in circular work					
497.00	up to 7.50 mtr	800.00	sqm			
498.00	7.50 to 10.50m	220.00	sqm			
499.00	10.5m to 13.5m above GL	220.00	sqm			
500.00	13.5 m to 16.5m above GL	220.00	sqm			
501.00	16.5m to 19.50m above GL	220.00	sqm			
502.00	19.5m to 22.50m above GL	150.00	sqm			
503.00	22.50m to 25.50m above GL	1620.00	sqm			
504.00	25.5 m to 28.5m above GL	1040.00	sqm			
505.00	28.5 m to 31.5m above GL	50.00	sqm			
506.00	Extra for providing and mixing water proofing material in cement concrete work @ 1 kg per 50kg of cement.	400.00	per 50 kg of cement			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
507.00	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm).	7000.00	sqm			
508.00	Providing, fabricating and erecting hand railing for walkway, top dome slab, balcony, staircase and landing consisting of two rows (one at top and other at middle level) of 20 mm GI pipe class-B and 900 mm high vertical angle 65X65X6 mm at spacing 1.50 m c/c including welding, threading, applying a priming coat of approved steel primer and embedding in cement concrete floor complete in all respect as per specification and the direction of the Engineer.	700.00	metre			
509.00	Providing, fabricating and erecting MS ladder of 450mm wide made of 65 x 65 x 6mm angle iron and 20mm MS bars welded at 300 mm c/c for walkway to top of the OHSR including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer complete in all respect as per specifications and the direction of the Engineer.	60.00	metre			
510.00	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete. Serrated with central bulb (225mm wide, 8-11mm thick).	1200.00	metre			
511.00	Supply, fabricating & fixing of anodised (20 to 25 micron) Aluminum ladder of 450mm wide with 2 nos. rectangular section of 65 x 35 mm (3 mm thick) as vertical post and 25 mm bars steps at 300 mm c/c complete in all respect as per the specification and the direction of the Engineer.	40.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
512.00	Providing and hoisting and fixing in position MS / DI manhole frame and cover of best quality of 600mm x 600mm clear size with locking arrangement including applying two coats of anti corrosive paint etc., complete as per drawings and specifications.	4.00	Nos.			
513.00	Providing and fixing Stain less steel AISI 304 Strainer Cylindrical type for out let, drain pipes of following sizes including all material labour as per Technical Specifications and as per direction of Engineer.					
514.00	250mm diameter	1.00	Each			
515.00	350mm diameter	2.00	Each			
516.00	400mm diameter	1.00	Each			
517.00	Providing and fixing electronic water level indicator with specified nos of level indications including p/f prons in overhead tank, necessary cabling from level indicating panel to prones in over head tank (upto 5 metre length) in proper manner as per specification and direction of Engineer.					
518.00	5 level indications and cabling upto length of 5 metre	14.00	set			
519.00	Providing & fixing extra length of cable in above item	350.00	metre			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
520.00	Providing, laying, and fixing float valve system of the following diameter of C.I. with internal parts of auxiliary valve of copper float ball, gunmetal ball cap, brass lever, brass split pin, gunmetal piston & piston cap, washer of nitrile rubber with gunmetal body including all material, labour, hydraulic testing and commissioning as per technical specification and as per the direction of the Engineer.					
521.00	250 mm dia	1.00	Each			
522.00	300 mm dia	3.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
523.00	Providing and fixing angle iron frame 25 x 25 x 3mm for ventilators fixed with 24 gauge square mesh of 14 gauge stainless steel wire including 10 mm square bars at interval of 100 mm welded to frame with metal beading of 20 x 3mm complete in all respect as per technical specifications and drawings as per technical specification and as per direction of Engineer.	40.00	sqm			
524.00	Plate Earthing as per IS:3043 with G.I. Earth plate of size 600mm x 600mm x 6.0mm by embodying 3 to 4 mtr. below the ground level with 20 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer ,nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size300mm x 300mm complete with alternate layers of salt and coke/charcoal, testing of earth resistance as required.	4.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
525.00	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	3000.00	Kg			
526.00	Providing and fixing in position lightening arrester set complete with 600mm x 600mm x 6mm thick G.I. earthing plate embedded below ground in earthing pit at 3.5 metre depth, G.I. strip of size 25mmx5mm thick from earthing plate to top of Over head tank, G.I. Finial made of GI bar 25mm dia and 2m long fixed on top of OH tank and connected to GI strip. The earthing set shall comply of IS:3043 complete in all respect as per specification and the direction of the Engineer.	4.00	set			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
527.00	<b>SCADA for Water Supply works</b>					
528.00	Master control centre	1.00	Lot			
529.00	Supply, Installation and Commissioning of PC Server, Central Water Distribution Monitoring and Control software, Database, SCADA software, Automatic Report Generation software at Office cum SCADA Room.					
530.00	High end dual redundant servers complete with data storage and archiving, 21" LCD screen, mouse, keyboard, wiring, cables and all accessories.					
531.00	Dual redundant fast ethernet hub and bus wiring installation complete including connection of all SCADA equipments, with all accessories.					
532.00	High end PC SCADA operator stations with 21" LCD Screen, mouse, keyboard and all accessories.					
533.00	Data Logger					
534.00	ISDN and GPRS modems for telecommunications complete with all wiring installations and connection to ethernet bus with all accessories.					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
535.00	2 no wall mounted 46" LCD screens for 'Mimic type' displays, wiring, cables and all accessories.					
536.00	Laser printers, wiring, cables and all accessories.					
537.00	UPS suitable for the server, LCD monitors and other server room equipments with 8 hours battery back-up.					
538.00	Local Monitoring Centre	2.00	Lot			
539.00	Supply, Installation and Commissioning of PC, SCADA software-Client, Automatic Report Generation software at RHB Headworks.					
540.00	High end PC SCADA operator stations with 21" LCD Screen, mouse, keyboard and all accessories.					
541.00	Laser printers, wiring, cables and all accessories.					
542.00	ISDN and GPRS modems for telecommunications complete with all wiring installations and connection to ethernet bus with all accessories.					
543.00	UPS suitable for the LCD monitors and other equipments with 8 hours battery back-up.					
544.00	Local control centre	20.00	Lot			
545.00	Supply, erection, testing and commissioning of RTU/PLC panel with built-in panel temperature and humidity monitoring, adequate number of analogue/digital I/O's plus 20% spare I/O's, 8 hr battery and battery charger, GPRS modem installed in control cabin including all external connections to power and instruments.					
