Annexure - II

Revised Part A1 – Construction of Civil Works

Table No.4

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
A	Undertaking Preparatory Survey, Review the design and Redesign for the Sewerage Network	1	LS			
B	Providing Sewerage Network including all appurtenant structures and commissioning including Rehabilitation / resurfacing and restoration of roads / services etc.					
2.1	Earth work in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m and any other item required for the completeness of work in all respect as per specification and as directed by the Design Build Operations Engineer . All kind of soil	584791.75	Cum			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
2.2	**Extra for every additional lift of 1.5 m** or part thereof depth exceeding **1.5m** but not exceeding **3.0m** in all kinds of soils for item above	159697.75	Cum			
2.3	Extra for every additional lift of 1.5 m or part there of depth exceeding **3.0m** but not exceeding **4.5m** in all kinds of soils for item above	63187	Cum			
2.4	Extra for every additional lift of 1.5 m or part thereof depth exceeding **4.5m** but not exceeding **6.0m** in all kinds of soils for item above	24062	Cum			
2.5	Extra for every additional lift of 1.5 m or part thereof depth exceeding **6.0m** but not exceeding **7.5m** in all kinds of soils for item above	6346	Cum			
2.6	Extra for every additional lift of 1.5 m or part thereof depth exceeding **7.5m** but not exceeding **9.0m** in all kinds of soils for item above	16	Cum			
2.7	Supplying and making compacted granular material/ Concrete bedding with fine /coarse granular / mooram material such as ballast/					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	gravel / stone hips /Local sand of approved quality for making bedding with minimum thickness of one fourth the outside Dia of pipe but not less than 10 cm as per design and for top of the pipes as necessitated at site at all depths and for all size of pipe and any other item required for the completeness of work in all respect as per specification and as directed by the Design Build Operations Engineer .					
I	Local Sand	10487.07	Cum			
ii	1:4:8(1 Cement:4coarse sand 8 graded stone aggregate 40 mm nominal size)	2052	Cum			
2.8	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead. with all lead and lift, complete as per specification and as directed by the Design Build Operations Engineer	542651.78	Cum			
2.9	Carriage of materials by mechanical transport including loading, unloading and stacking of surplus soil.					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
i	upto 1 km	12640	Cum			
ii	upto 2 km	12640	Cum			
iii	upto 3 km	8427	Cum			
iv	upto 4 km	4213	Cum			
v	upto 5 km	4213	Cum			
2.10	Earth work in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m and any other item required for the completeness of work in all respect as per specification and as directed by the Design Build Operations Engineer					
	(Road cutting for trench excavation)	61723	Cum			
2.11	Carriage of materials by mechanical transport including loading, unloading and stacking of surplus soil**.**					
	Rubbish					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
i	Upto 1 km	11503	Cum			
ii	Upto 2 km	11503	Cum			
iii	Upto 3 km	7669	Cum			
iv	Upto 4 km	3834	Cum			
v	Upto 5 km	3834	Cum			
2.12	Providing & LayingNon Pressure (NP2) R.C.C Pipes : Supplying RCC NP2 Pipes (Spigot & Socketed) , conveying to site, lowering into trenches at all levels, aligning, laying & jointing of pipes for as per IS: 458 - 1988 (Amended up to date) with Rubber gaskets (EPDM) as per IS: 5382 (Amended up to date) , including cost of Rubber gaskets, lubricants, necessary fittings as per drawing, hydro testing the pipe line with supplying and conveyance of water to site etc., complete as per specifications and as directed by Design Build Operations Engineer					
i	400 mm dia	1630	Metre			
ii	450 mm dia	2185	Metre			
iii	500 mm dia	543	Metre			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
2.13	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/ depths ISI marked HDPE pipes of PE-100 grade and PN 6 for sewer application as per IS 14333-1996 (amended upto date) in trenches in complete including all material, labour, testing and commissioning as per Technical specifications, and as per direction of Engineer.					