546.00	Supply, Installation and Commissioning of Pressure sensor and Transmitters with accessories	155.00	Nos.			
547.00	Supply, Installation and Commissioning of Magnetic Flow Sensor and transmitters with accessories	90.00	Nos.			
548.00	Supply, Installation and Commissioning of Hydrostatic Level Sensor and Transmitters with accessories	20.00	Nos.			
549.00	Supply, Installation and Commissioning of Sensor and Transmitter for Valves	49.00	Nos.			
550.00	Supply, Installation and Commissioning of Pump Drive VFD with accessories	14.00	Nos.			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
551.00	Supply, Installation and Commissioning of pH Sensor and Transmitter with accessories	1.00	Nos.			
552.00	Supply, Installation and Commissioning of Chlorine Sensor and Transmitter with accessories	1.00	Nos.			
553.00	<b>Part E- SCADA control Centre, Office Building, Consumer Service Centre, street light etc.</b>					
554.00	Earth work in excavation in foundation, trenches etc. including dressing of sides and ramming of bottoms, including getting out the excavated material, refilling after laying foundation and disposal of surplus excavated material at a lead upto 50m suitable site as per direction of Engineer for following depths, below natural ground / Road top level					
555.00	In all types soils/ saturated soil such as moorum, sand, sandy silt, clay, black cotton soil, kankar, etc.					
556.00	Depth upto 1.5 mtr	550.00	Cum			
557.00	In Ordinary rock					
558.00	Depth upto 1.5 mtr	60.00	Cum			
559.00	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level :					
560.00	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate of 20mm nominal size)	30.00	Cum			
561.00	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	30.00	Cum			
562.00	Centering and shuttering upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :					
563.00	Foundations, footings, bases of columns, etc. for mass concrete	400.00	sqm			
564.00	Columns, Pillars, Piers, Abutments, Posts and Struts	250.00	sqm			
565.00	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	930.00	sqm			
566.00	Suspended floors, roofs, landings, balconies and access platform	340.00	sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
567.00	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement - All work upto plinth level					
568.00	1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20mm nominal size) (M20) Footing	100.00	Cum			
569.00	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. upto two stories excluding cost of centering, shuttering, finishing and reinforcement					
570.00	1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20mm nominal size) (M20)	25.00	Cum			
571.00	Reinforced cement concrete work in beams, suspended floors, roofs having slope upto 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto two stories excluding the cost of centering, shuttering, finishing and reinforcement					
572.00	M-20 Grade Concrete (1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size) -As per design mix)	95.00	Cum			
573.00	Random rubble masonry with hard stone in foundation and plinth :					
574.00	Cement mortar 1:6 (1 cement : 6 coarse sand)	60.00	Cum			
575.00	In cement mortar 1:4 (1 cement : 4 coarse sand)	60.00	Cum			
576.00	Brick work with bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in					
577.00	Cement mortar 1:4 (1 cement : 4 coarse sand)	140.00	Cum			
578.00	Half brick masonry with bricks of class designation 75 in superstructure above plinth level upto two stories					
579.00	Cement mortar 1:4 (1 cement :4 coarse sand)	60.00	Sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
580.00	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50m and lift upto 1.5m.	290.00	Cum			
581.00	Carriage of materials by mechanical transport including loading, unloading and stacking with average lead of 2 km. Earth	300.00	Cum			
582.00	Providing laminated veneer lumber conforming to IS:14616 and TAD-15: 2001 (Part B) in factory made frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position as per directions of Engineer-in-charge	7.00	cum			
583.00	Providing and fixing ISI marked flush door shutters conforming to IS:2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters					
584.00	35mm thick including ISI marked Stainless Steel butt hinges with necessary screws	26.00	sqm			
585.00	25mm thick PVC flush door shutters made out of a one piece Multichamber extruded PVC section of the size of 762mm X 25mm or less as per requirement with an average wall thickness of 1mm ± 0.3mm. PVC foam end cap of size 23x10mm are provided on both vertical edges to ensure the overall thickness of 25mm. An M.S. tube having dimensions 19mm x 19mm is inserted along the hinge side of the door. Core of the door shutter should be filled with High Density Polyurethane foam. The Top & Bottom edges of the shutter are covered with an end-cap of the size 25mm X 11mm. Door shutter shall be reinforced with special polymeric reinforcements as per manufactures' specification and direction of Engineer-in-charge to take up necessary hardware and fixtures. Stickers indicating the locations of hardware will be pasted at appropriate places	18.00	sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
586.00	Providing and fixing factory made door frame (single rebate) made of solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 60mm width & 30mm thickness and shall be fixed to wall as per instructions of engineer-in-charge using 100x8 sheet metal CSK screws	57.00	metre			
587.00	Reinforcement for RCC work at all levels i/c straighteing, cutting, bending, placing, in position and binding all complete, Thermo mechanically treated bars.	21000.00	Kg			
588.00	Tile work in skirting, risers of steps and dado (upto 2 m height) over 12 mm thick bed of cement mortar 1:3 (1 cement :3 coarse sand) and jointed with grey cement slurry @ 3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete Marble tiles (polished) Raj Nagar 8 mm thick	55.00	Sqm			
589.00	Marble stone flooring with 18mm thick marble stone (sample of marble shall be approved by Engineer-in-charge) over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with Raj Nagar plain.	270.00	Sqm			
590.00	Precast terrazo tiles 22mm thick with graded marble chips of size upto 12mm laid in floors, and landings, jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles on 20mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) : Medium shade using 50% white cement and 50% ordinary cement.	270.00	Sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
591.00	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacture) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete	90.00	sqm			
592.00	Providing and laying Ceramic glazed floor tiles 300x300mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigment etc., complete.	30.00	sqm			
593.00	Random rubble dry stone Kharanja (soling) under floor	44.00	cum			
594.00	Providing and fixing on wall face Unplasticised Rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Single socketed pipes					
595.00	110mm diameter	130.00	metre			
596.00	Cement plastering including T&P, scaffolding, material and complete labour, including cost of water, curing, racking of joints etc. with 20mm cement plaster on rough side of brick wall finished with a floating coat of neat cement of mix 1:3 (1 cement : 3 fine/ coarse sand)	500.00	Sqm			
597.00	Cement plastering including T&P, scaffolding, material and complete labour, including cost of water, curing, racking of joints etc. with 12mm cement plaster on rough side of single or half brick wall finished with a floating coat of neat cement of mix 1:3 (1 cement : 3 fine/ coarse sand)	880.00	Sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
598.00	Distemping with dry distemper of approved brand and manufacture (two or more coats) and of required shade on new work, over and including priming coat of whitening to give an even shade.	880.00	sqm			
599.00	Finishing walls with water proofing cement paint of required shade :					
600.00	New work (Two or more coats applied @ 3.84 kg/10 sqm).	500.00	sqm			
601.00	Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.75 ltr/ 10 sqm of approved brand or manufacture.	30.00	Sqm			
602.00	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This included jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge, External work					
603.00	20mm nominal outer dia. Pipes	280.00	metre			
604.00	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, including cutting and making good the walls etc. Internal work - Exposed on wall					
605.00	15 mm dia. nominal bore	200.00	metre			
606.00	25 mm dia. nominal bore	200.00	metre			
607.00	Providing and fixing brass bib cock of approved quality					
608.00	15mm nominal bore	8.00	Each			
609.00	Providing and fixing brass stop cock of approved quality					
610.00	15mm nominal bore	8.00	Each			
611.00	Providing and fixing gun metal gate valve with C.I. Wheel of approved quality screwed end					
612.00	25mm nominal bore	8.00	Each			
613.00	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet					
614.00	100mm diameter	8.00	Each			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
615.00	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI : 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	8000.00	per litre			
616.00	Providing and fixing PTMT extension nipple for water tank pipe, fittings of approved quality and colour					
617.00	15 mm nominal bore. Weighing not less than 32 gms	8.00	Each			
618.00	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete					
619.00	100mm diameter	200.00	metre			
620.00	Constructing brick masonry road gully chamber 50x45x60 cm with bricks of class designation 75 in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450mm precast R.C.C. horizontal grating with frame complete as per standard design					
621.00	With bricks	8.00	Each			
622.00	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required					
623.00	W.C. pan with ISI marked white solid plastic seat and lid	8.00	Each			
624.00	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require					
625.00	White Vitreous China Wash basin size 630x450 mm with a pair of 15mm C.P. brass pillar taps	8.00	Each			
626.00	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
627.00	Circular shape 450mm dia.	8.00	Each			
628.00	Providing and fixing toilet paper holder					
629.00	C.P. brass	8.00	Each			
630.00	Providing and fixing soil, waste and vent pipes					
631.00	100 mm diameter: Sand cast iron S&S pipe as per IS: 1729	60.00	metre			
632.00	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6mm thick clear float glass both side having 12mm air gap including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	65.00	sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
633.00	Providing & fixing aluminium tubular handle bar 32 mm outer dia, 3 mm thick and 2100 mm long with SS screws et. Complete as per direction of Engineer -In-Charge. Polyester powder coated minimum thickness 50 micron aluminium tubular handle bar	8.00	Each			
634.00	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete	16.00	Each			
635.00	Providing fixing aluminium round shape handle of outer dia. 100mm with SS screws etc. complete as per direction of Engineer-in-charge. Anodized (AC15) Aluminium	24.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
636.00	Wiring of light point / fan point / exhaust fan point / call bell point with 1.5 sq.mm FR PVC insulated unsheathed 1.1kV grade flexible copper conductor and 1.5 sq.mm FR PVC insulated copper earth conductor (IS:694) of approved make in double lock/ ISI marked single lock pvc casing capping & it's accessories, 18 SWG M.S. box with earth terminal, screwless cage connectors for neutral looping in switch board & false ceiling point, 6 A switch 3.0 mm thick phenolic laminated sheet, zinc plated / brass screws, cup washers , making connections, testing etc. as required					
637.00	Short point (upto 3 mtr.) Group-1	48.00	P.Point			
638.00	Medium point (upto 6 mtr.) Group-1	40.00	P.Point			
639.00	Long point (upto 10 mtr.) Group-1	32.00	P.Point			
640.00	Wiring of 3 pin 6 amp. Light plug point with 1.5 sq. mm FR PVC insulated unsheathed 1.1 kV grade flexible copper conductor and 1.0 sq.mm FR PVC insulated unsheathed 1.1 kV grade copper earth conductor (IS:694) of approved make double lock/ ISI marked single lock pvc casing capping & it's accessories, 18 SWG M.S. box with earth terminal, screwless cage connectors for neutral looping in switch board & false ceiling point, 6 A switch, 6 A socket, 3.0 mm thick phenolic laminated sheet, zinc plated / brass screws, cup washers, making connections, testing etc. as required					
641.00	On board Group-1	32.00	P.Point			
642.00	Short point (upto 3 mtr.) Group-1	20.00	P.Point			
643.00	Wiring of 6 pin 15 amp. power point with 4.0 sq.mm PVC insulated unsheathed solid / stranded copper conductor 1.1 kV grade of approved make in surface / recessed ISI marked steel conduit & it's accessories, 18 SWG M.S. box with earth terminal, screw less cage connectors for neutral looping in switch board, 15 A switch, 15 A socket, 3.0mm thick phenolic laminated sheet, zinc plated / brass screws, cup washers, bushes, check nuts, making connections, testing etc. as required.					
644.00	Short point (upto 3 mtr.) Group-1	20.00	P.Point			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
645.00	Medium point (up to 6 mtr.) Group-1	20.00	P.Point			
646.00	Long point (up to 10 mtr.) Group-1	4.00	P.Point			
647.00	Supplying and drawing FR PVC insulated & unsheathed flexible copper conductor ISI marked (IS:694) of 1.1 kV grade and approved make in existing surface or recessed conduit/casing capping including making connections etc. as required.					
648.00	2 x 2.5 sq.mm Group-1	400.00	metre			
649.00	2 x 4.0 sq.mm Group-1	400.00	metre			
650.00	P & F 18 SWG Sheet steel boxes duly finished with two coats of red oxide and with earthing terminal of following sizes (nominal size) on surface or in recessed as required.					