i	200 mm dia	65781.00	Metre			
ii	250 mm dia	2857.00	Metre			
iii	315 mm dia	3521.00	Metre			
iv	355 mm dia	2703.00	Metre			
2.14	Providing & LayingNon Pressure (NP3) R.C.C Pipes : Supplying RCC NP3 Pipes (Spigot & Socketed) , conveying to site, lowering into trenches at all levels, aligning, laying & jointing of pipes for as per IS: 458 - 1988 (Amended up to date) with Rubber gaskets (EPDM) as per IS: 5382 (Amended up to date) , including cost of Rubber gaskets, lubricants, necessary fittings as per drawing, hydro testing the pipe line with					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	supplying and conveyance of water to site etc., complete as per specifications and as directed by Design Build Operations Engineer					
i	600 mm dia	1362	Metre			
ii	700 mm dia	256	Metre			
iii	800 mm dia	934	Metre			
iv	1000 mm dia	3152	Metre			
v	1400 mm dia	607	Metre			
2.15	**Encasing CI/GI/RCC/SW pipes** all around including bed concrete with 150mm cement concrete 1:2:4(1 Cement: 2 coarse sand:4 graded stone aggregate 40 mm nominal size) excluding form work etc.complete as per drawing and as directed by Design Build Operations Engineer					
i	200 mm dia	1661	Cum			
ii	250 mm dia	83	Cum			
iii	300 mm dia	102	Cum			
iv	350 mm dia	72	Cum			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
v	400 mm dia	88	Cum			
vi	450 mm dia	80	Cum			
vii	500 mm dia	24	Cum			
viii	600 mm dia	93	Cum			
ix	700 mm dia	20	Cum			
x	800 mm dia	45	Cum			
xi	1000 mm dia	317	Cum			
2.16	**Centering and shuttering** including strutting, propping etc. and removal of form work for : Foundations, footings, bases for columns, complete as per specification and as directed by Design Build Operations Engineer					
i	Depth not exceeding **1.5 m**	2715	Sqm			
ii	Depth exceeding **1.5m**. But not exceeding **3m**	3921	Sqm			
iii	Depth exceeding **3 m**. But not exceeding **4.5m**	1601	Sqm			
iv	Depth exceeding **4.5m**. But not exceeding **6m**	1120	Sqm			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
v	Depth exceeding **6m**. But not exceeding **7.5m**	815	Sqm			
vi	Depth exceeding **7.5m**. But not exceeding **9m**	28	Sqm			
2.17	Providing, transportation, lowering and fixing Precast RCC circular type manhole 0.91m internal dia at bottom and 0.56m dia at top made up of precast monolithic base, modular riser, and top cone in M-40 grade Cement Concrete placed, reinforcement as per drawing (minimum 100Kg/ Cum of Concrete) and aligned to provide vertical sides, with O ring rubber gasket at each joint, water tight and adjustment rings over top cone, complete with GRP/ FRP (Heavy Duty) type manhole cover, orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per	1186	Each			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	specifications and having manufacture's permanent identification mark to be visible even after fixing as per drawing and all connections shall have a watertight seal between the pipe and the manhole complete as per standard design for depth of 0.91m including benching cement concrete of 1 : 2 : 4 (1 cement : 2 sand : 4 stone aggregate 20 mm nominal size) as per site requirements. complete as per specification and drawing and as directed by the Design Build Operations Engineer					
2.18	**Extra depth** for circular type manhole **0.91m** internal dia (at bottom) beyond **0.91m** but less than **1.67 m** For Item above	507	Metre			
2.19	Providing, transportation, lowering and fixing Precast RCC circular type manhole 1.22m internal dia at bottom and 0.56m dia at top made up of precast monolithic base, modular riser, and top cone in M-40 grade Cement Concrete placed, reinforcement as per drawing and aligned to provide vertical sides, with O ring rubber gasket at each joint, water tight and adjustment rings over top cone, complete with GRP/ FRP (Heavy Duty) type manhole cover, orange colour safety foot rest	660	Each			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm					
	dia steel bar (minimum 100Kg/ Cum of Concrete) conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing as per drawing and all connections shall have a watertight seal between the pipe and the manhole complete as per standard design for depth of 1.68 m including benching cement concrete of 1 : 2 : 4 (1 cement : 2 sand : 4 stone aggregate 20 mm nominal size) as per site requirements.					
2.20	**Extra depth** for circular type manhole **1.220m** internal dia (at bottom) beyond	198	Metre			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	1.68M AND UPTO **2.29M** for item above					
2.21	Providing, transportation, lowering and fixing Precast RCC circular type manhole 1.52m internal dia at bottom and 0.56m dia at top made up of precast monolithic base, modular riser, and top cone in M-40 grade Cement Concrete placed, reinforcement as per drawing (minimum 100Kg/ Cum of Concrete) and aligned to provide vertical sides, with O ring rubber gasket at each joint, water tight and adjustment rings over top cone, complete with GRP/ FRP (Heavy Duty) type manhole cover, orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible	1322	Each			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	even after fixing as per drawing and all connections shall have a watertight seal between the pipe and the manhole complete as per standard design for					
	depth of 2.30 m including benching cement concrete of 1 : 2 : 4 (1 cement : 2 sand : 4 stone aggregate 20 mm nominal size) as per site requirements complete as per specification and drawing and as directed by the Design Build Operations Engineer .					