651.00	100mm x 100mm x 50mm	44.00	Each			
652.00	225mm x 100mm x 60mm	32.00	Each			
653.00	P&F 240/415 V MCB of breaking capacity not less than 10 KA (B/ C/ D tripping characteristic) ISI marked IS:8828(1996) / conforming to IEC 60898 in existing board/sheets including making connections with lugs, testing etc. as required					
654.00	Single pole MCB					
655.00	6 A to 32 A rating Group-1	32.00	Each			
656.00	Four pole MCB					
657.00	40 A to 63 A rating Group-1	8.00	Each			
658.00	P&F 240/415 V Residual current circuit breaker conforming to IS:12640:1988/ IEC 61008 on existing board/ sheet including making connections with lugs, testing etc. as required Four pole 100/300 mA sensitivity					
659.00	25-40 A rating Group-1	4.00	Each			
660.00	P&F Recessed/ Surface mounting heavy duty horizontal type sheet steel Distribution board phophatised/ powder painted complete with copper bus bar, shorting link , neutral link, earth link and din bar, conforming to IS13032 & IS8623 including making internal DB terminations with copper lugs , testing etc. as required Single door (Three phase)					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
661.00	8 Way Group-1	4.00	Each			
662.00	P & F following modular accessories made out of unbreakable and fire retardant poly carbonate with silver contacts including making connections testing etc. as required					
663.00	6 A one way switch Group-1	140.00	Each			
664.00	SITC of quick make and quick break 4 POLE current limiting MCCB having following current rating, short circuit breaking capacity at 440/415 V, 50 Hz; O/L & S/C settings and conforming to IS 13947-2 / IEC 60947-2 with front face and centralised adjustable, line load interchangeability, having positive isolation capability, provision for UVR , shunt trip, earth fault trip, push (test) to trip, including making connections with lugs / spreaders etc. as required With Thermal Magnetic Release					
665.00	upto 100 Amp, 10 kA, fixed O/L & S/C setting Group-1	4.00	Each			
666.00	Making of hole in wall of required size for housing exhaust fan and making good the same, with cement plaster as required of following size					
667.00	Upto 457 mm size Group-1	12.00	Each			
668.00	Fixing of fresh air fan/exhaust fan up to size of 300mm on ply/ poly board of 6.0 mm in existing window frame including cutting of hole in ply. Nut bolts etc. as required	12.00	Each			
669.00	I T C of ceiling fan and regulator including wiring the down rod upto 30 cm with 3 x 1.5 sq.mm PVC insulated flexible copper conductor making connection testing etc. as required.					
670.00	With regulator Group-1	8.00	Each			
671.00	P & F double ball bearing capacitor start ceiling fan of approved make complete with regulator and other accessories as required. (for estimation purpose only)					
672.00	900mm sweep Group-1	32.00	Each			
673.00	P&F of Heavy duty capacitor start 900/1400 RPM single phase ISI marked Exhaust fan, IS:2312 marked in existing opening including making connections testing etc. as required					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
674.00	300mm sweep (900/1400 RPM) Group-1	24.00	Each			
675.00	P & F strip type fluorescent tube fitting fabricated from (CRCA sheet and finished with powder coating / stove enamelled paint)/(extruded non corrosive UV resist EP channel) complete with accessories like (OCCB, starter, starter seat)/ EB, rotor holder, terminal block duly prewired with copper conductor including making connection, testing etc. as required. (without tube)					
676.00	1 X 36 Watts with EB Group-1	32.00	Each			
677.00	P & F box type fluorescent tube fitting fabricated from CRCA sheet and finished with powder coating / stove enamelled paint complete with accessories like (OCCB, starter, starter seat)/ EB, condenser, rotor holder, terminal block duly prewired with copper conductor including making connection, testing etc. as required. (without tube)					
678.00	2 X 36 Watts with EB Group-1	32.00	Each			
679.00	P & F Fluorescent tube rod in existing fixtures as required, Fluorescent powder coated					
680.00	36/40 Watts Group-1	96.00	Each			
681.00	P & F energy efficient direct fit (Retrofit) composite compact fluorescent lamp of energy saving labelling not less than 3 star in existing holder/ fixture as required					
682.00	18/20 Watt Group-1	24.00	Each			
683.00	P & F round/square shape surface mounting ceiling fitting complete with holder, aluminium anodized back plate glass globe of approved design, prewired terminal block making connection, testing etc. as required					
684.00	150mm Group-1	16.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
685.00	P & F IP-43 protected street light luminaire on existing bracket suitable for FTL, made out from CRCA sheet steel finished with stove enameled paint, having deep drawn aluminium alloy canopy reflector cum control gear tray, clear ribbed acrylic diffuser held with synthetic gasket, with all necessary accessories copper wound ballast, capacitor, starter, holder prewired with pvc insulated copper conductor including making connection testing etc. as required. (without tube)					
686.00	1 X 36 Watts Group-1	32.00	Each			
687.00	P & F IP-65 protected street light luminaire on existing bracket suitable for HPSV/ MH LAMP, made out from powder coated single piece die cast aluminium housing, electrochemically brightened and anodized POT optics aluminium reflector, heat resistant and toughened glass cover and accessories like copper ballast, electronic ignitor, capacitor, holder prewired upto terminal block etc. as required including making connection testing etc. as required (without lamp)					
688.00	1 X 70 Watt Group-1	4.00	Each			
689.00	P & F IP65 protected decorative lighting luminaire Post top/ Bollard suitable for following lamps, made of powder coated cast aluminium housing, moulded acrylic lamp compartment with built in anodized aluminium louvers for lamp shielding and glare control, metallic lid top cover, including the cost of control gear complete in all respect. Bollards are including cost of decorative base pipe/ plate. (without lamp)					
690.00	70 Watt Metal Halide Bollard Group-1	4.00	Each			
691.00	Supply, Drawing and Testing of 4 pair , 100 ohm, 24 AWG UTP E Cat 5 Cable as per latest ammendments of TIA /EIA 568 B.2 Specifications in existing MS/PVC Conduits including making connections to Information outlets and Patch Panels with ferruling at both ends for identification with necessary tools for punching, stripping, crimping and testing required. Group-1	400.00	metre			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
692.00	SITC of Air Cooled split Air conditioners complete with Indoor unit(IDU), Outdoor unit (ODU), surface / concealed copper Refrigerant piping with insulation (EP foam pipe section) upto 10Mtr (IDU to ODU), copper power cable upto 10 Mtr (IDU to ODU), R-22 Refrigerant suitable for 400/230V +10% of 50 Hz 1 /3 AC supply capable of performing COOLING, DEHUMIDIFICATION, AIR CIRCULATION, FILTRATION & VENTILATION of following capacity with reciprocating/ rotary/ scroll compressor as specified, Wall/Ceiling Mounted					
693.00	1.50 ton	6.00	Each			
694.00	2 ton	8.00	Each			
695.00	Providing and fixing charged ABC type fire extinguisher including the cost of fixing with nut, bolts etc as required					
696.00	5 Kg	8.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
697.00	<p>Providing and fixing of following furniture in office cum SCADA room, the cost including loading, unloading and transportation charges etc. complete as directed by the Engineer-in-charge.</p> <p>Executive Table of Size of 2135 mm x 865mm - height 735mm- 4 nos.  Table of Size of 1675mmx865mm - height- 750mm- 32 nos.  Computer Table of Size of 73 mm(w) x 88mm(D) x 75mm(H)- 30 nos.  Revolving Chairs With Arms of Size of 66mm(d)x66mm(w) Height - 102.5mm-114.5mm Seat height -44mm-56mm- 60 nos.  Visitor Chair of Size of 46mm(w)x82mm(h) Seat height - 45mm- 100 nos.  Steel Almirah of Sizes 1980mmx915mmx485mm (Big) &amp; 1270mmx765mmx440mm (Small)- 10 nos.  Filing Cabinet - 20 nos., Locker- 1 no.  Drawing Cabinet : Overall dimension - 625mm(h) x1170mm (w) x865mm (d)  Drawer dimension - 65mm(h) x1040mm (w) x780mm (d) No. of drawers - 6  Meeting / Conference Table - 1 no.  Ordinary Cane Chair : 43mm(w) x 57mm(d) x 88.5mm(h) 45mm seat height- 50 nos.  Side Racks: 5 tier - 1800mmx900mmx375mm- 10 nos.  Sofa Set- 2 nos.  Central Table-10 nos.</p>	1.00	set			
698.00	<p>Providing Solar Outdoor Lights with PV module, Batteries, Cable as per IS:1694/IS:155 including earthwork, pole erection and fixing of Solar lamp accessories etc. complete as directed by the Departmental Engineers. (Wattage : 40 W, PV Module : 150 W and Battery : 150 AH and Pole height of 6.0m)</p>	6.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
699.00	P & F IP-65 protected street light luminaire on existing bracket suitable for HPSV/ MH LAMP, made out from powder coated single piece die cast aluminium housing, electrochemically brightened and anodized POT optics aluminium reflector, heat resistant and toughened glass cover and accessories like copper ballast, electronic ignitor, capacitor, holder prewired up to terminal block etc. as required including making connection testing etc. as required (without lamp) (Group-1)					
700.00	1 X 150 Watt	10.00	Each			
701.00	P & F High pressure sodium vapour/ High pressure mercury vapour/ Metal halide/ Halogen lamp as required. HPMV lamp (Group-1)					
702.00	125W BC lamp	10.00	Each			
703.00	Supply and erection of hot dipped galvanised steel swaged tubular pole conforming to IS: 2713-1980 (part I to II) with galvanised base plate of size 400mm x 400mm x 7mm in position including excavation of the pit and filling the same with C.C. of M-10 grade (1:3:6) from base plate to 50cm above ground level, with the help of steel frame not less than 40 cm dia up to 114.3mm outer dia and 50 cm beyond 114.3mm outer dia around the pole. Duly finished with cement plaster, earthing terminals , cable entry, GI cable sleeve complete as required. The pole shall be galvanised using ISI mark tube for structural purpose. (SEE TABLE )					
704.00	8.5 mtr (Group-1)	10.00	Each			
705.00	Add for supply and fixing of hot dipped galvanised Overhang of following size over the existing poles (Group-1)					
706.00	76.1mm OD x 3.25mm thickness	10.00	Each			
707.00	Providing andFixing of marshalling box on street light pole with 2 mm CRCA sheet steel, 6 amp 2 nos. MCB bakelite sheet, insulators, connectors, etc. As required size 200 mmx 100mmx375 mm	10.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
708.00	Providing and Fixing of pillar box for street light with 2 mm CRCA sheet steel, 63 amp LT disconnectors switch fuse units, bakelite sheet, insulators, connectors, etc. As required size 500 mm x 100 mm x 375 mm with tapered top.	1.00	Each			
709.00	P/laying XLPE insulated / PVC sheathed cable of 1.1 KV grade with aluminium conductor armoured of IS:7098-I/1554-1 approved make in ground as per IS:1255 including excavation of 30 cm x 75 cm size trench, 25 cm thick under layer of sand, find class bricks covering, refilling earth, compaction of earth, making necessary connections, testing etc. as required of size: Group -1					
710.00	3.5 core x 25 sqmm	350.00	Meter			
711.00	4 core x 2.5 sqmm	100.00	Meter			
712.00	Plate Earthing as per IS:3043 with copper Earth plate of size 600mm x 600mm x 3.0mm by embodying 3 to 4 mtr. below the ground level with 20 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size 300mm x 300mm complete with alternate layers of salt and coke/charcoal, testing of earth resistance as required.	5.00	Each			
713.00	S & Laying following size earth wire/strip in horizontal or vertical run in ground/surface/recess including riveting, soldering, saddles, making connection etc. as required.					