2.22	**Extra depth** for circular type manhole **1.52m** internal dia (at bottom) beyond **2.30M** for **Item above**	1714	Metre			
2.23	Providing, transportation, lowering and fixing Precast RCC circular type manhole 1.82m internal dia at bottom and 0.56m dia at top made up of precast monolithic base, modular riser, and top cone in M-40 grade Cement Concrete placed, reinforcement as per drawing and aligned to provide vertical sides, with O ring rubber gasket at each joint, water tight and adjustment rings over top cone, complete with GRP/ FRP (Heavy Duty) type manhole cover, orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar (minimum 100Kg/ Cum of Concrete) conforming to IS : 1786 having minimum	102	Each			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing as per drawing and all connections shall have a watertight seal between the pipe and the manhole complete as per standard design for depth of 2.30 m including benching cement concrete of 1 : 2 : 4 (1 cement : 2 sand : 4 stone aggregate 20 mm nominal size) as per site requirements complete as per specification and drawing and as directed by the Design Build Operations Engineer .					
2.23(a)	Extra depth for circular type manhole 1.82m internal dia (at bottom) beyond 2.30M for Item no. 2.23	50	Metre			
2.24	Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	lid, sand' cast iron drop pipe and bend encased. all-round with cement concrete 1:5:10 (1 cement: 5 fine sand: 10 graded stone aggregate 40 mm nominal size) with all centering and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement: 4 coarse sand) plastered with cement mortar 1:3 (1 cement: 3 coarse sand) on inside of the manhole wall lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement: 1 fine sand) joints between sand cast iron tee and S.W. pipe, making required channels. complete as per specification and drawing and as directed by the Design Build Operations Engineer					
	200 mm sand cast iron **drop connection**	6	Each			
2.24 (a)	Extra for depths beyond 60 cm of sand cast iron drop connection complete	5	Metre			
2.25	**Close timbering** in trenches including strutting. Shoring and packing cavities (wherever required) complete. (Measurements to be taken of the face area timbering):and as per specifications and direction of Design Build Operations Engineer					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
i	Depth not exceeding **1.5 m**	245079	Sqm			
ii	Depth exceeding **1.5m.** But not exceeding **3m**	110361	Sqm			
iii	Depth exceeding **3 m**. But not exceeding **4.5m**	43209	Sqm			
2.26	**Close steel** in trenches including strutting. Shoring and packing cavities (wherever required) complete. (Measurements to be taken of the face area Steel) and as per specifications and direction of Design Build Operations Engineer					
i	Depth exceeding **4.5m**. But not exceeding **6m**	17588	Sqm			
ii	Depth exceeding **6m**. But not exceeding **7.5m**	4272	Sqm			
iii	Depth exceeding **7.5m**. But not exceeding **9m**	13	Sqm			
2.27	Construction of granular sub base by providing close graded material conforming to specifications mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lift, spreading in uniform layers of specified					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specification and direction of Design Build Operations Engineer .					
	GSB @ 200mm thick with material conforming to Grade -I (size range 75mm to .075mm) having CBR value-30	26396.55	Cum			
2.28	Providing and laying, spreading and compacting graded stone aggregate (size rang 53mm to .075mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tipper to site,for all leads & lift laying in uniform layers with mechanical paver finisher in sub base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density complete as per specification and directions of Design Build Operations Engineer .					
	WMM / WBM @ 150mm thick	20246.55	Cum			
2.29	Providing and laying Bituminous macadam					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	using crushed stone aggregates of specified grading premixed with bituminous binder, transported to site by tippers, laid over a previously prepared surface with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per as per specifications and directions of Design Build Operations Engineer .					
	BM @ 50mm thick. 50-100mm average compacted thickness with bitumen of grade VG-30@3.5%(percentage by weight of total mix)prepared in Batch Type Hot Mix Plant of 100-120 THP capacity	7439.63	Cum			
	Providing and laying Semi dense Bituminous concrete using crushed stone aggregates of specified grading premixed with bituminous binder and filler, transporting the hot mix to work on site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Design					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	Build Operations Engineer .					
2.30	**SDBC @ 25mm thick.** 25mm compacted thickness with bitumen of grade VG-30@5% (percentage by weight of total mix) and lime filler@2% (percentage by weight of aggregate) prepared in Batch Type Hot Mix plant of 100-120 THP capacity.	9318.35	Cum			
2.31	**Pumping out wate**r caused by spring, tides or river seepage, broken water mains or drains or like (Provisional) and as per specifications and direction of Design Build Operations Engineer	365604	KL			
	Note: Joint record of all such pumping to be kept for payment in the form of logbook duly sign by client & contractor					
2.32	**Demolishing R.C.C work** manually /by mechanical means including stacking of steel bar and disposal of unserviceable material with all lead and lift and as per specifications and direction of Design Build Operations Engineer .	4085	Cum			
2.33	**Demolishing Brick work** manually /by mechanical means including stacking of serviceable material and disposal of	4085	Cum			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	unserviceable material with all lead and lift and as per specifications and direction of Design Build Operations Engineer .					