714.00	25mm x 3mm GI strip	100.00	Meter			
715.00	<b>Part F- Road Restoration</b>					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
716.00	Providing, laying, spreading and compacting of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers manually (in trench) / with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per MoRT&H specification clause - 401 including all material, labour, machinery, lighting, guarding and maintenance of diversion Grading - I Material	47000.00	cum			
717.00	Providing, laying, spreading and compacting wet mix macadam (WMM) base course comprising of graded stone aggregate and granular material conforming to MORT&H specifications (Table 400-II) in layers of equal compacted thickness each consolidated, including pre-mixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tippers to site, laying in uniform layers in base course on a well prepared sub-base/ base course and compacting with power vibratory-roller to achieve the desired density complete as per MoRT&H specification clause - 406 including all material, labour, machinery, lighting, guarding and maintenance of diversion	75000.00	Cum			
718.00	Providing and applying tack coat on the prepared surface with bitumen emulsion as per IS: 8887 and approved quality @ 0.225 kg/sqm with the help of spray set fitted on bitumen Container (boiler) after cleaning the surface with brooms or soft brushes and finally dusting with old gunny bags and compressed air to receive bituminous treatment complete as per clause 502 of MoRT&H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion	401000.00	sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
719.00	Providing and applying primer coat over prepared surface of granular base with bitumen emulsion as per IS : 8887 and approved quality @ 0.75 kg/sqm with the help of spray set fitted on bitumen Container (boiler) after cleaning the surface including removing of binding material and other foreign matter with wire brushes and small picks, sweeping with brooms or soft brushes and finally dusting with old gunny bags and compressed air to receive bituminous treatment complete as per clause 502 of MoRT&H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion.	180000.00	sqm			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
720.00	<p>Providing laying and consolidation Semi Dense Bituminous Concrete, as per Design Mix (approved by Engineer), on prepared surface with specified graded crushed aggregates as per table 500- 15 for wearing coarse including loading of material with F.E. loader, hot mixing of stone aggregate, filler and bitumen (including cost of anti-stripping compound wherever required) heating and mixing in in computerised hot mix plant, transporting the mixed material by tippers to paver and laying with paver finisher fitted with electronic sensor control to the required level and grade, compacting by power rollers and vibratory rollers or 150 to 250 KN pneumatic tyred roller with TP = 0.7 Mpa, to achieve the desired density (approximately 2.3 tonne/cum) complete as per clause 508 of MoRT&amp;H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion but excluding primer/tack coat.</p> <p>25-30 mm compacted thickness (Grade-2) using Bitumen VG-grade 30 @ 5% (percent by weight of total mix)</p>	8870.00	Cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
721.00	Providing and laying open graded premix carpet 20mm thick (compacted), on prepared surface in a single course as wearing course, composed of specified graded crushed stone aggregate as per Table 500-23, premixed with bituminous binder @ 14.60 kg/ 10sqm (including cost of anti-stripping compound wherever required), including loading of material with F.E. loader, hot mixing of stone aggregate and bitumen in computerised hot mix plant, transporting the mixed material by tippers to site and laying manually/ with paver finisher fitted with electronic sensor control to the required level and grade, compacting smooth wheeled roller 8-10 tonne capacity and finishing to required level to achieve the desired density as per clause 511 of MoRT&H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion but excluding cost of tack coat/ seal coat. With Bitumen VG-grade 30	95000.00	sqm			
722.00	Providing and applying liquid seal coat type "A" comprising of a layer of bituminous binder @ 9.8 kg/ 10 Sqm (including cost of antistripping compound wherever required) followed by a cover of stone chipping @ 0.09 cum/10 sqm of specified grading and rolling with power roller 8-10 tonne complete as per clause 513 of MoRT&H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion. With Bitumen VG-grade 30	95000.00	sqm			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
723.00	Providing and laying bituminous macadam in 50/75 mm compacted thickness on prepared surface with specified graded crushed stone aggregates as per Table 500-4, Grading-II for base/ binding course, loading of aggregate with F.E. loader, heating and mixing of stone aggregate and bitumen in computerised hot mix plant, transported to site by tippers, laid over a previously prepared surface manually (in trench)/ with paver finisher fitted with electronic sensing device to the required grade, level and alignment and rolling with power roller and vibratory compactor as per clauses 501.6 and 501.7 to achieve the desired compaction complete as per clause 504 of MoRT&H specification and including all material, labour, machinery, lighting, guarding and maintenance of diversion but excluding cost of primer/ tack coat. With Bitumen VG-grade 30 @ 3.3% (percentage by weight of total mix)	5750.00	Cum			
724.00	Providing and laying in position cement concrete 1:3:6 (1 Cement : 1 graded stone aggregate 20 mm nominal size) in base course complete including all material, labour, machinery, lighting, guarding for road restoration under sewer line and manhole work to complete the task.	30600.00	cum			
725.00	Providing and laying in position cement concrete of specified grade over prepared base course complete including finishing, curing, all material, labour, machinery, lighting, guarding for road restoration under sewer line and manhole work to complete the task. M-30 grade, As per design mix.	63400.00	cum			
726.00	Add extra over items of Cement Plaster / Cement Concrete Flooring / Plain or RCC work providing and mixing admixture of synthetic fibre 6 mm / 12 mm @ rate of 125 gm.pack per 50 kg.of Cement or in the ratio of as specified by manufacture specification and direction of the Engineer with all leads and lifts.	62000.00	Per pack 125 gm			
727.00	<b>Part G- Miscellaneous Items</b>					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
728.00	<p>Dismantling of existing LT/HTelectric lines including poles/towers, ACSR conductors, guard wires, stay wire, insulators and other electrical items of the pole coming along the alignment of the road or in the plant premises and removal and transportation as well as disposal of all the items as per the direction of engineer incharge .(Serviceable material or can-dum material.)</p> <p>Dismantling of LT line pole (PCC - 8/9 mtr height) single phase/3 phase &amp; 5 wires bracket, top hamper, insulators(pin or disc) earthwire and conductors.</p>	200.00	Each			
729.00	<p>Removal of telephone / Electric poles including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and up to a lead of 1000 metres and stacking the serviceable and unserviceable material separately as per MoRT&amp;H specification clause 202.</p>	250.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
730.00	Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all lifts and up to a lead of 1000 mtrs and earth filling in the depression/pit to required compaction as per MoRT&H specification clause 201. (Measurement of girth to be done at height of 1 m above ground level)					
731.00	Girth from 300 mm to 600 mm	15.00	Each			
732.00	Girth from 600 mm to 900 mm	15.00	Each			
733.00	Girth from 900 mm to 1800 mm	15.00	Each			
734.00	Girth from 1800 mm to 2700 mm	15.00	Each			
735.00	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to a lead of 50 metres from road boundary including removal and disposal of top organic soil not exceeding 150 mm in thickness as directed by Engineer.					
736.00	In area of light jungle	2.00	Hectare			
737.00	In area of thorny jungle	2.00	Hectare			
738.00	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 50 metres as directed by Engineer.					
739.00	Cement Concrete Grade M-15 & M-20 and PCC blocks	700.00	cum			
740.00	Dismantling Brick / Tile work , In cement mortar	250.00	cum			
741.00	Rubble stone masonry in cement mortar.	2000.00	cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
742.00	Providing, lowering, laying in trenches, aligning, fixing in position and jointing socketed rubber gasket type ISI marked uPVC pipes of Class III (6 Kg/sqcm) suitable for potable water with rubber ring joints (as per IS 4985-2000) of following outer dia with all accessories (excluding specials) complete including all material, labour, hydraulic testing and commissioning as per Technical Specifications and as per direction of Engineer.					
743.00	90 mm dia	500.00	Rmtr			
744.00	110 mm dia	500.00	Rmtr			
745.00	125 mm dia	250.00	Rmtr			
746.00	140 mm dia	250.00	Rmtr			
747.00	160 mm dia	250.00	Rmtr			
748.00	180 mm dia	250.00	Rmtr			
749.00	200 mm dia	250.00	Rmtr			
750.00	Providing, lowering, laying, aligning, fixing in position and jointing CI D- joint class-10 as per IS specifications complete of the following sizes including all jointing material, cost of all labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.					
751.00	80 mm diameter	400.00	Each			
752.00	100mm diameter	400.00	Each			
753.00	125mm diameter	400.00	Each			
754.00	150mm diameter	400.00	Each			
755.00	200mm diameter	200.00	Each			
756.00	250mm diameter	200.00	Each			
757.00	300mm diameter	40.00	Each			
758.00	Brick masonry work in cement mortar with mechanical mixer with First class bricks (min. 10.5 Mpa) in foundation (at any level) complete as per drawing and technical specification and as per clause 1000 & 1300 of MoRT&H specification including all scaffolding material, labour, machinery but excluding pointing and plastering.					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
759.00	In cement mortar 1:3 (1 cement : 3 coarse sand)	150.00	cum			
760.00	In cement mortar 1:4 (1 cement : 4 coarse sand)	150.00	cum			
761.00	Random rubble stone masonry work in cement mortar with mechanical mixer in foundation (at any level) complete as per drawing and technical specification and as per clause 1000 and 1400 of MoRT&H specification including all scaffolding material, labour, machinery but excluding pointing and plastering.					
762.00	In cement mortar 1:3 (1 cement : 3 coarse sand)	250.00	cum			
763.00	In cement mortar 1:4 (1 cement : 4 coarse sand)	250.00	cum			
764.00	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibrator including curing complete as per clause 2100 of MoRT&H specification including all scaffolding, material, labour, machinery.	150.00	cum			
765.00	Coursed rubble masonry (First sort) work in cement mortar 1:3 (1 cement : 3 coarse sand) with mechanical mixer in substructure/ super structure at all levels complete as per clause 1400 and 2200 of MoRT&H specification including all material, labour, scaffolding etc but excluding pointing and plastering.	150.00	cum			
766.00	Plastering with cement mortar (1:3) on Brick/stone work in substructure/ super structure at any height complete as per clause 1312 of MoRT&H specification including all material, labour, scaffolding etc.					
767.00	12 mm plaster on brick work	2000.00	Sqm			
768.00	20 mm plaster on stone work	2000.00	Sqm			
769.00	Providing and laying structural plain/ reinforced cement concrete (design mix) of specified grade in substructure at all levels using concrete mixer and vibrator, including cost of form work, as per drawing and technical specifications complete as per clause 1500, 1700 and 2200 of MoRT&H specification including all material, labour, scaffolding etc.					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
770.00	PCC Grade M -20	150.00	cum			
771.00	RCC Grade M -25	150.00	cum			
772.00	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.40mm thick with 20mm nominal size stone aggregate.	2000.00	Sqm			
773.00	Random rubble masonry with hard stone in foundation and plinth					
774.00	Cement mortar 1:6 (1 cement : 6 coarse sand)	1750.00	cum			
775.00	Cement mortar 1:4 (1 cement : 4 coarse sand)	800.00	cum			
776.00	Cement plastering including T&P, scaffolding, material and complete labour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix : 1:4 (1 cement : 4 fine/ coarse sand)	6000.00	Sqm			
777.00	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets etc. upto two stories, excluding the cost of centring, shuttering and finishing : 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	400.00	cum			
778.00	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement - All work upto plinth level : 1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size)	1020.00	cum			
779.00	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars.	80000.00	Kg			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
780.00	Centring and shuttering upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for : Suspended floors, roofs, landings, balconies and access platform					
781.00	Foundations, footings, bases of columns etc for mass concrete	2600.00	Sqm			
782.00	Walls (any thickness) included attached pillasters, buttresses, plinth & string course.	750.00	Sqm			
783.00	Suspended floors, roofs, landings, balconies and access platform	750.00	Sqm			
784.00	Brick work with bricks of class designation 75 in foundation and plinth in:					
785.00	Cement mortar 1:4 (1 cement : 4 coarse sand)	300.00	cum			
786.00	Cement Mortar 1:6 (1 cement : 6 coarse sand).	300.00	cum			
787.00	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :					
788.00	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	200.00	cum			
789.00	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	275.00	cum			
790.00	1:4:8 (1 Cement : 4 fine/ coarse sand : 8 graded stone aggregate 40 mm nominal size).	700.00	cum			
791.00	Extra for random rubble masonry with hard stone in superstructure above plinth level and upto two stories.	200.00	cum			
792.00	Emptying of septic tank/ soakage well etc, disposing of sludge within a lead of 5km and taking out sewage including refilling with local earth, ramming and compaction in layers, cleaning of site.	3000.00	Each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
793.00	Providing and laying marking of center line and stop line etc with hot thermoplastic compound 2.5 mm thick on road/ plain surface, including reflectorising glass beads @ 250 gms per sqm area with special applicator machine, as per IRC:35 including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control involved. The finished surface to be level, uniform and free from streaks and holes as per clause 803 of MoRT&H Specification including all material, labour, machinery, lighting, guarding and maintenance of diversion.	500.00	Sqm			
794.00	Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC :67 made of encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 3 metre long and size 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing including all material, labour.					