2.34	Repairing and lining of sewer line,to make it functional, true to grade and alignment, as per specification and directions of Design Build Operations Engineer					
i	700 mm dia pipeline	200	M			
ii	500 mm dia pipeline	830	M			
	Sub Total of 2(Sr. no.2. 1 to2. 34)					
C	Undertaking preparatory survey and design for Providing Sewage Pumping Station(s), Rising Mains and Allied works					
3.1	**Construction of SPS B(ZONE IVA (S)) of 18 mld average Capacity**					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
i	Construction of wet well	LS	Job			
ii	Construction of Inlet Chamber	LS	Job			
Iii	Construction of Screen Channels	LS	Job			
Iv	Construction of Distribution Chamber	LS	Job			
V	Construction of Valve chamber	LS	Job			
Vi	Construction of LT/ HT panel/ metering room.	LS	Job			
Vii	Construction of transformer Room.	LS	Job			
Viii	Construction of Diesel Generator Room.	LS	Job			
Ix	Constructionof Inter pathway	LS	Job			
X	Construction of 3.75 m Approach road	LS	Job			
Xi	Construction of Boundary wall & fencing with gates	LS	Job			
Xii	Firefighting arrangements, landscaping, site development etc.	LS	Job			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
Xiii	Construction of Type B staff quarters (Each of area (7 X 4 m2)	2	Nos			
Xiv	Constructionof Duty Room	LS	Job			
Xv	Constructionof Guard Room	LS	Job			
	Sub Total of 3.1(i to xv)					
D	Providing House connections, Including construction of collection pits and its further joining with main sewer line with PVC pipe of 160 mm dia. Construction of collection pit with clear inside opening of 900 x 800 mm, depth 450mm,, 230 mm thick Brick Masonry in CM 1:4, including plastering 15mm thick in CM 1:4 for both outside & inside (neat cement finish inside), 100 mm thick coping around property chamber walls in M-20 concrete, PCC M 15 for bed of 150 mm thick & benching 75mm thick,Cover slab of size 1200mm x 1100mm x100mm to be provided.					
	The work includes excavation, refilling of excavated material with compaction, Connection between manholes in the streets and collection pit. supply, delivery and laying of polyvinyl chloride (PVC) Pipes of 160 mm dia with ISI mark intended for underground (buried) non pressure gravity drain and sewer applications conforming to relevant IS with latest amendments as per					

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
	drawing and store in closed shed duly protected from sun rays, should be completed as per specifications, drawing and as per directions of Design Build Operations Engineer					
4.1	**For collection pit, with clear inside opening of900 x 800 mm, depth 450mm**,	**10650**	**Each**			
E	Relocation of utilities	1	LS			
F	Installation of product pipe/Casing Pipe by suitable method including making of entry and exist pits, all related civil works like excavation shoring/strutting, etc., shielded excavation through suitable process lowering of pipe segments in the pit, laying and jointing of product pipeline through suitable process from the pit. Excavation of Shafts in soil inclusive of all shuttering, strutting and shoring and maintaining the shaft during construction operation and backfilling the same after the completion of works and restoration of site after project completion for sections details as below					
i	**200 mm dia**	170	Metre			
ii	**250 mm dia**	131	Metre			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
iii	**300 mm dia**	328	Metre			
iv	**400 mm dia**	155	Metre			
v	**450 mm dia**	94	Metre			
vi	**500 mm dia**	151	Metre			
vii	**600 mm dia**	197	Metre			
viii	**700 mm dia**	64	Metre			
ix	**1200 mm dia**	868	Metre			
G	Supply of RCC Jacking pipe with SS Collar for trenchless sewer line work. Rate including all carriage levies, taxs and duties					
i	**200 mm dia**	170	Metre			
ii	**250 mm dia**	131	Metre			

Sl.No.	Description	Qty	Unit	Rate		Total Amount in Rs.
				In Figures	In Words	
iii	300 mm dia	328	Metre			
iv	400 mm dia	155	Metre			
v	450 mm dia	94	Metre			
vi	500 mm dia	151	Metre			
vii	600 mm dia	197	Metre			
viii	700 mm dia	64	Metre			
ix	1200 mm dia	868	Metre			
xi	1400 mm dia					
	Sub Total of F to G					
	Total of part A1 (A to G)					