795.00	90 cm equilateral triangle	10.00	Each			
796.00	60 cm equilateral triangle	10.00	Each			
797.00	60 cm circular	10.00	Each			
798.00	80 mm x 60 mm rectangular	10.00	Each			
799.00	60 cm x 45 cm rectangular	10.00	Each			
800.00	60 cm x 60 cm square	10.00	Each			
801.00	Providing and erecting direction and place identification retroreflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminium sheeting, 2 mm thick framed to angle iron 40x40x5mm with area not exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 x 45 x 60 cm, 60 cm below ground level as per approved drawing including all material, labour.	18.00	Sqm			



Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
802.00	Providing and erecting Notice & signage Board of size 6'x4'on work sites showing informations related to execution of works and activities at different work sites made from 1.6 mm thick MS sheet, framed to angle iron 40x40x5mm (with suitable brace) supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 x 45 x 60 cm, 60 cm below ground level as per approved drawing including all material, labour.	25.00	Each			
803.00	Providing and erecting Notice & signage Board of size 8'x6'on work sites showing informations related to execution of works and activities at different work sites made from 1.6 mm thick MS sheet, framed to angle iron 40x40x5mm (with suitable brace) supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 x 45 x 90 cm, 90 cm below ground level as per approved drawing including all material, labour.	10.00	Each			
804.00	Lettering with black Japan paint of approved brand and manufacture	35000.00	per letter per cm height			
805.00	Trenching in specified soil upto a depth of 60 cm. including removal and stacking of seviceable materials and then disposal by spreading and neatly leveling within a lead of 50 metres and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and farm-yard manure before and after flooding with water (excluding cost of imported earth and sludge or farm-yard manure).	1500.00	cum			
806.00	Prepration of mounds of various size and shape by available excavated/surplus/earth in layers not exceeding 20 cm in depth, breaking clods, watering of each layer, dressing etc. lead upto 50 metres and lift upto 1.5 m as per direction of officers in charge.	2500.00	cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
807.00	Supplying and stacking good earth at site of work. Note: (1) Loading, unloading and carriage to be paid extra as per actual lead. (2) Earth measured in stacks will be reduced by 20% for payment.	1500.00	cum			
808.00	Supply at site of work well decayed farm yard manure, from any available source, approved by engineer in charge including screening and stacking.	500.00	cum			
809.00	Supplying and stacking of well decayed cow dung manure at site.	500.00	cum			
810.00	Supply at site work/ store-deoiled neem cake duly packed in used gunny bags.	10.00	quintal			
811.00	Supplying sludge duly stacked at site/ store.	100.00	cum			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
812.00	Rough dressing the trenched ground including breaking of clods.	5000.00	sqm			
813.00	Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	5000.00	sqm			
814.00	Fine dressing the ground.	5000.00	sqm			
815.00	Grassing with 'Doobs grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for moving including supplyinh good earth if needed. In rows 7.5 cm apart in either direction.	3000.00	sqm			
816.00	Planting of trees by road side (Avenue trees) in 0.60 m dia holes, 1 m deep dug in the ground, mixing the soil with decayed farm yard/sludge manure, planting the saplings, backfilling the trench, watering, fixing the tree guard and maintaining the plants for one year.	50.00	each			
817.00	Providing and fixing of RCC pre cast tree guard consisting of four panels of size 1800mm (Height) x 600mm (Width) x 35mm (thickness), Size of opening : 100mm x 100mm. All the panels shall be manufactured with monolithic legs of size 50 x 35 mm, the legs of the panels shall be 0.5 m below ground level. All the four Panels shall have a space for display of Name etc. preferably at middle level. RCC panels to be manufactured with M-30 grade of concrete using vibro-compaction process using jointless FRP moulds so as to achieve shuttering finish. RCC panels are to be suitably reinforced to promote long use and to prevent damage during handling, transportation & erection as per drawing & specifaions.	200.00	each			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
818.00	Supplying and planting following species best quality container grown healthy trees of 2 mt. min. height, well established & free from disease at site in 0.90 m dia holes, 1 m deep dug in the ground , mixing the soil with decayed farm yard/sludge manure, backfilling the hole watering etc as required.					
819.00	Plumeria alba (Champa)	50.00	each			
820.00	Gulmohar (Delonix regia)	50.00	each			
821.00	Neem(Azadirachta indica)	50.00	each			
822.00	Bougainvillea	50.00	each			
823.00	<b>Part H- Environment monitoring, General Obligation</b>					
824.00	<b>General Obligations</b>					
825.00	Provide and maintain 4 wheeler (cars) including driver, comprehensive insurance, fuel, oil and lubricants, for average running of 2000 kms per month. Vehicle should be newer than of modal 2012.	108.00	vehicle months			
826.00	<b>Environmental Monitoring Items</b>					
827.00	Collection and analysis of samples for					
828.00	Air Ambient Quality (SPM 2.5 & 10)	30.00	Nos.			
829.00	Noise Level	30.00	Nos.			
830.00	Ground Water Quality	12.00	Nos.			
831.00	Surface Water Quality	12.00	Nos.			
832.00	Soil Quality	30.00	Nos.			
833.00	Sprinkling of water for dust Suppression	60000.00	KL			
834.00	<b>Part I- STP &amp; SPS</b>					
835.00	<b>16 MLD STP &amp; SPS</b>					
836.00	Design, Drawing, construction, Supply, installation, testing & commissioning of sewage Pumping Station and Sewage Treatment Plant capacity 16 MLD based on SBR Technology on Turnkey basis ). It includes all civil, mechanical, electrical, instrumentation etc and all relevant work to complete the work as per scope of work and specifications.	1.00	Lot			
837.00	<b>4 MLD STP</b>					

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
838.00	Design, Drawing, construction, Supply, installation, testing & commissioning of Sewage Treatment Plant capacity 4 MLD baased on SBR Technology on Turnkey basis ). It includes all civil, mechanical, electrical, instrumentation etc and all relevant work to complete the work as per scope of work & specifications.	1.00	Lot			
839.00	<b>Part J- Procurement of Sewer Jetting Machine</b>					
840.00	Supply and Delivery of vehicle mounted sewer jetting machines of 500 litre capacity .	1.00	Nos.			
841.00	Supply and Delivery of vehicle mounted sewer suction cum jetting machines of 4000 litre capacity .	1.00	Nos.			
842.00	<b>Part K- Operation and Maintenance</b>					
843.00	Operation, maintenance and management of water supply distribution system in commissioned DMA/Zones from ESR to consumer end as per scope of work clause 85 A of Section 6: Employer's Requirement	270000.00	Consumer month			
844.00	Operation, maintenance and management of water supply system from Dhaulakhera CWR to consumer end and supply water to connected consumers as per scope of work clause 85 B of Section 6: Employer's Requirement	3600000.00	Consumer month			
845.00	Operation, maintenance and management of sewerage collection and treatment system in commissioned areas of Zone 1 from consumer end upto the STP location (including STP) and provide customer services as per scope of work Clause 86 of Section 6: Employer's Requirement from initial takeover date to contract completion date	45000.00	ML			
846.00	Operation, maintenance and management of sewerage collection and treatment system in commissioned areas of Zone 2 from consumer end upto the STP (including STP) location and provide customer services as per scope of work Clause 86 of Section 6: Employer's Requirement from initial takeover date to contract completion date	11520.00	ML			
847.00	Raising/ lowering of manholes up to 150 mm depth.	5000.00	Nos.			

Sl. No.	Item Description	Qty	Unit	Unit Price	Currency Type (INR/ USD/ AUD/ EURO/ GBP/ EGP/ JPY)	Total Amount
848.00	Supplying, fixing i/c replacement of existing Manhole covers in case of Theft over a period of operation services	1000.00	Nos.			
849.00	Water supply through own water tankers to meet Emergency needs / additional needs as directed by the Employer	30000.00	KL			
850.00	Replacement of consumer water meter -15 mm size	35000.00	Nos.			
851.00	Replacement of consumer water meter -20 mm size	200.00	Nos.			
852.00	Replacement of consumer water meter -25 mm size	100.00	Nos.			
<b>***Total in Figures</b>						
<b>***Total in Words</b>						